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Audit Quality Indicators in the Netherlands: Perspectives from Audit Personnel

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Abstract

This study researches the perspectives of audit personnel on the perceived effectiveness of audit quality indicators (AQI's) in the Netherlands and their effect on audit quality. In a two-part study, I first investigate the effectiveness of the first ten proposed audit quality indicators. Through a review of the comment letters by Big Four firms, I conclude that most of the Big Four firms approve the idea of introducing AQI's and improving transparency and audit quality. However, the firms fail to see the effectiveness of most AQI's, deeming only one AQI as sufficiently related with audit quality. Other AQI's do not reflect audit quality or require significant adjustments. In the second part, I survey Big Four audit professionals on the perceived effectiveness of two changed AQI's: Culture and Client Satisfaction, and one newly introduced AQI: Training Hours ESG Topics. I find that all three AQI's are considered effective drivers or indicators of audit quality by audit personnel.

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1 Introduction

After various scandals, most notably the Enron scandal in 2001, the accounting profession has seen increased regulation of the audit. Where previously there were hardly any rules present in the profession, the sector is now experiencing intensive supervision from governments and other autonomous regulators (Knechel, 2016). To improve audit quality, new regulation was necessary. Laws have been introduced that aim to prevent stakeholders from being adversely affected by deceptive financial information. In 2002, the US introduced the Sarbanes-Oxley act (SOX),¹ which would aid in protecting investors from fraudulent company statements. SOX introduced new rules for accountants, auditors and corporate officers of public companies and established new reporting standards. Examples of these rules include the introduction of section 302 and 404. Section 302 requires companies to file regular reports with the Security and Exchange Commission (SEC) and makes top executives personally responsible for both the information in these reports and the internal controls of data within in the company. Section 404 requires annual reports on these internal controls and obliges external auditors to vouch for these internal control assessments. In the same period in the EU, it was decided that starting from 2005 all public listed companies must comply with International Financial Reporting Standards (IFRS) by the International Accounting Standards Board (IASB).² Before IFRS, many countries had their own accounting standards and most of them still use these in addition to IFRS. In the Netherlands, companies that are not listed on the stock exchange are allowed to comply with the Dutch Generally Accepted Accounting Principles (Dutch GAAP). While accounting principles form a solid base for reporting, by no means does it assure that companies will exhibit fair behaviour when reporting their financial information. If there is no control, companies may illegally alter their numbers or partake in other fraudulent activities. Thus, additional supervision is required to assure the value of the financial statements.

¹ Contents of act available through: <https://www.congress.gov/bill/107th-congress/house-bill/3763>

² EU directive available through: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32002R1606&from=EN>

In 2006, the Dutch Audit Firms Supervision Act (Wta),³ was introduced to supervise organizations who are responsible for the performance of the audit. This supervision is carried out by the Dutch Authority Financial Markets (AFM). The Wta provided guidelines to safeguard the public function of the auditor's report and promote confidence in financial markets by laying down rules for audit firms carrying out statutory audits and to independently monitor compliance with those rules. Over the years, these regulations have been updated and improved to aim for better quality audits. However, despite these improvements, it seems that audit quality remains insufficient (AFM, 2017). Accounting firms fail to adapt fast enough to the three areas identified by the AFM, control, behaviour & culture, and internal control. Moreover, the quality of the statutory audits is lacking. The AFM concludes that in 19 of the 32 statutory Big Four audits examined, the quality control systems of the Big Four did not detect any shortcomings that should have prevented the auditor from issuing an audit statement based on insufficient evidence. As a result, it has been perceived necessary to drastically improve audit quality.

In 2022, a concept for a new law regarding the future of the accountancy sector was sent to the Dutch Council of State. One important aspect of this law is the proposal for Audit Quality Indicators (AQI's), which contains 11 AQI's. The goal of these AQI's is to provide more transparency regarding the quality of statutory audits of audit firms (Kwartiermakers, 2021c). These indicators will be presented on a dashboard to provide users of the financial statements with all relevant information about the audit firm. Within the accounting profession, however, a discussion is going on about the effectivity of these AQI's. Earlier consultations reveal that audit firms in the Netherlands generally support the use of AQI's and the idea of more transparency in terms of audit quality, but fear that most of the indicators do not have a sufficient relationship with audit quality (Deloitte, 2021; Ernst & Young, 2021; KPMG, 2021; PwC, 2021). Therefore, this study evaluates the perspectives of Big Four audit personnel on the effectiveness of the proposed set of audit quality indicators.

³Contents of law available through <https://wetten.overheid.nl/BWBR0019468/2022-07-07>

Prior movements have attempted to codify audit quality as a means of improving the quality of the audits conducted in their country. In the UK, the Audit Quality Framework (FRC, 2008) was developed by the Financial Reporting Council. This framework considered four main drivers of audit quality: the culture within a firm, the skills and personal qualities of audit partners and staff, the effectiveness of the audit process, and the reliability of audit reporting. A fifth issue is considered as well, which is the existence of external factors beyond the control of auditors. Holm & Zaman (2012) researched the FRC framework among three different groups: investors, audit firms and professional accounting bodies. They found that “all three groups generally supported the FRC’s approach, but they considered the FRC’s response insufficient”. Several issues needed to be addressed by the FRC to take the audit quality to the desired level.

A similar situation has occurred in the United States. Here, the PCAOB launched a concept to improve audit quality using a framework of 28 quantifiable AQI’s (Public Company Accounting Oversight Board (PCAOB), 2015). These AQI’s were divided into three categories: audit professionals, audit process, and audit results. In their study, Harris & Williams (2020) assessed these indicators through two different groups: four Non-Big Four audit firms, and audit committee members from small publicly traded firms. They find that the Non-Big Four firms only identify three AQI’s as feasible: staffing leverage, manager & staff workloads, and audit hours & risk area. Similarly, audit committee members valued experience and skills as one of the more important drivers of audit quality. Other indicators, on the other hand, were deemed unfeasible or irrelevant for evaluating the quality of the audit.

As past research demonstrates, regulators are struggling to find effective measures of audit quality. Mainly because many parts of audit quality are hard or impossible to observe and demands vary among different stakeholders (Knechel, 2013). Consequently, proposed regulation, when assessed by audit professionals, often seems to be insufficient or does not lead to an improvement of the audit quality. There is, however, a need to improve audit quality as it is still lacking (AFM, 2017). Thus, regulators continue trying to propose new regulation, such as the new law to solve this problem. Since this law is still in its concept phase and not yet in practise, it is unsure how it will affect audit quality in the Netherlands. Despite the ineffective measures of

similar regulations in the US and UK (Harris & Williams, 2020; Holm & Zaman, 2012), the idea of audit quality indicators is mostly supported by the industry. Moreover, some indicators have proven to be useful, especially those related to skills, experience, and audit process. While the Dutch AQI's do include the audit process, they barely involve skills and experience, at least not directly. On the other hand, many other indicators are included that cannot be found in previous initiatives. Researching this concept can provide interesting insights for policymakers on the implementation of audit quality indicators in the Netherlands and its impact on audit quality. Additionally, it adds to the knowledge base on auditor perspectives towards AQI's. Therefore, the objective of this study is to research the views of audit personnel on AQI's and the potential effects of this new law on audit quality. To guide this research the following research question is used:

What are the perspectives of audit personnel on the effectiveness of Audit Quality Indicators in the Netherlands?

To answer the research question, this study is divided into two sections. In the first part of this study, I review the comment letters by Big Four firms on the concept proposal, to explore their views on the effectiveness of the initial proposed set of Audit Quality Indicators (Kwartiermakers, 2021a). In the second part, a survey is conducted on three AQI's of the final proposal. Two AQI's that were significantly altered, and one newly introduced AQI. This survey is held among audit professionals working in a Big Four audit firm, as these people generally possess the appropriate knowledge to assess these indicators.

This study has both theoretical and practical relevance. There has been little research on AQI's in the past. Partly, this is due to the inherent problems with measuring audit quality as it is not possible to perceive directly. This makes it hard to draft appropriate indicators. On the other hand, existing research reveals that audit professionals often consider AQI's to be insufficient (Harris & Williams, 2020; Holm & Zaman, 2012). New attempts to incorporate audit quality in regulation may yield interesting new results, as new indicators are introduced. By researching the

Dutch proposal, this study is theoretically relevant by adding to the knowledge base on auditor perspectives towards AQI's.

This study is also practically relevant, as it may be able to guide policymakers worldwide in making better audit quality indicators. This is important since previous attempts have not yet yielded the desired results.

This study is structured into several chapters. The next chapter will elaborate on the existing literature on audit quality and audit quality indicators. Moreover, this chapter will shortly summarize the contents of the new law. After this section, this study is divided in two parts. Chapter 3 will discuss part one of the study, which is the review of the comment letters to identify which indicators are deemed feasible by the Big Four firms. In addition, this chapter discusses the changes made after the consultations, and determines the three AQI's studies in the second part of the study: 'Culture', 'Client Satisfaction', and 'Training Hours ESG Topics'. Following this section is part two of this study. Chapter four evaluates the three AQI's through literature, followed by the development of the hypotheses. Chapter 5 discusses the methods & data used in the study, and chapter 6 presents the results of the survey. Finally, chapter 7 concludes with a summary of findings, limitations, and suggestions for future research.

2 Literature Review

2.1 Defining Audit Quality

This study relies on audit quality theory. While a large body of research is written on audit quality, the term audit quality itself is hard to measure as it entails many different aspects and cannot be easily defined. Yet, it has been attempted many times. One of the first definitions of audit quality comes from DeAngelo (1981) who states that audit quality can be defined as: “the market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s accounting system, and (b) report the breach”. Another well-known definition comes from DeFond and Zhang (2014). They define higher audit quality as “greater assurance of high financial reporting quality”. Rather than pointing out the important aspects of audit quality, they refer to audit quality as a part of financial reporting quality. Knechel (2016) builds upon the definition of DeAngelo. He states that audit quality has two elements. On the one hand, there is auditor expertise (competence or knowledge), which refers to the likelihood that an auditor will find misstatements in a client’s financial report. On the other hand, there is auditor objectivity (independence) which regards the likelihood that an auditor will correct or report the errors. Thus, audit quality relates to both competence and independence. This study builds upon the definition of Knechel (2016) as it provides a clear distinction of two important elements of audit quality.

2.2 Audit Quality Measurement

Due to the nature of the audit, audit quality is not directly observable (Francis, 2004; Knechel et al., 2009). There are only two things that can be directly observed: the audit report and the audited financial statements (Knechel, 2016). However, these are proxies of audit quality that can only be measured ex post in case of failures of the audit.

DeFond and Zhang (2014) acknowledge the same difficulties with audit quality measurement: “audit quality is difficult to measure because the amount of assurance auditors provide is unobservable”. In their review, they evaluate a list of several proxies commonly used to measure

audit quality. In addition to output-based measures (ex-post) they mention a few input-based proxies (ex-ante) to measure audit quality.

The authors state that output-based quality measures help to observe the result of an audit, but they are constrained by the financial reporting system and characteristics of the company. Companies with characteristics that are easy to translate to financials have a lower probability of having to issue restatements. Similarly, if firms have a good internal financial reporting system which leads to higher reporting quality before the audit, meaning restatements are less likely. Output-based measures are often used for measuring the audit quality delivered, also known as the supply of audit quality.

Existing literature uses various output-based measures. DeFond & Zhang (2014) discuss four categories: material misstatements, auditor communication, financial reporting quality characteristics, and perception-based measures. These categories are useful for understanding how these audit quality proxies can be relevant for research.

Measures of material misstatements used in research are mainly restatements (e.g. Archambeault et al., 2008; Chin & Chi, 2009) and Accounting and Auditing Enforcement Releases (AAERs) (e.g. Rajgopal et al., 2021). Restatements are corrections of initial audited financial statements and AAERs are enforcements by the US Securities and Exchange Commission (SEC). The existence of AAERs or restatements, although rare, often indicates low audit quality. The absence of such measures, however, does not necessarily indicate higher audit quality. Audits with poor quality may simply oversee smaller errors or allow others that go unnoticed.

Auditor communication refers to Going Concern (GC) opinions. They are used mainly to identify audit quality threats (e.g. Carey & Simnett, 2006). GC opinions indicate whether an auditor thinks the company can continue operating in the near future, which indicates the independence of the auditor. However, similarly to material misstatements, negative GC opinions are rarely issued, thus making the absence of these opinions not necessarily a guaranteed indication of lower audit quality.

Financial reporting characteristics are used because of its close link with audit quality. Primarily, measures for earnings management are used, as it is assumed that good quality audits will reduce

earnings management. Most studies use the discretionary accruals (DAC) model (e.g. Francis et al., 1999) or employ meet or beat earnings targets, the accruals quality measure or timely loss recognition (TLR). These proxies are less direct than the previous ones, because auditors have less influence on them. Yet, they serve as good measures, due to the relation between audit quality and financial statements, as financial statements are influenced by both the auditor and the manager. A disadvantage of these measures is that they are prone to measurement errors and bias.

Lastly, perception-based measures are measures that relate to audit quality from an investor perspective. Examples are earnings response coefficients (ERCs), stock market reactions to events connected to audits, or the cost of capital (e.g. Menon & Williams, 2010; Pittman & Fortin, 2004). Perception-based measures go more in depth by revealing disclosure quality, reflected through the investor response. A drawback of these measures is that they are indirect, they are not a direct reaction to the audit quality, but rather a subsequent response.

On the other hand, “input-based measures evaluate quality using observable inputs to the audit process” (DeFond & Zhang, 2014), such as auditor characteristics or auditor-client contracting features. Input measures, however, cannot be directly related to output, making it hard to draw any direct conclusions on audit quality output. Therefore, these measures are often used to evaluate the demand for audit quality.

Auditor characteristics, such as auditor size (often measured as whether a firm is a Big Four company or not) or industry specialization. Big Four auditors are expected to be more incentivized or have more skills to deliver better audit quality (DeAngelo, 1981). Moreover, industry specialized auditors are expected to have more skills and reputational motivations to improve audit quality. Auditor size, however, cannot be applied on an engagement-level.

For auditor-client contracting features, literature often uses audit fees. Audit fees are used as a proxy, since audit fees are supposed to measure the effort of the auditor, which is considered an input of audit quality (e.g. Engel et al., 2010). Although these measures can capture subtle variations in quality, they are also limited in explanation power. Fees also include risk premiums or improved efficiency, which is not an increase in quality.

While these measures are mostly used in quantitative research, they can still be very useful for this study. More specifically, these measures highlight the various aspects of audit quality. As mentioned before, audit quality is a broad concept and cannot be directly observed. Thus, putting the various aspects of audit quality into perspective serves as a base to evaluate the aspects of audit quality within the potential law that is researched in this study.

2.3 Concept Version Dutch Audit Quality Indicators

As of right now, statistics on audit quality are reported in two ways. Firstly, they are reported in the transparency reports of the audit firms (e.g. Deloitte, 2023). These are often in accordance with practice note 1135 (2016) of the Royal Netherlands Institute of Chartered Accountants. This document offers guidelines on how audit firms can effectively report on audit quality factors, to assure stakeholders that the audits comply with existing laws and regulations. Secondly, the AFM frequently checks the operations of audit firms through their yearly AFM Monitor (AFM, n.d.). However, the results of this monitor are not available to the public. This means that auditors and audit firms do not, or not uniformly, report on quality-related parameters (Kwartiermakers, 2021a).

Therefore, the Dutch government has made an external team responsible for designing the AQI's, the Kwartiermakers. This team has ultimately designed the proposal for the Audit Quality Indicators. In July 2021, they released a concept version containing 10 indicators (Kwartiermakers, 2021a). These are divided into four different categories: audit quality, quality control system, context, and chain. The objective of these AQI's is to provide more transparency regarding the quality of statutory audits of accounting firms. As a result, these indicators will be presented on a dashboard to provide users of the financial statements with all relevant information about the audit firms.

The following AQI's⁴ have been proposed by the Kwartiermakers:

Audit Quality

1. Involvement External Auditor
2. Errors in Financial Statements
3. Fraud and Continuity

Quality Control System

4. Quality Enhancing Measures
5. Quality Control System

Context

6. Culture
7. Changes in Audit Team Composition
8. Willingness to innovate
9. Budget Overrun

Chain

10. Client Satisfaction

⁴ These AQI's and their explanations (further below) have been freely translated from Dutch to English; original titles and explanations can be found in the document on: <https://www.internetconsultatie.nl/aqiaccountancysector>

3 Part One: Review of Comment Letters

In this section, each indicator is explained and evaluated through theory. In addition, this section summarizes the views of Big Four companies on the relevance of these indicators and their relationship with audit quality. At the end of this section, the findings are briefly summarized and schematically represented, followed by a short overview of changes after the consultations.

3.1 Audit Quality Indicators and Big Four Comment Letters

3.1.1 General Comments

In general the audit firms state that they support the idea of audit quality indicators and increasing the level of transparency in the sector. (Deloitte, 2021; Ernst & Young, 2021; KPMG, 2021; PwC, 2021). They state that often the AQI's either target the drivers of audit quality (Deloitte, 2021), or that some do not have a clear relation to quality at all (Ernst & Young, 2021; KPMG, 2021; PwC, 2021). Deloitte (2021) notices that there are attempts to match the AQI's with NBA practice notice 1135 (2016) and the AFM monitor (n.d.). Others state that they are missing more emphasis on skills and experience (Ernst & Young, 2021; PwC, 2021). Further remarks include more focus on measuring what went well, rather than measuring the mistakes of the firms (Ernst & Young, 2021; KPMG, 2021), and suggestions to start with a pilot instead of directly implementing the indicators (Deloitte, 2021).

3.1.2 AQI 1: Involvement External Auditor

The first AQI relates to the involvement of the external auditor. More specifically, this AQI measures how many hours on average the external accountant, which is the person who signs off the audit, spends on the statutory audit as a percentage of the average total amount of hours spent on the statutory audit by the auditor. The hours measured are the hours directly related to the audit engagement. For every organisation, the AQI dashboard will show the average involvement of the external auditors, divided into four quartiles representing the following categories of involvement: (1) relatively limited, (2) less than average, (3) more than average, and (4) relatively high.

Researchers have shown that the degree of involvement of the external auditor has an influence on the audit quality. According to a survey by Christensen et al. (2016) almost 80 percent of auditors view the number of hours made by partners, managers, or engagement quality reviewers relative to the total hours of the audit team as an indication of higher audit quality. In addition, partner workload is considered as an important AQI according to US Non-Big Four companies (Harris & Williams, 2020).

Responses in the comment letters have shown that the Big four companies generally do not think this indicator is a good measurement of audit quality. While at first sight, it appears that this AQI gives insight into the extent to which the partner leads the assignment, which is an important driver of audit quality (Deloitte, 2021). However, the outcome is low when there are more partners working on the assignment or when the assignment is performed by a particularly large team. It would be more useful to measure the ratio of senior and junior team members (Deloitte, 2021). Moreover, the other Big Four firms agree that the involvement of the external auditor highly depends on the size and composition of the team and propose a different metric that measures the amount of (Ernst & Young, 2021; KPMG, 2021; PwC, 2021). Ernst & Young (2021) also argue that it is not directly possible to separate the hours related to the audit from the hours spent on maintaining customer relationships.

3.1.3 AQI 2: Errors in Financial Statements

The second AQI refers to the number of statutory audits where a deficiency is detected in either the audit or the financial statements. Deficiencies include three aspects: (1) finished audits that were deemed insufficient by internal or external inspections, (2) material misstatements in the financial statements from a previous reporting year, and (3) a previously issued audit statement is declared 'no longer valuable', meaning it is incorrect and can no longer be reliably used for decision-making. These deficiencies can be identified by the audit team during the process, by the accounting firm during inspections or other monitoring activities, or by an external supervisor.

As mentioned before, studies indicate that material misstatements are frequently used when assessing audit quality (DeFond & Zhang, 2014). All three categories of deficiencies lead to restatements in the financial report. While the absence of restatements cannot indicate higher audit quality, the presence can be perceived as a measure of poor audit quality. Therefore, if a

review of an audit company displays a high percentage of deficiencies, it might signal lower audit quality.

The Big Four comment letters show mixed responses. Deloitte (2021) argues that this AQI provides a factual insight into the quality of the audit performed and note that this is also mentioned as a quality indicator in Practice Notice 1135 (NBA, 2016). KPMG (2021) somewhat agrees on the use of this AQI, however, they propose to changing the metric from measuring the amount of deficiencies to measuring the amount of successful inspections, ensuring that the value of the AQI increases when quality increases. This would fit better with the goal of the dashboard. Ernst & Young (2021) thinks the measure about material misstatements leads to unrealistic expectations, as material misstatements can also occur in well-executed audits. Only concrete mistakes by auditors should be measured through a retrospective analysis. According to PwC (2021), this AQI needs more nuance, as a low percentage of deficiencies can also be an indication of clients' ability to properly deliver their information.

3.1.4 AQI 3: Fraud and Continuity

AQI three provides insight into the extent of suspected or identified material fraud in statutory audits in the financial year. To measure this AQI, the number of statutory audits where material fraud is suspected or identified is calculated as a percentage of the total number of statutory audits. Additionally, the AQI provides the number of statutory audits where the auditor has expressed reasonable doubt about the continuity of the business as a percentage of the total number of statutory audits. Only doubts expressed in a separate section of the audit statement are considered.

This AQI has two important theoretical elements. The first part about doubts about the continuity has its similarities with the issuance of a negative GC opinion. An accountant may feel pressure by a company to not issue a negative opinion. However, if an accountant does issue such an opinion, it signals its independence, which is a sign of higher audit quality. On the other hand, like restatements, negative GC opinions are relatively rare, meaning that its absence does not necessarily signal lower audit quality. Second, this AQI mentions identified or suspected material fraud, which is likely followed up by law enforcement, similar to US SEC AAERs. This signals higher

audit quality. However, in this case as well, the absence does not necessarily signal lower audit quality.

Overall, this AQI receives negative feedback in the comment letters. One of the critics about continuity is that this is largely dependent on the customer portfolio, which does not necessarily indicate much about quality in itself (Ernst & Young, 2021; PwC, 2021). In terms of fraud, it remains unclear as well whether this says anything useful about audit quality (Deloitte, 2021; Ernst & Young, 2021). In addition, the definition of suspected fraud needs additional clarification, as it remains unclear what exactly is meant with this definition (Deloitte, 2021; KPMG, 2021). PwC (2021) states that this AQI is mostly useful for alignment with clients or supervisory bodies. Ernst & Young (2021) expresses that this AQI needs more clarification on whether material frauds also entail material (intentional) non-compliance, or in other words, whether the fraud results from (intentional) failure to comply with regulations. Moreover, like with AQI 2, they believe a retrospective analysis would provide more insight.

3.1.5 AQI 4: Quality Enhancing Measures

AQI number four relates to the number of audits in the previous reporting year where one or more specific quality enhancing measures have been used. Quality enhancing measures can be independent reviews, consultations, or the deployment of specialists (divided in IT, tax, forensic, and valuation). It is measured as the number of audits where quality enhancing measures are used as a percentage of the total number of statutory audits.

Literature about the use of quality enhancing measures is scarce. It is known that auditor specialization can improve audit quality (DeFond & Zhang, 2014), however, this does not necessarily guarantee that specialist deployment signals higher audit quality. Yet, the survey by Christensen et al. (2016) shows that over 80 percent of auditors associate consultations with internal specialists with higher audit quality.

In the comment letters, this AQI receives relatively positive feedback, however, the Big Four companies mention some important drawbacks of this AQI. According to Deloitte (2021), the use of quality enhancing measures can be an important driver of audit quality. However, they and EY (2021) state that this AQI may lead to standard setting, where organizations will do more consultations to increase the value of this AQI. Moreover, it is stated that the comparability of

this AQI is limited, due to differences in depth and type of consultations or reviews per organisation (Ernst & Young, 2021), and dependence on client circumstances (PwC, 2021). KPMG (2021) argues that it is better to only look at statutory audits instead of all audits, since the dashboard is mainly aimed at statutory audits. Finally, Ernst & Young (2021) mentions that the qualitative explanation of 100 words is rather short.

3.1.6 AQI 5: Quality Control System

Every accounting organisation conducts several internal or external reviews to ensure that the design, implementation, and operation of the quality control system are working. This fifth AQI provides insight in the functioning and the level of compliance of the quality control system. This allows for discovering the potential areas of improvement regarding quality control. This AQI is measured as the total number of findings, both deficiencies and other observations, regarding the quality control system.

Literature is relatively limited towards the quality control system as a measure of audit quality. According to Christensen et al. (2016) around 70 percent of auditors and investors find that fewer deficiencies identified through internal quality reviews are associated with higher audit quality, which may indicate that this is an important measure of audit quality. On the other hand, Harris & Williams (2020) find in their study that only one of the Non-Big Four firms indicates that audit firm internal quality review results are feasible as an AQI.

The reactions in the comment letters are mixed. Deloitte (2021) wonders whether it is necessary to incorporate this measure in the dashboard, since it is already mandatory to report this information in the transparency reports. KPMG (2021) mentions that there are differences in the scope and depth of monitoring per review or organisation, which results in limited comparability. Ernst & Young (2021) further underlines this, stating that it must be clear which reviews, through a clear definition, are included to ensure comparability. Finally, the qualitative explanation of 100 words is considered rather short (Deloitte, 2021; Ernst & Young, 2021).

3.1.7 AQI 6: Culture

AQI six relates to the culture within an auditing firm. This indicator measures how audit firm employees rate the firm in terms of employee involvement.

Culture can play an important part in a firm. It influences how an organization functions and how the people in the organization behave. It can also play a role in determining audit quality. Aobdia (2016) finds that deficiencies in culture can play a big role in the relation between quality control and audit efficiency. This relation suggests that culture is a factor that might influence audit quality. Therefore, this AQI can be considered a driver of audit quality.

The Big Four companies seem to value this AQI as quite important. Ernst & Young (2021) states that it is important to pay attention to the desired culture and pay attention to ongoing research on culture and its effect on audit quality. According to Deloitte (2021), survey results can provide insight in themes, such as tone at the top, which could be an important driver of audit quality. They argue that it can be helpful to cooperate with the NBA and AFM to increase efficiency. KPMG (2021) goes as far as stating that culture and behaviour should be the number 1 AQI, since they believe that these topics form the backbone of a good audit. PwC (2021) does not give feedback on this specific AQI. However, they state in general to value a safe culture where people can be open about their learning moments and learning points. One point of criticism is directed at the response percentage, as it is unclear what the intention is of this measure (Ernst & Young, 2021).

3.1.8 AQI 7: Changes in Audit Team Composition

The seventh AQI reflects changes in the composition of the audit team. Changes in the audit team can both lead to innovation and loss of knowledge. This AQI measures the average percentual changes in the size of the audit team, the average percentage of team members that were also part of the team in the previous audit (continuity), and the average percentage of new team members.

As reflected by Defond & Zhang (2014), research has shown that audit quality improves with industry specialization. If the composition of an audit team changes relatively little, existing skills are preserved, meaning that members become specialized. On the other hand, there is also the risk that little rotation of auditors leads to strong relations that overlook important misstatements (Firth et al., 2012). This can also be applied to audit team members if they have strong relations with clients.

Overall, this AQI is valued somewhat negative in the comment letters by the Big Four firms. According to KMPG (2021), it is unclear what the desired value of this AQI is. More specifically,

they wonder whether a high or low turnover in the audit team is better. Others state that both sides have their advantages, as both continuity and turnover are valued, since continuity guarantees retention of knowledge, while turnover brings in new views (Ernst & Young, 2021; PwC, 2021). Instead, they argue that it is better to measure the average employee turnover or the average level of experience. Deloitte (2021) adds that turnover rates are highly dependent on the scope of the engagement or on long-term commitment, which does not reflect audit quality. Additionally, mandatory rotation plays a role (PwC, 2021). Lastly, according to KPMG (2021) this measure is difficult to implement administratively.

3.1.9 AQI 8: *Willingness to innovate*

AGI number eight covers the investments in new technologies that are directly relatable to the audit. It provides insight in the willingness of an organization to invest in improving the quality of audit services. It is measured as the amount of money invested in innovation as a percentage of total revenues from statutory audits.

Existing literature does not cover investments in technology as a measure of audit quality. The relation between audit quality and innovation, however, has been researched. A study found that technological innovation in audits can improve audit quality (Lobo et al., 2018). They find that with these innovations auditors can use social media information, robotic audit process automation, and blockchain technology to improve the quality of the audit. Investments can be considered a potential driver of audit quality.

This AQI receives mixed reactions. While innovation can be an important driver of quality, this AQI does not directly provide insight in the quality of an audit (Deloitte, 2021). Another point of criticism is aimed at defining investments in innovation, as it is unclear what exactly is considered as innovation (Deloitte, 2021; Ernst & Young, 2021). Additionally, these firms state that often investments are done on an international level, which makes it hard to allocate these investments to one region. KPMG (2021) suggests changing the name from 'willingness to innovate' to 'investments in innovative technology'. This aligns the name with the measurement. Moreover, they argue that organizations can be very willing to innovate, while barely investing resources or vice versa. PwC (2021) left no comments on this AQI.

3.1.10 AQI 9: Budget Overrun

The ninth AQI relates to budget overruns. According to the authors budget overruns can lead to time pressure. More specifically, it measures the percentage of statutory audits in which the budget was exceeded by more than 25%. The original budget is calculated as the initial engagement sum plus additional agreed-upon work.

Budget overruns are often discussed in relation to time pressure in existing literature. However, they are not discussed as a direct measure of audit quality measurement. Budget overruns can lead to financial pressure, which may be influencing audit quality indirectly.

The Big Four do not consider this AQI to be useful. Some consider this AQI to be misleading, as a budget overrun could also be an indication that the organisation prioritizes audit quality, even when this is not compensated for (Ernst & Young, 2021; PwC, 2021). In addition, an overrun on the budget can also be the consequence of poor provision of information by the client or a change in the scope of the audit (Deloitte, 2021). Conversely, a low percentage can be an indication of good provision of information by the client (PwC, 2021). Furthermore, Ernst & Young (2021) questions why 25% is chosen, and is afraid that the percentage leads to certain standard setting. They suggest focussing on audits that went beyond a certain desired target or average hourly rate. KPMG (2021) suggests replacing the AQI with pressure on audit team, as this would be more valuable in measuring quality. They also note that this AQI may be a considerable administrative burden.

3.1.11 AQI 10: Client Satisfaction

The last AQI provides insight in client satisfaction. It is measured on a scale of 1 to 5 which equals very unsatisfied and very satisfied, respectively. For the client, the *Kwartiermakers* primarily refer to group A (shareholders, audit committees, supervisory boards, or similar governance bodies). Secondly, the term 'clients' can also include group B, which is the client's senior management (such as the CFO, the CEO, or the controllers). Client satisfaction covers a big part of all the AQI's mentioned before.

Client satisfaction can be considered as a reflection of the input-based measurements of audit quality and the process of the audit. If clients give a high score to a certain audit firm, it can reflect the skills (competence) of the audit firm. Moreover, if clients argue that the firm reported errors

in the financial statements in a timely manner, it signals the auditors independence. Both are valuable in determining audit quality of a firm. Additionally, the clients are the people that experience the audit. Their reflection may provide insight into the audit quality of the process itself during the audit.

The last AQI receives somewhat positive feedback overall, however, there are still many questions asked by the Big Four firms. According to Ernst & Young (2021), the exact details of this AQI are of interest yet unknown. Additionally, they claim that there are big differences between the desires of the clients or between the distinctive qualities of the firms, which in turn affects the level of client satisfaction. They argue that there is no one-size-fits-all approach. Moreover, they mention that it is unclear whether this AQI refers to the satisfaction of the management board, the supervisory board, or the shareholders. PwC (2021) underlines the importance of this question by expressing the need for a distinction between the satisfaction of group A and group B. Deloitte (2021) thinks it is good to measure the perspective of the client, however, they state that especially the perspective of supervisory bodies should be measured. In addition, they mention that it is important that the questions relate to the process of the audit and not to the added value. To ensure comparability, the financial years of the audit firms should be considered as well (KPMG, 2021). Finally, Ernst & Young (2021) warn for the potential risk of response bias where often people only fill out a survey after a negative experience. In addition, they fail to see the intended use of the response percentage.

3.1.12 Overview of Big Four responses

	EY	Deloitte	KMPG	PwC
AQI 1	X	X	X	X
AQI 2	X	√	-	-
AQI 3	X	X	X	X
AQI 4	-	√	-	-
AQI 5	-	-	-	?
AQI 6	√	√	√	-
AQI 7	X	X	X	X
AQI 8	-	-	-	?
AQI 9	X	X	X	X
AQI 10	-	-	-	-

FIGURE 1: OVERVIEW OF BIG FOUR ASSESSMENT OF CONCEPT AQI'S

Figure 1 summarizes the responses of the Big Four firms to the concept release of the AQI proposal (Kwartiermakers, 2021a). Cross symbols indicate a negative response to the AQI, checkmarks indicate a positive response to the AQI, and dashes indicate that the response was neither positive nor negative. Question marks indicate an absence of response to that specific AQI.

From the responses, it can be concluded that AQI 1, 3, 7, and 9 are considered to be ineffective audit quality indicators. All audit firms agree that the AQI's about auditor involvement, fraud and continuity, changes in audit team composition and budget overrun do not effectively measure audit quality.

AQI 6 about culture is the only indicator that receives a positive response from all firms. Although PwC (2021) does not leave specific comments on this AQI, they make a general statement towards the importance of culture, which is why they are marked with a dash. This is an interesting finding, as the contents of the culture survey were still unclear. This can indicate that culture is seen as an important driver of audit quality.

One AQI receives quite mixed answers. AQI 2 about errors in financial statements receives all types of feedback. Ernst & Young (2021) leave a negative response to this AQI, since they mainly focus on the suspicions of fraud, which they consider as irrelevant for audit quality, while Deloitte (2021) evaluates this AQI positively, since they focus on the factual cases of fraud, which they believe is an indication of audit quality. The other firms are evaluated as neutral, since they do not give a lot of concrete feedback about the AQI itself, and just provide some minor points of feedback (KPMG, 2021; PwC, 2021).

AQI 4, and 5 about the quality control system and quality enhancing measures, as well as AQI 8 about willingness to innovate receive rather neutral feedback. The firms indicate that quality enhancing measures (AQI 4) can be a good driver of audit quality (Deloitte, 2021). The other firms indicate some minor adjustments to the AQI, but do not explicitly provide a positive or negative response and are therefore represented with a dash. A similar approach applies to AQI 5 about the quality control system, where firms provide no or little feedback, but do not explicitly (dis)approve of the AQI. For willingness to innovate (AQI 8), Deloitte (2021) indicates that it can potentially be an important driver, while simultaneously stating that it does not give a factual

insight into the level of audit quality, therefore they are marked with a dash. The other firms state that it is not yet clear enough what innovations are of importance for this AQI and do not explicitly state their stance on the subject. PwC (2021) refrains from comments for AQI 5 and 8.

Client satisfaction (AQI 10) is represented with a dash for all audit firms. This is mainly because the contents of this AQI were not yet present at the moment of consultation. The firms do not explicitly have a negative or positive view on this AQI, but provide minor recommendations for the contents of the survey questions (Deloitte, 2021; Ernst & Young, 2021; KPMG, 2021; PwC, 2021). Therefore, this AQI is rated neutral.

3.2 Consultation Changes

In July 2021, the Kwartiermakers (2021a) released the concept proposal for the first set of AQI's. This document was extensively consulted over the course of two months, which led to the release of the definitive set of AQI's in December (Kwartiermakers, 2021c). In a separate document, they discuss the reactions of the Big Four and other audit firms and explain their choices and changes for the final set of AQI's (Kwartiermakers, 2021b). In this section, I discuss the changes between the two sets of indicators and which indicators are researched in the second part of this study.

3.2.1 General Comments

In their response letter, the Kwartiermakers (2021b) note that in general the responses to the proposed AQI's seem positive or neutral. They notice that many of the audit firms desire a more transparent approach to the quality of statutory audits. However, there is still some debate about which AQI's would be most suitable to reach this goal. In this regard, they state that these AQI's will have to be evaluated and updated when necessary. For this, they establish the AQI committee, that will be responsible for maintaining these indicators.

3.2.2 New AQI 10: Training Hours ESG Topics

One of the first things the authors acknowledge, is the social relevance of the AQI's (Kwartiermakers, 2021b). This has led to the introduction of a new AQI that provides insight into the number of hours an auditor spends on Environmental, Social and Governance (ESG) related topics, as a percentage of the total available hours. They state that sustainability is becoming an important topic within the social debate, and many firms stressed the importance of this subject. In addition, they mention that these topics are becoming increasingly important because of the Corporate Sustainability Reporting Directive (CSRD)⁵ and the EU Taxonomy⁶. Moreover, this AQI responds to the aforementioned demand for an AQI about training hours (Ernst & Young, 2021; PwC, 2021).

⁵ EU directive available through: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464>

⁶ A detailed explanation can be found on: https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities_en

Since this AQI is not reviewed yet by the audit firms, their views on this topic are still unknown. Therefore, this study will further investigate the perspectives of audit firms on this AQI. In section 4.1.3., a more detailed explanation can be found.

3.2.3 *AQI 1: Involvement External Auditor*

In the document it is acknowledged that many firms consider the connection with audit quality unclear (Kwartiermakers, 2021b), since there are many factors influencing the quality of the audit. The Big Four firms suggest changing this AQI to the involvement of the senior team members (Deloitte, 2021; Ernst & Young, 2021; KPMG, 2021; PwC, 2021). This suggestion is not adopted by the Kwartiermakers, since they believe that the final responsibility lies with the external accountant.

One change was made to this AQI, which is putting the hours of the external accountant in perspective by adding the average amount of hours spent on the audit by the team. This change, however, does not fundamentally change the indicator. While it may enrich the initial indicator, it is not likely that it will alter the view of the Big Four firms on this matter, as that part of the measurement is not changed. Therefore, this AQI is not investigated further.

3.2.4 *AQI 2: Deficiencies in Audits and Financial Statements*

Very little firms think that this AQI is not a good indicator for audit quality and many think it is relevant (Kwartiermakers, 2021b). Therefore, this AQI stayed relatively the same, apart from some small changes.

The Kwartiermakers decided to adopt the suggestion of expressing the AQI as a percentage of the total amount of statutory audits to improve comparability. In addition, they chose to change the name of the AQI from 'Errors in Financial Statements' to 'Deficiencies in Audits and Financial Statements'. This makes the title correspond with the measurement. In terms of content, the measurement did not change significantly. Hence, this AQI is not investigated further.

3.2.5 *AQI 3: Current Topics: Fraud and Continuity*

This AQI was met with a lot of criticism. Many fail to see the link with audit quality, including some of the Big Four firms (Deloitte, 2021; Ernst & Young, 2021; PwC, 2021). However, the

authors consider this AQI to be important, as fraud and continuity are key parts of the accounting profession (Kwartiermakers, 2021b).

There are no substantive changes made to this AQI. Only the title has been changed by adding the words ‘current topics’, to clarify that these are two different topics. Since the contents have barely changed, this AQI is not investigated further.

3.2.6 *AQI 4: Quality Enhancing Measures*

One of the points of criticism for this AQI was the risk of standard setting (Deloitte, 2021; Ernst & Young, 2021). The Kwartiermakers (2021b) stress that this AQI should not lead to standard setting and should be seen in relation to the other AQI’s.

They do expand the word limit for the qualitative explanation from 100 to 200, to allow for a more extensive explanation. No other changes are made, hence this AQI is not further investigated.

3.2.7 *AQI 5: Quality Control System*

In their reaction, the authors state that many questions arose around the terms ‘findings’, ‘other observations’, and ‘deficiencies’ (Kwartiermakers, 2021b). For this they refer back to the International Standard on Quality Management 1 (ISQM1), which is a standard that “deals with a firm’s responsibilities to design, implement and operate a system of quality management for audits or reviews of financial statements, or other assurance or related services engagements” (IAASB, 2020).

In terms of changes, they expand the qualitative explanation here as well to 200 words. Other changes are not made to this AQI. Therefore, this AQI is not further investigated.

3.2.8 *AQI 6: Culture*

This AQI received positive feedback, which is something the Kwartiermakers (2021b) emphasize as well. However, they notice in the consultations that culture covers more topics than just employee involvement.

They conclude from the reactions that there is a need to add the topic of time pressure to this AQI, which they call ‘adequacy of planning’. In addition, from the feedback on AQI 8 they add the topic ‘actual innovation’, which measures the experienced time and space to innovate. Finally,

they add ‘culture of excellence and growth’, which measures the experienced space to learn and experiment, whether a critical attitude is valued by the employer, and if employees experience adequate coaching. All these subjects are incorporated in the survey. These survey questions have not yet been evaluated by the audit firms. Therefore, this AQI provides an interesting subject to further investigate. A more extensive explanation can be found in section 4.1.1. in the second part of this study.

3.2.9 AQI 7: Changes in Audit Team Composition

One of the main critics about this AQI was that both a low and high value could indicate some risks, resulting in a difficult interpretation of the AQI (Ernst & Young, 2021; PwC, 2021). Therefore, the authors decided to improve the explanation of this AQI. Continuity allows for knowledge retention and stability, while new employees can provide new perspectives (Kwartiermakers, 2021b). The AQI does not assess whether high or low turnover is good or bad but provides insight.

One change is made by them, however, which is adding the average team size. This puts the percentage in perspective, since smaller teams are more heavily impacted by fluctuations in the team size than larger teams. The essence of this AQI remains unchanged. Hence, it is not further investigated.

3.2.10 AQI 8: Investments in Innovative Technology

A criticism by KPMG (2021) was that the title of this AQI was misleading. ‘Willingness to innovate’ would not appropriately reflect the actual innovation of audit firms.

The Kwartiermakers (2021b) state that they support the suggestion of changing the title. Therefore, the new title of this AQI is ‘Investments in Innovative Technology’. To accommodate for comments about investments in (shared) networks for innovative technology, they mention that audit firms are allowed to compute this AQI using their contribution to this network as a percentage of the total revenues. Finally, they add that willingness to innovate should be incorporated in culture, hence they add this topic to AQI 6. Overall, this AQI remains unchanged, and no further investigation is necessary.

3.2.11 AQI 9: Budget Overrun

The feedback this AQI received was mainly about the percentage, especially about the risk creating a standard (Ernst & Young, 2021). The Kwartiermakers (2021b) stress that this percentage is not setting a standard, but provides insight. The percentage should display excesses in terms of budget overruns.

The authors make no changes to this AQI. Therefore, there is no need to further investigate this AQI.

3.2.12 AQI 11: Client Satisfaction

This AQI provides insight into the extent to which clients are satisfied with the quality and added value of the (audit) services provided (Kwartiermakers, 2021b). This AQI was met with criticism, due to the risk of having less satisfied clients during a strict audit (Ernst & Young, 2021). The Kwartiermakers state, however, that the survey is designed in a way to minimise this risk as much as possible.

The most important change to this AQI is the introduction of this survey. This AQI was deemed important, yet the contents were still unknown (Ernst & Young, 2021). By adding the survey about client satisfaction, this AQI becomes an important topic of research, as the views of the firms on this AQI are still unknown. In section 4.1.2. this AQI is further investigated.

4 Part Two: Survey of Audit Personnel

This section will further elaborate on the three AQI's of Culture, Client Satisfaction, and ESG Topics. These indicators were not properly assessed by the Big Four. For ESG topics, this is because this indicator was newly introduced. For the other indicators, the contents were still unknown. Therefore, I have selected these indicators to be further investigated. Section 4.1 explains the contents of these AQI's, reviews existing theory, and states the hypotheses that are derived from this information.

4.1 Hypotheses Development

4.1.1 Culture

The Big Four firms expressed that culture is of great importance for audit quality (Deloitte, 2021; Ernst & Young, 2021; KPMG, 2021; PwC, 2021), however the contents of this AQI were still unknown.

After the changes, this AQI now measures the culture of an audit firm based on four themes: employee involvement, planning adequacy, culture of excellence and growth, and actual innovation (Kwartiermakers, 2021c). Employee involvement refers to how connect employees feel to the organization. Planning adequacy refers to experienced time pressure. Culture of excellence and growth explains how much auditors experience space to learn and experiment, whether a critical attitude is valued by the employee, and if there is sufficient coaching. Finally, actual innovation reflects the extent to which auditors perceive that there is space to experiment with innovations and whether innovations are actually applied. For each theme, employees are asked to evaluate how they experience each theme within their organization. The following 11 questions are asked:

- Employee Involvement
 - o Please indicate the extent to which you agree with the following statements (1 = strongly disagree, 7 = strongly agree)
 - (1) I feel emotionally connected to the organisation where I work
 - (2) I feel commitment towards the organisation where I work

- (3) The organisation where I work means a lot to me
- Adequacy of planning
 - In what percentage of your work during the busy season (January – June) did you experience time pressure?
 - (4) (0-10%, 11-20%, ..., not applicable)
 - What is the most important focus during busy season? (1 = getting the job done, 7 = audit quality)
 - (5) Your most important focus during busy season
 - (6) Most important focus of the audit team during busy season
- Culture of excellence and growth
 - Please indicate the extent to which you agree with the following statements (1 = strongly disagree, 7 = strongly agree)
 - (7) In the past year I have had sufficient on-the-job coaching to deliver good audit quality
 - (8) My organisation positively values a critical stance on audit issues towards clients, even when client retention is at stake
 - (9) My organisation gives me room to experiment and learn
- Actual innovation
 - Looking back on your last busy season, how would you evaluate... (1 = low, 7 = high)
 - (10) ...the extent to which you have had space (in the planning) during the execution of your assignments to experiment with new (technological) innovations
 - (11) ...the extent to which you have actually applied new (technological) innovations

To assess whether these questions are appropriate reflections of culture, the aspects of culture must first be reviewed. In their review, Alberti et al. (2022) discuss the recent developments in terms of Audit Firm Culture (AFC). They identify three categories of AFC: professionalism and commercialism, ethical culture, and learning culture.

Professionalism in terms of AFC refers to the idea that firms are more “oriented towards the fundamental values of auditing focused on serving the public interest”, while commercialism is “oriented towards generating revenues, engagement profitability and alignment with clients’ interest” (Alberti et al., 2022). They notice a trend in historical research, indicating that audit firms became increasingly commercialized over the years (e.g. Carter & Spence, 2014; Sweeney & McGarry, 2011). However, they note that more recent studies show that especially in Big Four firms commercialism and professionalism may complement each other (Broberg et al., 2018; Coram & Robinson, 2017). I argue that these concepts of commercialism and professionalism can be linked to the questions 7, 8, and 9 in the survey. These questions provide insight into the extent of professionalism and commercialism within an audit firm. If employees can indicate how well they are coached, how their critical stance is valued by the employer, and how much room they experience to experiment and learn, then this indicates whether the firm is more oriented towards clients or the public interest. In addition, it could be argued that the degree of time pressure reflected in question 4 depends on how commercially focussed an audit firm is. A firm focussed on commercialism will likely adopt a higher workload, leading to increased time pressure on its employees. Moreover, question 5 and 6 can be associated with professionalism and commercialism as well. A firm more focussed on professionalism will likely prioritize audit quality, while a commercially focussed firm might prioritize getting the job done.

Ethical culture refers to the social norms and practices that firms establish around ethical behaviour (Alberti et al., 2022). According to the authors, there are three important aspects of ethical culture. First, their research confirms that the tone at the top drives the perceptions of auditors in terms of ethical culture. In addition, ethical perceptions of lower-rank personnel are associated with an encouraging environment that supports sceptical behaviour depending on the tone set by engagement leaders (Alberti et al., 2022). Second, they notice that embedding mechanisms (EMs) are important for ethical culture. EMs are visible aspects of the organization that shape the cultural perceptions of leaders within the organisation, thus establishing a certain culture. Third, they consider the development of the ethical culture. Both formal and informal ethical training decides how the ethical culture develops. In other words, the way mentors and

supervisors convey the organisational culture to new employees is key in determining the development of the ethical culture.

Ethical culture mainly refers to the perceptions of employees about the ethical culture. Therefore, this concept can be linked to question 1, 2, and 3 of the survey. These questions relate to how involved employees are with the organisation. In other words, it explains how they experience the ethical culture of the organisation. Additionally, question 5 and 6 can be attributed to ethical culture. The way the tone is set, determines how employees view their work. If engagement leaders show that they prioritize audit quality over getting the job done, then the rest of the team will likely follow their example.

The last aspect of AFC is the learning culture, which refers to the learning environment of the organisation (Alberti et al., 2022). The authors make three points. First, EMs play a role in establishing a learning culture. The authors state that the tone at the top, incentive structures, training, sufficient resources, supporting organizational systems and procedures, and organizational design and structure are important aspects of the development of the learning culture. Second, they refer to the engagement as an important facet of the learning culture, which suggests that organizations should focus on coaching and review improvement. To successfully improve these aspects, supervisors need to focus on the learning of the lower-ranked personnel instead of the performance, and organizations should provide adequate resources, training, and incentives to facilitate this. Third, the authors state that it remains an important topic of research which EMs are most important in building a consultation culture, which is identified by the IAASB (2014) as a requirement for a quality focussed culture.

The learning culture can be linked to question 7, 8, and 9 of the culture survey. It can be argued that a culture focussed on learning will value good coaching, a critical stance, and room to experiment and learn. This goes hand in hand with the aspect of professionalism. If an organization is more oriented towards serving the public interest, it will likely invest more in the learning culture, to make sure their employees will act in the interest of the public.

Innovation or the use of new technologies is briefly discussed by Alberti et al. (2022) as a part of the learning culture. They notice that according to previous literature, the tone at the top is

key in determining whether new technologies are used. One study found that firms can actively influence the implementation of new technologies by focussing on long-term budgets (Curtis & Payne, 2008).

Question 10 and 11 of the culture survey focus on the available room for experimentation with and actual application of new technologies. Although there is no direct evidence that technological innovation reflects culture, literature shows that through the tone at the top technological innovation can be influenced. Therefore, I argue that the use of new technological innovations can indicate aspects of the learning culture of an organization.

Based on the information discussed above, I argue that all questions of the survey have the potential to be indicators of organizational culture in audit firms, since there are links between existing theory and the proposed survey questions. Therefore, the first hypothesis is as follows:

H1: All survey questions are considered as good reflections of the culture of an organization by audit personnel.⁷

The comment letters have shown that culture can be seen as a driver of audit quality (Deloitte, 2021; KPMG, 2021). There are four main themes within the survey: employee involvement, planning adequacy, culture of excellence and growth, and actual innovation. To assess whether these themes are drivers of audit quality, these themes must be reviewed first.

Employee involvement, which is reflected through questions 1, 2 and 3, targets the ethical culture discussed above. Specifically, the work attitudes are considered in these questions. Research shows that when people are committed to the profession and the firm, they are more satisfied and less likely to leave the firm (Hall et al., 2005). Additionally, Donnelly et al. (2003) state that frequent changes of staff are associated with lower audit quality. Therefore, I argue that if employees are more satisfied with the organization, they are less likely to plan on leaving, which improves the audit quality of the firm.

⁷ The term 'good' here refers to a score above the mid-point of the 'reflection of culture' scale, not to be mistaken for point 6 of this scale.

Therefore, I hypothesize:

H2: Employee Involvement is considered as an effective driver of audit quality by audit personnel.⁸

Planning adequacy is reflected through question 4, 5, and 6, and relates to the orientation of the firm. According to Johansen and Christoffersen (2017), client focussed organizations experience more dysfunctional behaviours, such as skipped audit procedures or premature signoffs, while quality focussed organizations experience these less frequently. This suggests that when firms are more quality (professionally) focussed, their audit quality can improve. A quality focussed firm will likely adopt a lower workload, since it is less focussed towards revenue generation and client alignment, which will lead to less time pressure and more focus on audit quality. Therefore, it can be argued that planning adequacy is an important driver of audit quality. This leads to the following hypothesis:

H3: Adequacy of planning is considered as an effective driver of audit quality by audit personnel.

The third theme, culture of excellence and growth, is reflected through question 7, 8, and 9, and refers to both the learning culture and the ethical culture. Research shows that brainstorming sessions yield more and better quality fraud ideas (Carpenter, 2007), and higher risk assessments and greater effectiveness and higher risk assessments when the partner emphasizes professional scepticism (Carpenter & Reimers, 2013). This suggests that audit quality may improve when scepticism is valued positively. In terms of learning, experimenting and coaching, research finds that cultures where errors are openly discussed and not directly punished, show an increased willingness to report such errors (Gold et al., 2014; Gronewold et al., 2013). While not directly stated, it can be argued that increased discussion about errors can lead to a more improved audit,

⁸ The term 'effective' here refers to a score above the mid-point of the 'driver of audit quality' scale, not to be mistaken for point 6 of this scale. A similar explanation applies to H3, H4, and H5.

since errors will be corrected in time, while simultaneously educating others to prevent such errors in the future. Following this, I hypothesize:

H4: Culture of excellence and growth is considered as an effective driver of audit quality by audit personnel.

Lastly, actual innovation. This theme is reflected through question 10 and 11 and involves the learning culture. Technology is commonly used in audit firms to efficiently process information (Alberti et al., 2022), and can be linked with improved audit quality (Banker et al., 2002), as IT systems allow for better sharing of knowledge or more time for other comprehensive tasks. IT systems can also pose a threat to audit quality if they are misused, however this effect can be mitigated through appropriate design and training (Bedard et al., 2008). In terms of new technology, Dowling and Leech (2014) show that new systems in Big Four firms often lead to increased learning, especially if the system is restrictive, as it aids in understanding the audit methodology of the firm and improving transparency. An increased understanding may lead to improved audit quality since it enables auditors to work more effectively. Therefore, it may be argued that cultures where the use of new technology is encouraged improve audit quality. This leads to the following hypothesis:

H5: Actual innovation is considered as an effective driver of audit quality by audit personnel.

4.1.2 Client Satisfaction

The AQI about client satisfaction received mixed reactions. However, these reactions were based on the little information available. The contents were still unknown, as highlighted by Ernst & Young (2021) which led to incomplete feedback.

In the final proposal, a set of 12 questions measuring the satisfaction of the client has been released (Kwartiermakers, 2021c). These questions will lead to a grade that provides insight into the extent to which clients are satisfied with the quality and added value of the services (audit work and the natural advisory function) provided by the auditor. According to the authors, this can be an indicator for the extent to which the audit firm, through an effectively operating quality

control system, is able to provide quality and value-added services. They propose that annual client satisfaction scores are mandatorily requested from a representative number of the audit firm's clients. Clients are asked to state their level of agreement (1 = strongly disagree, 5 = strongly agree) with the following 12 questions:

- (1) There were no surprises during the audit process
- (2) The external auditor and team had sufficient professional competence to assess the information provided
- (3) The external auditor and team had sufficient knowledge to answer our questions
- (4) The external auditor showed sufficient commitment to the audit
- (5) The external auditor and team responded to our questions in a timely and sufficiently comprehensive matter
- (6) The external auditor and team were sufficiently approachable for our questions
- (7) The external auditor and team had a proactive attitude during the audit
- (8) It was clear what quality requirements the information provided for the audit had to meet
- (9) The external auditor and team shared timely findings and observations during the audit
- (10) It felt like a necessary evil during the audit
- (11) It felt like the external auditor and team felt a high-quality audit was important
- (12) If issues arose during the audit, the external auditor and team showed willingness to help resolve them

According to Deloitte (2021), it is important that the questions target the process of the audit and not the added value. Although they give no explanation, it can be argued that a good audit requires professional scepticism. As mentioned before, audit quality has two important elements: expertise (competence) and objectivity (independence) (DeAngelo, 1981; Knechel, 2016). If an auditor possesses these qualities and the clients' financials lead to certain questions, the client will likely react less positive to the audit, which may influence their opinion about the added value of the audit. Literature supports this notion and finds a negative relationship between auditor scepticism and client satisfaction (Behn et al., 1997). Clients generally experience a rigorous audit

as negative. Therefore, the questions must be aimed at the process of the audit, to prevent the risk of receiving negative feedback when the audit was properly executed.

To assess whether these questions appropriately target the audit process, I first define the audit process. According to Francis (2011), “The audit process represents the implementation of audit inputs, i.e., the testing procedures that are applied by the engagement team. These are the decisions and judgments made by auditors with respect to the planning, collection, and interpretation of evidence in order to meet the broad requirement of audit standards to collect sufficient competent evidence in support of the audit report”. This definition has a few important elements. First, it encompasses the auditors themselves and their decision-making. Second, it covers the evidence and how to handle this evidence. Third, it refers to the audit standards that need to be fulfilled to give reasonable assurance.

Question 1, 5, 6, 8, 9, and 12 can be attributed to the planning of the evidence that needs to be provided. If the auditors clearly communicate what documents they need, when they need them, and how they will be handled, then clients will be well prepared and likely experience little to no surprises during the audit. In addition, if questions do arise and auditors respond in a timely matter, this also indicates a good planning where there is space to answer questions.

Question 2, 3, and 5 refer to the interpretation of evidence, which can be seen as the competence of the auditor. If auditors possess the skills to accurately assess the information provided, or answer questions about this information, it signals their ability to accurately make judgements and decisions during the audit process and act in accordance with audit standards and requirements.

Question 4, 7, and 11 relate to the commitment of auditors and the team. While this can not be directly linked with one of the aspects of the audit process as defined by Francis (2011), I argue that committed people will be more dedicated to delivering better quality audits, as shown in section 4.1.1. about employee involvement. This commitment can only be experienced by the clients during the audit since they see the auditor and team on a regular basis during the process. Therefore, these questions relate to the process of the audit.

Question 10 relates to the overall necessity of the audit. It does not signal a specific aspect, however, if clients experienced the audit as a necessary evil, it may be a sign that little to no

problems arose during the audit process. It could be argued that this is due to auditors making appropriate judgements and decisions to avoid surprises, having an accurate planning to avoid difficult situations and be able to answer questions, and overall be able to work in accordance with standards and requirements.

Based on the information above, I argue that all questions relate to the process of the audit. This leads to the following hypothesis:

H6: All survey questions effectively measure the process of the audit according to audit personnel.

This AQI can be seen as a direct measure of audit quality since it measures the process of the audit. The audit process reflects how auditors apply the audit inputs (Francis, 2011). Therefore, it can be argued that by measuring the clients' satisfaction about the audit process, a direct insight into the quality of the audit (process) is obtained. However, it is yet unclear how effective these questions are as indicators of audit quality.

In terms of measuring audit quality, an auditor needs to have both competence (skills) and independence (objectivity) to conduct a high-quality audit (DeAngelo, 1981; Knechel, 2016). In addition, researchers found that the process of a high-quality audit is one that complies with auditing standards, has a timely completion of audit planning and fieldwork, and consults with internal and external experts (Christensen et al., 2016).

Based on the aforementioned information, it can be argued that questions 1, 2, 3, 5, 6, 8, 9, and 12 can be considered as indicators of audit quality. These questions relate to the competences of the auditor and team, the planning of the audit, or the compliance with audit standards. All these aspects are direct measures of audit quality.

Questions 4, 7, and 11 are measures of commitment. Commitment is important for the audit process and quality, as it may be an important driver. However, this means that it does not immediately signal the level of audit quality. Therefore, these questions will likely not be considered as effective indicators of audit quality.

Finally, question 10 refers to whether clients consider the audit as a necessary evil. This question can be important to gauge how clients experience the process of an audit in general. This does not necessarily indicate audit quality. Clients can accept that the process must happen, however, this does not mean that auditors will automatically perform a better audit. As mentioned before, this is dependent on the characteristics of the auditor, the team, and the audit process itself.

Following this information, I hypothesize as follows:

H7: Questions 1, 2, 3, 5, 6, 8, 9, and 12 are considered effective indicators of audit quality according to audit personnel.⁹

H8: Questions 4, 7, 10, and 11 are considered ineffective indicators of audit quality according to audit personnel.¹⁰

4.1.3 Training Hours ESG Topics

AQI 10 measures the amount of time spent by staff and partners on Environmental, Social, and Governance (ESG) topics. It is measured as the amount of time spent on training hours as a percentage of the total time spent on the statutory audit.

Audits in the last few years face increasingly higher demands for auditing of non-financial information, because investors and other stakeholders question the credibility and reliability of the information disclosed in non-financial reports (Braam & Peeters, 2018). In addition, the Corporate Sustainability Reporting Directive (CSRD), which “modernises and strengthens the rules concerning the social and environmental information that companies have to report” (European Commission, n.d.-a), will lead to increased importance of non-financial reports. Furthermore, the EU Taxonomy, “a cornerstone of the EU’s sustainable finance framework and an important market transparency tool that helps direct investments to the economic activities most needed for the transition, in line with the European Green Deal objectives” (European Commission, n.d.-

⁹ Like before, ‘effective’ refers to above the mid-point of the scale.

¹⁰ Likewise, ‘ineffective’ refers to below the mid-point of the scale.

b), will lead to an increased focus on ESG related business operations. Therefore, it can be expected that auditors will spend more time on auditing non-financial information in the future.

Christensen et al. (2016) show in their survey that 100 percent of auditors link training hours per audit professional to higher audit quality. Training hours on ESG topics can be included in this. If professionals have no training hours regarding ESG topics, they cannot appropriately assess the non-financial information. In addition, the comment letters reflected a desire for training hours as an important AQI (Ernst & Young, 2021; PwC, 2021). Moreover, expertise is an important aspect of audit quality (DeAngelo, 1981; Knechel, 2016). Apart from experience, expertise is the result of good training as well. This information combined illustrates that training hours on ESG topics can be a driver of audit quality. Although the studies mentioned above mainly focus on regular training as opposed to ESG training, the essence is similar. Training hours can lead to more expertise, which means they can be considered as drivers of audit quality. Therefore, I hypothesize:

H9: Training hours ESG topics is considered as an effective driver of audit quality by audit personnel.¹¹

Although ESG topics are becoming more important in reporting, it is yet unknown how external auditors view this importance in comparison to financial information. If auditors view non-financial information as less important, they might be less committed to their work on these topics, which can lead to lower quality of the audited non-financial statements.

Research has shown that auditors often give limited or moderate assurance to sustainability reports (Boiral et al., 2019). They state that often certain sustainability principles are overlooked during the assurance process. Audit statements mainly focus on those that are applied in regular audits as well, which can be explained by the fact that sustainability assurance arose from regular assurance (Boiral & Gendron, 2011).

¹¹ 'Effective' refers to above the mid-point of the scale.

It is possible that this indicates the perceived importance of auditors on ESG topics as well. If auditors or audit firms can only provide limited or moderate assurance, they may spend less time on non-financial audits, which would indicate a lower level of importance compared to financial audits. While this may improve with the future regulations of the CSRD, it is likely not the case now. Therefore, I hypothesize:

H10: Non-financial information is considered less important than financial information by audit personnel.

4.1.4 Familiarity with AQI proposal

To improve readability and avoid confusion, the information given in the survey is limited. The background information provided should be sufficient to answer the questions given, however, since the AQI proposal is public, an audit professional that has read (part of) the proposal or knows information about its contents or goals, may give different answers to the questions, as they have more background knowledge. Therefore, a distinction must be made between professionals that are familiar with the proposal and those who are not. I suspect that participants who are familiar with the proposal will have a stronger reaction to the statements than unfamiliar participants, since they are more confident in their answers. In other words, if an indicator is seen as (in)effective, the mean of the group that indicates familiarity with the proposal will be (lower) higher, than the group that does not indicate familiarity with the proposal. Therefore, I hypothesize as follows:

H11: The mean of familiar audit personnel will be higher than the mean of unfamiliar audit personnel when above the mid-point of the scale.

H12: The mean of familiar audit personnel will be lower than the mean of unfamiliar audit personnel when below the mid-point of the scale.

5 Methods & Data

5.1 Research method

The research subject of this study is the Dutch AQI proposal. Since this law has yet to be enacted, there is no data available on this subject. As mentioned before, other research has investigated similar initiatives (Harris & Williams, 2020; Holm & Zaman, 2012), however this data cannot be used reliably to predict outcomes for the Dutch proposal as the AQI's are different and there are some new indicators introduced. Therefore, this research conducts a survey on these indicators, held among audit professionals working in an audit firm. Survey research is used to gather data on anything (Qualtrics, n.d.). Since the law is not yet published, there is no historic data available. Therefore, a survey is used in this study.

5.2 Data collection & sample

The survey was administered to audit personnel of four regions of a Big Four firm in the Netherlands through internal company mail and carried out with Qualtrics software. In total, 369 people received a link to complete the survey. From this sample, 113 people started the survey, indicating an initial response rate of 31 percent. After inspection of the data, responses that only filled out the demographic questions were removed from the sample, leaving 69 responses, indicating a response rate of roughly 19 percent. Although this is rather low, it is line with the trend of declining response rates (Stedman et al., 2019). Additionally, previous research indicates that response rates in this field are fairly low, with studies reaching between 5 and 10 percent (Christensen et al., 2016; Harris & Williams, 2020). For this survey, the number of responses on questions varied and diminished towards the end, mainly decreasing after the first question page. The lowest number of responses to a question was 57. However, since each question in the survey does not depend on the answer of the previous one, each response that filled out information beyond the demographics questions was kept. In terms of the open questions, many participants did not fill out this information. The highest number of responses on an open question was 12. Nonetheless, these statements provide additional in-depth information on the answers to the multiple-choice questions.

5.3 Research Design

The survey was designed in Qualtrics and consisted of four distinctive sections: demographics, culture, client satisfaction, and training hours ESG topics. To match the language of the study, the elements of the AQI proposal (Kwartiermakers, 2021c) are translated from Dutch to English in the questionnaire. The concrete survey questions are described in appendix II.

First, participants were asked to respond to demographic questions. Studies often use, at the very least, *age*, *gender*, *education*, *experience*, and *function* as demographic variables (Christensen et al., 2016; Harris & Williams, 2020). These variables aid in determining whether the sample is properly diversified. *Age* is defined in groups of 5 years, except for the categories '24 or younger' and '45 or older'. This range is chosen, since Big Four firms often have relatively young personnel (Zippia, 2022), as the majority is (senior) staff, which are the lowest ranks.¹² For *gender*, the options are 'male', 'female', 'other', and 'prefer not to say' for those who are not comfortable expressing their gender. *Education* is divided into 'high school', 'bachelor', 'master', 'post-master', 'PhD', and 'other' to check the qualifications of the participants. Finally, *experience* is divided into categories of 4 years, except for '3 years or less' and '20 years or more'. These groups correspond roughly with the function levels, and measures how experienced the employees are. *Function* indicates the different functions in the surveyed audit firm, which further underlines the diversity of the sample. In addition to these variables this study includes *familiarity*. Familiarity describes the familiarity with the AQI proposal, to which respondents could answer 'yes', 'no', or 'somewhat'. This is measured since respondents that are familiar with the proposal may give different answers than unfamiliar respondents.

In the culture section, participants are asked to give their opinion on AQI 6 about culture. First, participants are asked to indicate the reflection of culture on a 7-point Likert-scale, where 1 indicates a poor reflection of culture and 7 an excellent reflection of culture. Joshi et al (2015)

¹² Statistics are US based, however, most workforces in EU Big Fours mainly consist of (senior) staff members (e.g. Ernst & Young: https://assets.ey.com/content/dam/ey-sites/ey-com/nl_nl/topics/jaarverslag/downloads-pdfs/2021-2022/ey-transparency-report-2022-part-1.pdf).

review the Likert scale as follows: “Likert scale is applied as one of the most fundamental and frequently used psychometric tools in educational and social sciences research”. Moreover, this follows the approach of Harris & Williams (2020), who used this scale when researching the effectiveness of the US proposed indicators. In the survey designed by the Kwartiermakers (2021c), eleven questions about culture are asked. For the survey of this study, these questions are simplified to a regular sentence to avoid a situation in which participants will answer the question based on their experience with their own employer, rather than describing whether the question is a good reflection of culture. Participants are asked to elaborate in an open question.

Following this, participants are asked if the questions are drivers of audit quality on another 7-point Likert-scale, where 1 indicates ‘very ineffective’ and 7 indicates ‘very effective’. For this question, the four themes designed by the Kwartiermakers (2021c) are used instead of the separate questions: employee involvement, adequacy of planning, culture of excellence and growth, and actual innovation. Since all questions belong to these categories, there is no need to state each question separately. Once more, participants are asked to elaborate in an open question.

For client satisfaction, participants are asked to answer how effective each of the client satisfaction survey questions are as indicators of audit quality. These questions are identical to the twelve questions designed in the AQI proposal (Kwartiermakers, 2021c). However, they are translated to English to match the survey language. Participants must indicate the effectiveness on a 7-point Likert scale, where 1 indicates ‘very ineffective’ and 7 indicates ‘very effective’. In addition, participants can elaborate in an open question, and are asked to evaluate if the questions accurately target the process of the audit, as described in section 4.1.2. of this study. For this a multiple-choice question is employed, where participants respond to the question: *“do you think these questions effectively target the process of the audit?”*. Answer options include ‘yes, all questions effectively target the process of the audit’, ‘somewhat, most questions effectively target the process of the audit’, ‘barely, only a few questions effectively target the process of the audit’, and ‘no, these questions do not effectively target the process of the audit’.

Lastly, to measure training hours on ESG topics, participants are asked to indicate how effective this measure is as a driver of audit quality on a 7-point Likert-scale, where 1 indicates 'very ineffective' and 7 indicates 'very effective'. Participants can elaborate in an open question. To measure the importance of non-financial information, a multiple-choice question measures if non-financial information is more important, just as important, less important, or not important at all compared to financial information.

5.4 Analysis

Stata is used to evaluate the questions of the survey. For the Likert-scale responses each question is tested against the mean or midpoint of the scale, which is 4, using a one sample t-test, two sided. This test indicates whether the answers to a question differ significantly from the mean. Additionally, to test for the differences between familiar and unfamiliar respondents, a two-sample t-test is used, which shows whether these two groups differ significantly in their answers. For the multiple-choice questions, graphical representations of the answers are used. The open questions are analysed manually, due to the limited responses.

6 Results

6.1 Descriptive statistics

Table 1 summarizes the research sample and their characteristics.¹³

Table 1
Demographics – Audit Personnel (N=69)

Age group		
24 or younger	19	28%
25-29	31	45%
30-34	8	12%
35-39	4	6%
40-44	1	1%
45 or older	6	9%
Gender		
Male	51	74%
Female	17	25%
Other	0	0%
Prefer not to say	1	1%
Highest achieved degree		
High School	3	4%
Bachelor	18	26%
Master	18	26%
Post-master	29	42%
Other	1	1%
Current function		
Staff	30	43%
Senior staff	17	25%
Manager	8	12%
Senior manager	3	4%
Partner	6	9%
Other	5	7%
Years of professional experience		
3 years or less	32	46%
4 to 7 years	23	33%
8 to 11 years	3	4%
12 to 15 years	3	4%
16 to 19 years	1	1%
20 years or more	7	10%
Familiarity with AQI proposal		
Yes	12	17%
Somewhat	24	35%
No	33	48%

¹³ 'Other' categories include: one 'doctorate' (degree), four 'intern' (function), and one 'junior staff' (function).

In terms of age, 73 percent of the sample has an age of 30 years or younger. This is somewhat consistent with the fact that audit personnel at Big Four firms is relatively young (Zippia, 2022), although this sample contains more participants in the below 30 group, and less in the above 30 group. Gender is similar with 74 percent male and 25 percent female, as on average these percentages are 80 and 20 percent respectively (Zippia, 2022). Nearly every participant has finished a bachelor's degree, almost 70 percent holds a master's degree, and over 40 percent has completed the post-master. This is higher than the average population where only 70 percent holds a bachelor's degree, just over 20 percent has obtained a master's degree (Zippia, 2022). The sample and the average population may also differ due to country specific aspects, as the statistics on the average population are US based. The category function consists mostly of (senior) staff. This is expected, since the average age is lower, and participants need experience to progress to a higher function. A similar explanation applies to experience. Younger employees will have less professional experience than older employees. Although the sample is slightly younger than the average, the education level is slightly higher, which indicates proper education. Function and experience are consistent with the age distribution. Finally, about 50 percent indicated (some) familiarity with the proposal, while the other half indicates no familiarity.

6.2 Culture

6.2.1 Summary of statistics

Table 2

Summary of statistics

AQI 6: Reflection of culture

Variable	Observations	Mean	Std. Dev.	Min	Max
Question 1	69	4.754	1.299	1	7
Question 2	69	5.449	.948	3	7
Question 3	69	4.739	1.038	3	7
Question 4	68	4.912	1.432	2	7
Question 5	65	5	.968	2	7
Question 6	67	4.97	.887	3	7
Question 7	68	5.412	.981	3	7
Question 8	66	5.152	1.07	2	7
Question 9	68	5.059	1.196	2	7
Question 10	68	5.103	1.223	2	7
Question 11	68	4.824	1.233	1	7

Table 2 and 3 summarize the statistics for the questions about the reflections of culture and the drivers of culture respectively. For reflection of culture the observations vary between 65 and 69, while for each driver of audit quality there are 68 observations. The standard deviations are close to 1, which is expected, as every answer option on the Likert-scale is exactly one point away from the other. The minimum and maximum value corresponds with the lowest and highest point of the answer scale.

Table 3
Summary of statistics
AQI 6: Driver of audit quality

Variable	Observations	Mean	Std. Dev.	Min	Max
Employee Involvement	68	5.941	.77	4	7
Adequacy of Planning	68	5.809	1.307	2	7
Culture of Excellence & Growth	68	5.721	.861	3	7
Actual Innovation	68	5.588	.934	2	7

6.2.2 Reflection of culture

Table 4
One-sample t-tests (two-sided)
AQI 6: Reflection of culture (Mean = 4)

	Observations	Mean	St Err	t value	p value
Question 1	69.000	4.753	0.157	4.817	0.000
Question 2	69.000	5.450	0.114	12.703	0.000
Question 3	69.000	4.739	0.125	5.913	0.000
Question 4	68.000	4.912	0.174	5.249	0.000
Question 5	65.000	5.000	0.120	8.326	0.000
Question 6	67.000	4.970	0.108	8.951	0.000
Question 7	68.000	5.412	0.119	11.868	0.000
Question 8	66.000	5.152	0.132	8.739	0.000
Question 9	68.000	5.059	0.145	7.303	0.000
Question 10	68.000	5.103	0.148	7.434	0.000
Question 11	68.000	4.824	0.149	5.507	0.000

To test the hypotheses about culture, multiple one-sample t-tests (two-sided) are conducted for each Likert-scale question. Each t-test is performed with $n-1$ degrees of freedom, where n equals the number of observations. Table 4 summarizes the result of the t-test for the reflection of culture. Observations are tested against the midpoint of the scale. Results show that each question about reflection of culture is significant at the 99 percent confidence interval, which is

indicated through an alpha below 0.01, also known as the p value. In addition, the t-value for each question exceeds the critical t-value of roughly 2.7, which is another indicator of a significant result. Therefore, the null-hypothesis is rejected, and it can be concluded that the outcome for each question differs significantly from the mid-point. In addition, the mean of each question is close to 5, which indicates that each question of the culture survey is an above average reflection of culture according to audit personnel. This confirms hypotheses H1. All survey questions are good reflections of culture according to audit personnel.

Comments from the open question about reflection of culture show that participants are confused about the scalability of the questions about the focus on audit quality and getting the job done. One participant commented the following:

“Most important focus questions cannot be answered with these indications. I think it’s audit quality or getting the job done. Mostly it is about the quality rather than getting the job done in my experience for employee and audit teams of employee”.

This comment indicates that there is a chance that some participants misinterpreted the survey question. Rather than indicating if the statement in general is a good reflection of culture, some may have interpreted these questions as if the questions are asking to scale the reflection between audit quality and getting the job done. Upon further inspection of the data, those who indicated confusion either left these statements open, or marked the question as an average or better reflection of culture. In addition, those who indicated confusion but still marked the question, often mentioned the importance of both aspects, therefore indicating that this question is an important reflection of culture. In addition, their answers were mostly in line with the rest of the sample. No further action was taken.

One comment referred to the importance of PIE (Public Interest Entity) clients:

“3 differs per team and per client, especially with PIE clients this is lower than with less important clients”.

However, it is unclear whether 3 refers to the third statement or to all questions relating to theme number 3. In addition, this can not be derived from the little information in the statement. Therefore, no conclusions can be drawn from this comment.

6.2.3 Driver of audit quality

Table 5

One-sample-t-tests (two-sided)

AQI 6: Driver of audit quality (Mean = 4)

	Observations	Mean	St Err	t value	p value
Employee Involvement	68.000	5.941	0.093	20.778	0.000
Adequacy of Planning	68.000	5.809	0.159	11.409	0.000
Culture of Excellence & Growth	68.000	5.721	0.104	16.475	0.000
Actual Innovation	68.000	5.588	0.114	14.020	0.000

For the drivers of audit quality, a similar result applies as with reflection of culture. Table 5 displays the results. Results indicate significance at the 99 percent confidence level, with an alpha below 0.01 and a t-value well above the critical value (about 2.7). Here, the null-hypothesis is rejected as well, concluding that each driver differs significantly from the mid-point. The mean of each driver rounds up to 6, which leads to the conclusion that each driver is considered as an effective driver of audit quality.

The open questions on the drivers further underline the results. Participants indicate that each driver is of great importance. In terms of culture, participants indicate that employee involvement is one of the key aspects of audit quality as shown in these statements:

“Employee involvement is very effective to me, cause a person acts upon how he feels most of the time. If he likes the work at the company is feeling involved, then that will show in his work. It will also affect other colleagues and eventually their work”.

“If employees are more involved, they are more willing to work hard for the company”.

“It starts with the employees – are they committed to provide high quality”.

Planning adequacy receives similar feedback. Participants state that too much pressure leads to less quality:

“Adequacy of planning I find the most important. I notice that often under pressure everything becomes ‘liquid’. And due to a shortage in planning, sometimes tasks are being skipped that should have been done for the audit quality”.

“Planning is important to have adequate resources available”.

“Mostly I am seeing that the planning doesn’t withhold. There is always work that’s not done when you’re out of planning.”

Participants indicate that culture of excellence and growth is an important driver as well. Statements frequently mention the importance of growth in employees and the result on audit quality.

“A growing culture results in better employees, and in better quality”.

“The culture of growth stimulates high performance also reflected in reviews which I think is effective, but not as effective as the involvement and planning”.

“Culture where innovation/audit effectiveness is encouraged (monitoring the right KPI) is important”.

Another participant links this driver with employee involvement:

“Culture of excellence and growth is very effective, because I think it’s very valuable if a person can develop him- or herself in what they do. They can really be proud of what they do and of course the work will be of better quality if the people become better”.

Finally, actual innovation is valued as well, as it can improve the work of the people:

“Innovation may help in delivering quality enabling to obtain more audit evidence with less effort”.

“Innovation can lead to more efficient use of time and help with ‘standard tasks’, which leaves more time for more important tasks”.

“(planning and) innovation are tooling and needed for improvement of the audit, but the people make the difference”.

These statements confirm the results that all four themes are effective indicators of audit quality. This confirms hypotheses H2, H3, H4, and H5. Culture is an important driver of audit quality according to audit personnel.

6.3 Client Satisfaction

6.3.1 Summary of statistics

Table 6

Summary of statistics

AQI 11: Client Satisfaction

Variable	Observations	Mean	Std. Dev.	Min	Max
Question 1	59	4.492	1.623	1	7
Question 2	57	5.965	.886	4	7
Question 3	58	5.655	.928	3	7
Question 4	58	5.724	.812	3	7
Question 5	58	5.569	1.011	3	7
Question 6	58	5.603	.917	3	7
Question 7	58	5.69	.799	4	7
Question 8	58	5.5	.996	2	7
Question 9	57	5.649	.813	4	7
Question 10	57	3.544	1.571	1	7
Question 11	57	5.614	.921	3	7
Question 12	57	5.614	.881	4	7

Table 6 summarizes the statistics for client satisfaction. The number of observations varies between 57 and 59. Like culture, the standard deviations are close to 1, which is expected considering the format of the data. Exceptions are questions 1 and 10, which can indicate that there is a notable spread between the answers on these questions. Overall, the answers are oriented more towards the right side of the scale, since the minimum response for most questions starts at 3 or 4, which is just below or on the midpoint of the scale.

6.3.2 Indicator of audit quality

Table 7

One-sample t-tests (two-sided)

AQI 11: Indicator of audit quality (Mean = 4)

	Observations	Mean	St Err	t value	p value
Question 1	59.000	4.492	0.211	2.327	0.024
Question 2	57.000	5.965	0.118	16.749	0.000
Question 3	58.000	5.655	0.122	13.581	0.000
Question 4	58.000	5.724	0.106	16.170	0.000
Question 5	58.000	5.569	0.133	11.822	0.000
Question 6	58.000	5.604	0.120	13.324	0.000
Question 7	58.000	5.689	0.105	16.099	0.000
Question 8	58.000	5.500	0.131	11.474	0.000
Question 9	57.000	5.649	0.107	15.321	0.000
Question 10	57.000	3.544	0.208	-2.192	0.033
Question 11	57.000	5.614	0.122	13.230	0.000
Question 12	57.000	5.614	0.117	13.825	0.000

In table 7, the results are tested against the mid-point of the scale, four, to test whether the results differ significantly from the mean. Each test is performed with $n-1$ degrees of freedom, where n equals the number of observations. The results show that all questions of client satisfaction are statistically significant at the 95 percent confidence interval ($p < 0.05$). At the 99 percent confidence interval ($p < 0.01$), this applies to all questions except number 1 and 10. In addition, the t-values are strong with most values greatly exceeding the critical value of roughly 2.7. Question number 1 and 10 are moderately significant at the 95 percent level, with t-values just exceeding the critical value of approximately 2. The mean of most questions is around scale point 6, which indicates that on average the indicator is labelled as 'effective'. Exceptions are question 1, which is rated between average and slightly above average, and question 10, which is rated between average and slightly below average. Based on this information, hypothesis H7 is confirmed, since questions 1, 2, 3, 5, 6, 8, 9, and 12 all have a mean exceeding the mid-point of the scale. Therefore, they are considered as effective indicators of audit quality. Hypothesis H8 is partly confirmed, since only question 10 has a mean below 4. Question 4, 7, and 11 are considered as effective indicators by audit personnel, which rejects that part of the hypothesis.

For the open question, one comment was left on the effectiveness of the questions. One participant stated:

"Involvement/commitment of executives is important, being able to coach and help the team is very effective, but also a well prepared client is very effective".

This further underlines on the one hand the importance of the commitment of the auditor and team and the knowledge of the auditor and team. On the other hand, it stresses the importance of good preparation by the client as well, which is not reflected in the survey, as clients cannot objectively rate or indicate their own level of preparation as part of the audit process.

One participant suggested for these questions to be answered by the client, which might be interesting for research from a client perspective.

6.3.3 Process

To measure whether the questions of the client satisfaction survey effectively measure the process of the audit, 68 participants responded to the question “do you think these questions effectively target the process of the audit?”, and were given four multiple-choice options. Figure 1 summarizes the results. 38 percent (22) of the respondents indicated that all questions effectively target the audit process. 59 percent (34) stated that most questions effectively target the audit process. Only 3 percent (2) indicated that just a few questions effectively target the process of the audit. None thought that no questions were sufficient. Therefore, it can be concluded that most questions effectively measure the process of the audit. Hypothesis H6 can be partly confirmed.

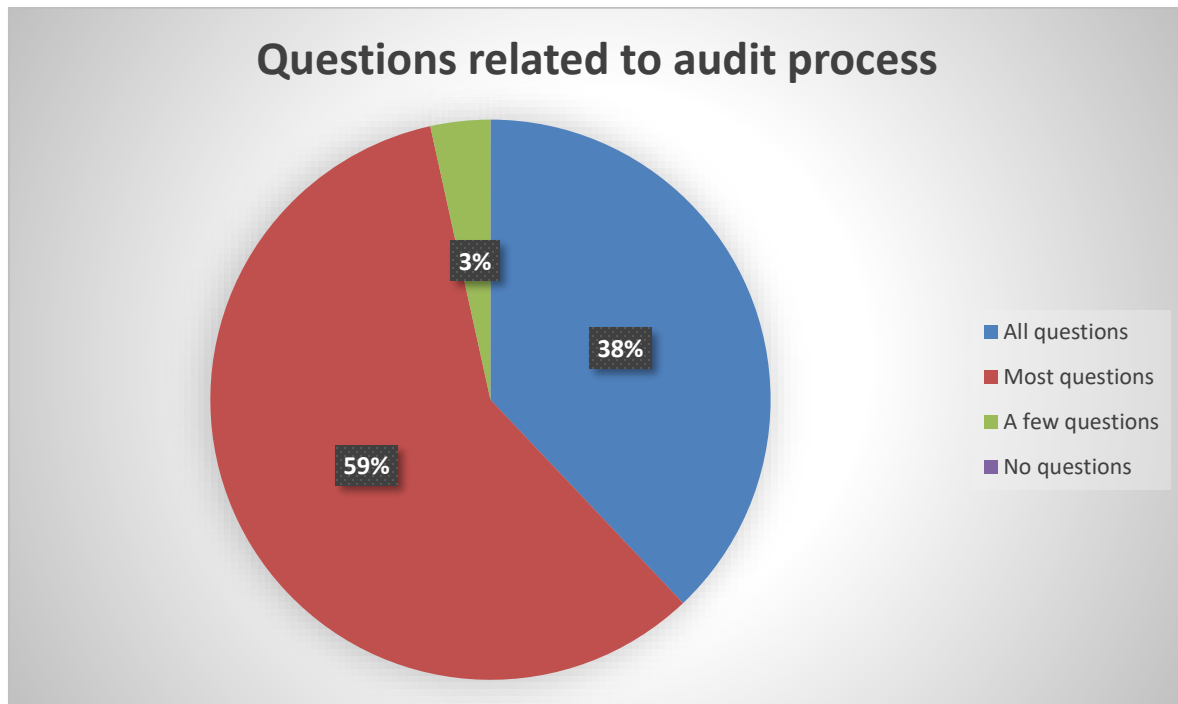


FIGURE 2: PROCESS RELATED SURVEY QUESTIONS

6.4 Training Hours ESG Topics

6.4.1 Summary of statistics

Table 8

Summary of statistics

AQI 10: Training Hours ESG Topics

Variable	Observations	Mean	Std. Dev.	Min	Max
ESG Topics	59	4.949	1.319	1	7

Table 8 displays the summary of statistics for AQI 10, training hours ESG topics. 59 observations were recorded for this AQI. Effectiveness answers vary between the first and the last point of the scale, where 1 equals very ineffective and 7 equals very effective. The standard deviation is roughly 1.3 which can indicate a wider spread between the answers to this AQI.

6.4.2 Driver of audit quality

To test whether this AQI is seen as an effective driver of audit quality, I conduct a t-test on the Likert-scale responses, which is displayed in table 9. The test is performed with 58 degrees of freedom (n-1). The result is tested against the mid-point of the scale (4) and displays a statistically significant outcome on both the 95 and 99 percent confidence interval ($p < 0.05$ and $p < 0.01$). In addition, the t-value exceeds the threshold of about 2.7. Therefore, the null hypothesis can be rejected, as the result significantly differs from the mean. This indicates that training hours ESG topics can be considered as an effective driver of audit quality by audit personnel.

Comments in the open question show mixed responses. On the one hand, some participants have a positive view towards the subject:

“In several studies, training/experience is linked with audit quality. Thus yes, training in an area deemed important to audit quality should be effective”.

“Without training you will not be able to be a good auditor in this perspective”.

“The better the ESG, the better the process of the business, and the better the audit quality”.

On the other hand, some believe that ESG is not very effective as an AQI:

“To date, this AQI is not of importance”.

“Training hours are not sufficient to work as AQI. The hours do not say much about the delivered quality. ESG topics are already largely unclear to auditors”.

Although these comments are negative, a detailed explanation is missing or the comment is targeted at the AQI as a direct indicator, rather than a driver of audit quality. Therefore, these comments do not accurately provide feedback for this AQI as a driver of audit quality. Another issue that arises from the comments is the absence of ESG in the audits of participants as of this moment. Participants state the following:

“The indication is related to my daily work done. Since that covers grant audits this aspect is less important to my specific work”.

“ESG now is not requested from my clients yet”.

These statements may indicate that ESG topics are less relevant in the sample. This question may be considered as more effective in the future when the sustainability directive is in effect.

In terms of training hours, the AQI seems to be confirmed as effective, based on both the comments and statistic results. However, in terms of ESG topics specifically, the results are unclear. Based on this information, the hypothesis H9 is partly confirmed.

Table 9

One-sample t-test (two-sided)

AQI 10: Driver of audit quality (Mean = 4)

	Observations	Mean	St Err	t value	p value
ESG Topics	59.000	4.949	0.172	5.529	0.000

6.4.3 Importance of ESG

Finally, the importance of ESG or non-financial information is assessed. In the survey participants responded to the question *“How important do you perceive ESG topics to be within the audit?”* The results are presented graphically in figure 2. The total number of observations for this question is 59. The results show that 51 percent (30) of the participants find nonfinancial information to be less important than financial information. 44 percent (26) consider it just as important, and 5 percent (3) thinks nonfinancial information is more important.

Comments explain the results:

“It’s the future, we need to adapt and evolve”.

“I think it will be very effective in the future and hope to learn more”.

“I believe ESG is increasingly becoming more important but not quite at the level of the financial audits as yet, but that will follow shortly as we will have to provide assurance over ESG”.

“This will become a very important topic in the near future, and we need to prepare (as we are doing in the moment)”

These comments explain the results. Many view the importance of ESG as inferior to financial information, however the comments show that many believe it will become more important in the future. Therefore, it is logical that as of right now most consider it less important than financial information. This is in line with the expectations and thus confirms hypothesis H10.

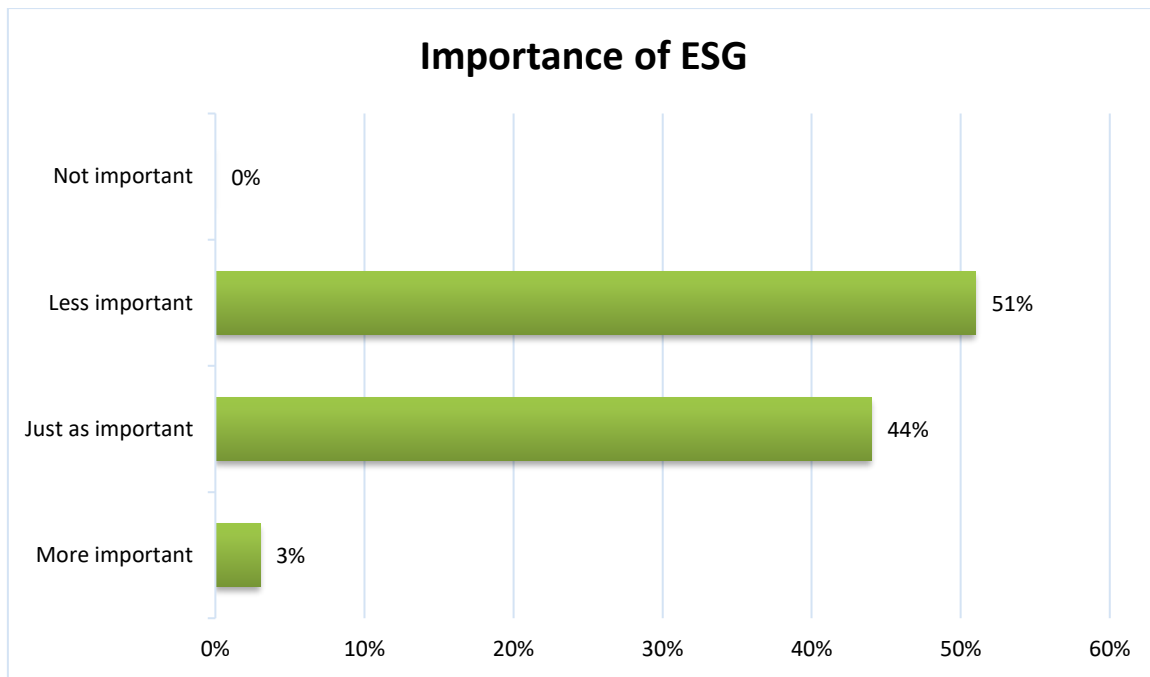


FIGURE 3: IMPORTANCE OF ESG TOPICS (NONFINANCIAL INFORMATION) COMPARED TO FINANCIAL INFORMATION

6.5 Familiarity with AQI proposal

6.5.1 Culture

Table 10

Two-sample t-tests (two-sided)

AQI 6: Familiarity (Reflection of culture)

	Obs1 ¹⁴	Obs2 ¹⁵	Mean1	Mean2	dif	St Err	t value	p value
Question 1	36.000	33.000	5.167	4.303	0.864	0.297	2.900	0.005
Question 2	36.000	33.000	5.695	5.182	0.512	0.222	2.300	0.024
Question 3	36.000	33.000	4.889	4.576	0.313	0.249	1.250	0.213
Question 4	36.000	32.000	5.028	4.782	0.246	0.350	0.700	0.483
Question 5	34.000	31.000	4.971	5.032	-0.061	0.242	-0.250	0.800
Question 6	35.000	32.000	4.943	5.000	-0.057	0.218	-0.250	0.794
Question 7	35.000	33.000	5.686	5.121	0.565	0.230	2.450	0.017
Question 8	34.000	32.000	5.412	4.875	0.537	0.257	2.100	0.041
Question 9	35.000	33.000	5.514	4.576	0.939	0.269	3.500	0.001
Question 10	35.000	33.000	5.514	4.667	0.848	0.281	3.000	0.004
Question 11	35.000	33.000	5.115	4.515	0.599	0.292	2.050	0.044

To test for differences between familiar and unfamiliar participants, I run multiple two-sample t-tests (two-sided) between these groups. Results are displayed in table 10. Each t-test is performed with $n-2$ degrees of freedom, where n equals the combined number of observations of each group. In terms of reflection of culture, only question 1, 2, and 7 to 11 differ significantly at the 95 percent confidence interval, where $p < 0.05$. Question 1, 9, and 10 also differ significantly at the 99 percent confidence interval ($p < 0.01$). For the other questions no significant results are found. With respect to the significant questions, it can be concluded that familiar participants on average give a higher score to the questions than unfamiliar participants. Differences vary between 0.5 and 1 scale-point.

For the drivers of audit quality, t-tests are performed with 66 degrees of freedom ($n-2$). Only adequacy of planning and actual innovation are significantly different at both the 95 and the 99 percent confidence interval ($p < 0.05$ and $p < 0.01$), with t-values exceeding the threshold. Results are shown in table 11. Answers from familiar participants are on average almost one scale-point higher than the answers from unfamiliar participants. Therefore, it can be concluded that familiar

¹⁴ Obs1 includes participants who answered 'yes' or 'somewhat' to the familiarity question.

¹⁵ Obs2 includes participants who answered 'no' to the familiarity question.

participants consider adequacy of planning and actual innovation as better drivers of audit quality than unfamiliar participants.

Table 11
Two-sample t-tests (two-sided)
AQI 6: Familiarity (Driver of audit quality)

	Obs1	Obs2	Mean1	Mean2	dif	St Err	t value	p value
Employee Involvement	35.000	33.000	6.085	5.788	0.298	0.184	1.600	0.112
Adequacy of Planning	35.000	33.000	6.285	5.303	0.983	0.296	3.300	0.002
Culture of Excellence & Growth	35.000	33.000	5.915	5.515	0.399	0.205	1.950	0.056
Actual Innovation	35.000	33.000	6.000	5.152	0.849	0.203	4.200	0.000

In terms of culture, hypothesis H11 can be partly confirmed, as all significant questions show a stronger response by familiar audit personnel compared to unfamiliar audit personnel. This is in line with hypothesis that familiar participants would have a more positive response to the question, when the mean of the whole group was above the mid-point of the scale. Hypothesis H12 cannot be confirmed here, as there are no significant questions with a mean below the mid-point of the scale.

6.5.2 Client Satisfaction

Table 12
Two-sample t-tests (two-sided)
AQI 11: Familiarity

	obs1	obs2	Mean1	Mean2	dif	St Err	t value	p value
Question 1	32.000	27.000	4.063	5.000	-0.938	0.410	-2.300	0.026
Question 2	31.000	26.000	6.226	5.654	0.572	0.225	2.550	0.014
Question 3	32.000	26.000	5.813	5.462	0.351	0.242	1.450	0.154
Question 4	32.000	26.000	5.875	5.538	0.337	0.211	1.600	0.118
Question 5	32.000	26.000	5.438	5.731	-0.293	0.267	-1.100	0.276
Question 6	32.000	26.000	5.594	5.615	-0.022	0.244	-0.100	0.929
Question 7	32.000	26.000	5.719	5.654	0.065	0.212	0.300	0.762
Question 8	32.000	26.000	5.657	5.308	0.349	0.261	1.350	0.188
Question 9	32.000	25.000	5.750	5.520	0.230	0.216	1.050	0.293
Question 10	31.000	26.000	3.420	3.692	-0.273	0.420	-0.650	0.518
Question 11	32.000	25.000	5.719	5.480	0.239	0.246	0.950	0.336
Question 12	32.000	25.000	5.532	5.720	-0.189	0.236	-0.800	0.427

For familiarity with respect to client satisfaction, the results are presented in table 12. Several t-tests are run, performed with n-2 degrees of freedom, where n equals the sum of both groups for each observation. Results show little significant results. Only question 1 and 2 are moderately

significant at the 95 percent confidence level ($p < 0.05$). The t-values exceed the threshold of approximately 2. Results show that on average participants who are familiar with the proposal score about half a scale-point higher than unfamiliar participants on question 2. This indicates a stronger reaction in terms of effectiveness for familiar participants. Interestingly, participants who are familiar score a full scale-point lower on question 1 than unfamiliar participants. This contrasts with expectations and previous questions, where familiar participants often had a stronger response to the questions, rather than an inverse response. This can indicate that the question about surprises during the audit process is not valued as an effective indicator of audit quality for familiar participants, even when it is considered as an effective indicator for unfamiliar participants.

For client satisfaction, hypothesis H11 can only be confirmed for question two, where the mean of familiar participants is higher than the mean of unfamiliar participants. Hypothesis H12 cannot be confirmed, as there are no significant questions with a mean below the mid-point of the scale for the whole group.

6.5.3 Training Hours ESG Topics

Table 12
Two-sample t-test (two-sided)
AQI 10: Familiarity

	obs1	obs2	Mean1	Mean2	dif	St Err	t value	p value
ESG Topics	32.000	27.000	4.844	5.074	-0.231	0.346	-0.650	0.509

For training hours on ESG topics, the results with respect to familiarity are found in table 12. The t-test results show that there is not statistically significant difference between the two group. The p-value greatly exceeds the threshold on both the 99 and 95 confidence intervals ($p > 0.01$ and $p > 0.05$). In addition, the t-value is greatly below the threshold on both confidence levels. Therefore, there is no significant difference between both groups for the AQI about ESG Topics.

For this AQI, neither hypothesis H11 nor H12 can be confirmed, as there is no significant result between the two groups of familiar and unfamiliar participants.

7 Discussion and conclusion

To date, audit quality is still lacking (AFM, 2017), and transparency can be greatly improved (Kwartiermakers, 2021c). The Dutch new law proposal aims to improve transparency through the use of audit quality indicators, to provide insights into the audit quality of audit firms, such that audit quality can be improved in the future. This study has evaluated the Dutch Proposal for Audit Quality Indicators through the perspectives of audit personnel in the Netherlands. To assess these perspectives this study consists of two important parts. Part one has summarized and assessed the responses of the Big Four audit firms (Deloitte, 2021; Ernst & Young, 2021; KPMG, 2021; PwC, 2021) to the concept release of the AQI proposal (Kwartiermakers, 2021a), and the changes made after the consultation (Kwartiermakers, 2021b). The summary of the responses assisted in identifying which AQI's are considered effective by Big Four firms, while the changes helped in identifying which AQI's needed to be further investigated in the second part of the study. Part two has surveyed the perspectives of audit personnel on two changed AQI's (culture, client satisfaction), and one newly introduced AQI (training hours ESG topics).

This first part of this study has found that in general audit firms support the idea of implementing AQI's to improve the transparency of statutory audits and the aim to improve audit quality. However, from the initial concept release, only the AQI 6 about culture was considered as an effective AQI, even in the absence of concrete survey questions. Big Four firms regard this AQI as an important driver of audit quality. Most AQI's are considered as either ineffective or needed many adjustments to appropriately measure (aspects of) audit quality. In addition, the changes after the consultations revealed that little changes were made. Most AQI's were slightly adjusted, however, the essence often remained the same. Exceptions were AQI 6 about culture and AQI 10 (later AQI 11) about client satisfaction. With the introduction of the concept surveys for these AQI's, additional assessment was required. Furthermore, the newly introduced AQI 10 (training hours ESG topics) had yet to be assessed.

In the second part of the study, the three AQI's are surveyed among audit personnel of a Big Four firm. Results report that all questions of the culture survey are considered good reflections of culture by audit personnel. Furthermore, participants perceive that each corresponding theme of culture is considered as an effective driver of audit quality. For client satisfaction, most survey

questions are considered as process related questions, and all questions are deemed effective indicators of audit quality by audit personnel. Finally, training hours ESG topics, is considered as an effective driver of audit quality by audit professionals. However, this is mainly due to the educational aspect of the AQI rather than the importance of ESG, as this is currently viewed as less important by the participants of the survey.

In terms of familiarity with the proposal, results vary between the three AQI's. For culture, a stronger more positive response is observed from familiar participants to most of the reflection of culture questions compared to unfamiliar participants. Mainly questions about the adequacy of planning do not differ between both groups. The theme itself, however, does differ between groups, as well as the theme of actual innovation. For client satisfaction, only the first two questions differ between the two groups of familiarity. For training hours ESG topics, no difference in assessment is found. Therefore, this study concludes that prior knowledge of the proposal mainly makes a difference in the assessment of AQI 6 about culture.

The results of this study have implications for both policymakers and future research, as well as adding to the knowledge base on the implementation of AQI's.

While researchers agree that audit quality is not directly observable and difficult to measure (DeFond & Zhang, 2014; Francis, 2004; Knechel et al., 2009), this study has shown that AQI's can serve as measures to proxy for audit quality or to proxy for important factors of audit quality. Client satisfaction is seen a direct measure of the audit process, which is an important aspect of audit quality (Francis, 2011). Culture is considered as an effective indicator of audit quality, which was not found in previous research (Christensen et al., 2016; Harris & Williams, 2020). For training hours on ESG topics, the results are in line with previous research on the importance of education for audit quality (Christensen et al., 2016), however future research is needed on the importance of ESG topics in particular on audit quality, as this is still unclear.

Furthermore, this study can contribute to future updates on the three researched topics of the AQI proposal. From the feedback, it can be derived that some questions could be slightly adapted to fit the purpose of the AQI better. Additionally, the summary together with the survey results

can aid future policymakers in deciding which AQI's are relevant for audit quality when implementing a similar system elsewhere.

Finally, this study has investigated the proposal from an auditor perspective. In the survey, one participant suggested to let clients answer the questions about client satisfaction. It could be interesting for future research to research the client perspective, or the perspective of other users of the financial statements, since these groups make use of the AQI dashboard as well.

This study has some limitations. First, the sample of this study is relatively limited in a few ways. Although the response rate of the survey is in line with previous research (Christensen et al., 2016; Harris & Williams, 2020), the amount of observations is still somewhat low. This may limit the generalizability of the study. In addition, the responses reviewed from the comment letters are by Big Four companies. While the Big Four firms make up the largest part of the market, many other firms exist. Other firms may have different views towards the AQI's or consider other factors that these firms overlook, which may lead to a less representative view on the matter. Furthermore, for the survey one Big Four firm was surveyed. Therefore, the finding may not be generalizable to all Big Four firms or the accounting profession as a whole.

In terms of survey design, responses from the survey indicated confusion towards the formulation on some of the questions about culture, specifically those about the focus on audit quality or getting the job done. Therefore, there is a small risk that these questions were misinterpreted, which has distorted the results. Additionally, all questions were translated from Dutch to English, to match the language of this study. This may have led to slight differences in meaning of certain phrases, or pose difficulties for those with lesser language capabilities, which could alter the response of participants.

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9 Appendix I: Answers to open questions

AQI 6: Culture - Reflection of culture

Do not understand number 2
2. Most important focus questions cannot be answered with these indications. I think it's audit quality or getting the job done. Mostly it is about the quality rather than getting the job done in my experience for employee and audit teams of employee.
3 differs per team and per client, especially with PIE clients this is lower than with less important clients.
Na
n/a
don't see how questions #2 are scalable? therefore average - yes focus on getting the job done, however without compromising audit quality,, but the documentation may be more concise
The two 'Most important focus' were unclear to me.

AQI 6: Culture - Driver of audit quality

<p>Involvement: if employees are more involved they are more willing to work hard for the company.</p> <p>Planning: too much work results often in less good work.</p> <p>Culture of excellence and growth: a growing culture results in better employees, and in better quality.</p> <p>Innovation helps the audit and improves quality.</p>
<p>Adequacy of planning: mostly i'm seeing that, the planning doesn't withhold. There is always work that's not done when you're out of the planning</p>
<p>employee involvement and planning are very important for audit quality. Without employee involvement we can not provide good work to the client. also if the planning is not good enough than it could be that we have to rush through our work or busy with two clients at the same time which leads to pressure and decrease in audit quality.</p>
<p>Employee Involvement is very effective to me, cause a person acts upon how he feels most of the time. If he likes to work at the company and is feeling involved, than that will show in his work. It will also affect other colleagues and eventually their work.</p> <p>Also I think that Culture of excellence and growth is very effective, cause I think it's very valuable if a person can develop him- or herself in what they do. They can really be proud of what they do and of course the work will be of better quality, if the people become better.</p>
<p>De adequacy van planning vind ik zelf het belangrijkste. Ik merk toch wel vaak dat onder druk alles vloeibaar wordt, en dat door een tekort aan planning wel eens werkzaamheden worden overgeslagen die wel gedaan hadden moeten worden voor de audit quality</p>
<p>Na</p>
<p>Planning and innovation is tooling and needed for improvement of the audit, but de people make the difference. Commitment in doing the right thing and enough possibilities to grow are key.</p>

It starts with the employees - are they committed to provide high quality. It also greatly helps if the planning is adequate so they have enough time to perform the work as deemed necessary. The culture of growth stimulates high performance also reflected in reviews which I think is effective but not as effective as the involvement and planning. And then innovation can certainly help but that also depends on the type of client. It should be done but in terms of effectiveness I think it's less on the scale with the other 3 themes

- i) involvement is always important to drive the audit and joint knowledge;
- ii) planning is important to have the adequate resources available;
- iii) culture where innovation/audit effectiveness is encouraged (monitoring the right KPI) is important
- iv) innovation may help in delivering quality enabling to obtain more audit evidence with less effort

Employee involvement -> ik denk dat meer employee involvement leidt tot betere audit quality omdat de medewerker dan meer betrokken is bij de audit.

Planning -> Naarmate de deadline nadert is er sprake van tijdsdruk wat een negatieve invloed heeft op AQ.

culture -> persoonlijke denk ik dat een cultuur die nadruk legt op AQ ook een betere AQ zal geven.

Innovation -> innovatie kan leiden tot een efficiëntere invulling van tijd en hulp bij "standaard" werkzaamheden, zodat meer tijd overblijft voor belangrijkere zaken.

Involvement: being involved in client matters helps in achieving information and audit quality

planning: Pressure causes things to be finished as quickly as possible.

Culture of growth: More qualified auditors

Actual innovation: In my experience innovation helps, but there is a large focus on efficiency in the latest innovations. On the other side we have innovations that do not take away work, but just add a new task to be performed.

Innovation can be a driver over audit quality. But then it should be implemented correct

AQI 11: Client Satisfaction – Indicator of audit quality

NA
too many factors to explain but involvement/commitment of executives is important, being able to coach and help the team is very effective but also a well prepared client is very effective
Maybe these questions need to be answered by the client.

AQI 10: Training Hours ESG Topics – Driver of audit quality

the better the ESG the better the process of the business and the better the audit quality
It's the future, we need to adapt and evolve
I think it will be very effective in the future and hope to learn more.
Since it is a rather new topic. Training makes you future proof but does not say a lot about current audit quality (of the financial statements)
ESG now is not requested from my clients yer
The indication is related to my daily work done. Since that covers grant audits this aspect is less important to my specific work. The importance is related to audits in general.
I believe ESG is increasingly becoming more important but not quite yet at the level of the financial audit as yet but that will follow shortly as we will have to provide assurance over ESG
in several studies training/experience is linked with audit quality. Thus yes training in an area deemed important to audit quality should be effective.
Tot op heden is dit geen van belang zijnde AQI
Training hours zijn niet voldoende om als AQI te dienen. De uren zeggen namelijk niet veel over de daadwerkelijke kwaliteit die is geleverd. ESG onderwerpen zijn voor accountants al grotendeeld onduidelijk.
This will become a very important topic in the near future, and we need to prepare (as we are doing at the moment)
Without training you will not be able to be a good auditor in this perspective.

10 Appendix II: Survey Questions

AQI's

Start van blok: Introduction

Introduction Dear participant,

Thank you in advance for taking this survey. It will only take a few minutes of your time.

To date, there is limited insight into the quality of an audit. Therefore, the Committee on the Future of Accountancy (Cta) recommended setting audit quality indicators (AQIs) for the Dutch accountancy practice.

Following this recommendation, the Dutch government has appointed the "Kwartiermakers" to design these indicators. A draft version containing 10 AQI's was publicly consulted, ultimately leading to the final set of 11 AQI's.

For my thesis I am researching audit personnel perspectives on these AQI's and their relationship with audit quality. Three indicators need additional assessment.

In this survey, you will assess the following three AQI's: Culture Client Satisfaction
 Training Hours ESG Topics

Your honest opinion is highly appreciated and your responses will be treated anonymously.
Thank you in advance!

Kind regards,

Leon Jansen
Audit Intern at Ernst & Young Arnhem
Student at Radboud University

Einde blok: Introduction

Start van blok: Demographics

Age What is your age group?

- 24 or younger (1)
 - 25-29 (2)
 - 30-34 (3)
 - 35-39 (4)
 - 40-44 (5)
 - 45 or older (6)
-

Gender How would you describe yourself?

- Male (1)
 - Female (2)
 - Other: (3) _____
 - Prefer not to say (4)
-

Degree What is your highest achieved degree?

- High School (1)
 - Bachelor (2)
 - Master (3)
 - Post-master (4)
 - PhD (5)
 - Other: (6) _____
-

Function What is your function?

- Staff (1)
 - Senior staff (2)
 - Manager (3)
 - Senior Manager (4)
 - Partner (5)
 - Other: (6) _____
-

Experience How many years of professional audit experience do you have?

- 3 years or less (1)
 - 4 to 7 years (2)
 - 8 to 11 years (3)
 - 12 to 15 years (4)
 - 16 to 19 years (5)
 - 20 years or more (6)
-

Familiarity Are you familiar with the AQI proposal?

- Yes (1)
- Somewhat (2)
- No (3)

Einde blok: Demographics

Start van blok: AQI Questions

AQI 6 **Changed AQI: Culture**

This AQI measures the culture of an organisation through a bi-annual employee survey. According to the Kwartiermakers, employees that feel connected are more committed to delivering better performance.

Employees are asked to give their opinion on 4 themes within the organisation: **Employee involvement:**

Provides insight on how involved employees feel with the organisation. **Adequacy of**

planning:

Provides insight on how much time pressure employees experience. **Culture of**

excellence and growth:

Provides insight on whether employees experience sufficient space to learn and experiment, whether a critical attitude is valued by the employer, and if they are sufficiently coached. **Actual innovation:**

Provides insight on whether employees experience room in their work to experiment with innovations and to what extent innovations are actually applied.

AQI 6 **Reflection of culture**

For each measure, please indicate how well it reflects the culture of the organisation:

Note: the numbers correspond with the themes mentioned above.

	Very poor (1)	Poor (2)	Below average (3)	Average (4)	Above average (5)	Good (6)	Excellent (7)
1 - Feeling emotionally connected with the organisation (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1 - Feeling commitment towards the organisation (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1 - Feeling like the organisation means a lot to you (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 - Experiencing time pressure during busy season (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 - Most important focus (getting the job done or audit quality) of employee during busy season (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 - Most important focus (getting the job done or audit quality) of audit teams of employee during busy season (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**3 -
Experiencing
adequate on-
the-job
coaching (7)**

**3 - Feeling that
the
organisation
appreciates a
critical stance
on audit
issues
towards
customers,
even if this
puts customer
retention at
risk (8)**

**3 -
Experiencing
enough space
to experiment
and learn (9)**

**4 - The extent
to which
employees
experience
space to
experiment
with new
(technological)
innovations
(10)**

**4 - The extent
to which you
have actually
applied new
(technological)
innovations
(11)**



AQI 6 Explanation

If you have any additional comments, please state these below:

AQI 6 Driver of audit quality

For each theme, please indicate how (in)effective it is as a **driver of audit quality**:

	Very ineffective (1)	Ineffective (2)	Somewhat ineffective (3)	Neither ineffective nor effective (4)	Somewhat effective (5)	Effective (6)	Very effective (7)
Employee Involvement (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adequacy of planning (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Culture of excellence and growth (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actual Innovation (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AQI 6 Explanation

Please explain why you think these themes are (in)effective drivers of audit quality:

Einde blok: AQI Questions

Start van blok: AQI Questions

AQI 11 Changed AQI: Client Satisfaction

This AQI provides insight into the extent to which clients are satisfied with the quality and added value of the services provided by the auditor or organisation.

Clients are asked to evaluate how satisfied they were based on a set of 12 questions.

AQI 11 Indicator of audit quality

For each question, please indicate how effective it is an indicator of audit quality:

	Very Ineffective (1)	Ineffective (2)	Slightly ineffective (3)	Neither ineffective nor effective (4)	Slightly effective (5)	Effective (6)	Very effective (7)
1 - There were no surprises during the audit process (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2 - The external auditor and team had sufficient professional competence to assess the information provided (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3 - The external auditor and team had sufficient knowledge to answer our questions (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4 - The external auditor showed sufficient commitment to the audit (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5 - The external auditor and team responded to our questions in a timely and sufficiently comprehensive matter (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6 - The external auditor and team were sufficiently approachable for our questions (6)

7 - The external auditor and team had a proactive attitude during the audit (7)

8 - It was clear what quality requirements the information provided for the audit had to meet (8)

9 - The external auditor and team shared timely findings and observations during the audit (9)

10 - It felt like a necessary evil during the audit (10)

11 - It felt like the external auditor and team felt a high-quality audit was important. (11)

12 - If issues arose during the audit, the external auditor and team showed willingness to help resolve them (12)

AQI 11 Explanation

Please explain why you think these questions are (in)effective indicators of audit quality:

AQI 11 Process

Do you think these questions effectively target the process of the audit?

- Yes, all questions effectively target the process of the audit (1)
- Somewhat, most questions effectively target the process of the audit (2)
- Barely, only a few questions effectively target the process of the audit (3)
- No, these questions do not effectively target the process of the audit (4)

Einde blok: AQI Questions

Start van blok: AQI Questions

AQI 10 New AQI: Training hours ESG Topics

This AQI provides insight into how much time employees spend on training on Environmental,

Social and Governance (ESG) related topics.

This AQI is measured by taking the average time spent on training hours on ESG topics by employees as a percentage of the total available time of the employees of the organisation.

AQI 10 **Importance**

How important do you perceive ESG topics to be within the audit?

- More important than financial information (1)
- Just as important as financial information (2)
- Less important than financial information (3)
- Not important at all (4)

AQI 10 **Driver of audit quality**

Please indicate how effective this AQI is as a **driver of audit quality**:

	Very ineffective (1)	Ineffective (2)	Somewhat ineffective (3)	Neither ineffective nor effective (4)	Somewhat effective (5)	Effective (6)	Very effective (7)
Training hours ESG Topics (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

AQI 10 **Explanation**

Please explain why you think this AQI is an (in)effective driver of audit quality:

Einde blok: AQI Questions
