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The impact of audit software on quality of audit in Kuwait: Insights from auditors

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C H R O N I C L E

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A B S T R A C T

This research tries to find a relationship between audit quality and audit software, impacted by the latter. In this study, multiple sentiments of audit professionals and finance executives on the relation of audit software and quality of audit in Kuwait are examined where, on the basis of agreed perspectives of professionals, it was found that audit software positively influences audit quality. This particular article tries to extend the previous works and emphasizes on the observation of audit professionals and their perspectives through a well-structured survey and semi-structured interviews. This study is to identify the distinctiveness of the audit industry in Kuwait comparing market size and available inadequate local auditors. The authors try to establish the relationship between audit quality and audit software considering the fact that acceptance of audits software will definitely give a more effective and robust audit process to cover market needs. The paper also considers the auditors' training and experience as a moderating factor for the adoption and usage of audit software in auditing practices in Kuwait, resulting in useful insights on the effects of the adoption and use of auditing software in enhancing the quality of audit reports as well as suggesting resources for the use of technological developments in auditing practices. Thus, the study contributes to the extant literature on the dynamics for the adoption and usage of computerized systems in auditing practices to improve the quality of audit reports.

1. Introduction

The significant changes in the accounting and auditing industry have become evident because of technological advancement (Alotaibi, 2023a). Auditing process has become more effective and correct through the adoption of information technology (IT). Enhanced data analysis, high volume audit work, automated data processing is possible nowadays just because of audit software and its adoptions especially in handling big data and processing high level analytics (Li et al., 2022). Now auditors are more empowered to automate routine task considering risk assessment and analysis and high value activities. Adequate compliance of relevant accounting standards procedures and rules, factual misstatement free accounting statements are essentially required to ensure accounting records quality (Carcello et al., 1992a; Abu Afifa et al., 2022). There are many elements which have an impact on audit quality such as knowledge, experience, objectivity and freedom given to the auditor. There is another perspective that the accuracy of the audit process, compliance with standardized regulations, consideration of ethical values, and reliability of audit evidence are some of the factors which have an impact on audit quality (March & Sutton, 1997). Prabowo and Suhartini (2021) have raised the concerns that audit software utility may have a negative impact on the critical and rational thinking of auditors, enhancing the possibilities of errors in audit assessments and ultimately impacting audit quality. The auditors' skills and experience play a critical role in the use of auditing software and the quality of the audit work. In Kuwait, significant progress has been made in the use of information technology (IT) for audit work, especially in the operations of the Kuwait State Audit Bureau (KSAB) (AL-Mutairi et.al, 2019). Ali et al. (2021) highlight the requirement for safe, unchangeable audit logs to guarantee data integrity and adherence to auditing guidelines. These IT

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solutions are necessary for keeping an accurate audit trail and monitoring access, which are critical for both internal and external audits.

The purpose of this study is to come-up for the discussion on adoption of IT in the audit process as the literature does not provide more details about the relationship of audit software and audit quality in the context of Kuwait. This study is supported by the objective to evaluate the

views of audit professionals in Kuwait about the impact of audit IT tools on the quality of audit. Specifically, it addresses the following research objectives:

- To identify the variables that influence the quality of the audit process when using IT.
- To determine the effect of audit software on audit quality in Kuwait.
- To assess the awareness and utilization of audit software among Kuwaiti auditors.
- To examine the potential benefits and challenges associated with the use of audit software in audits.

A survey methodology implemented by Alotaibi & Alnesafi (2023) was employed. This methodology was crafted for data collection purposes from the audit professionals in Saudi Arabia and later on applied in Kuwait. To assess the impact of audit software on the quality of audit, influence of different factors on audit quality and process and awareness and acceptance of IT products for audit among the auditors, the structured questionnaire was deployed. The survey has covered the auditors across the industries such as government agencies, business houses and finance domain in specific. The data analysis was done through descriptive statistical tools to measure the effect of audit software on audit quality in Kuwait. The study focuses mainly on Kuwait and is supposed to extend the contribution into the existing literature on the association of audit quality and audit software in the same context. The influence of different factors on audit quality and the extent of audit software in improving audit quality have the main highlights of this study. In addition, it renders the key points for enhancing the process and quality of audit. Further it guides the audit professionals in defining the required means for particular assured engagements.

The structure of this paper is as follows: Section 2 which depicts the detailed analysis of the impact of audit IT tools and software on the quality of audit in Kuwait. Section 3 includes a presentation and overview of the available literature and highlights the rationale of the work. Section 4 focuses on the hypothetical perspective of the study to evaluate the impact of audit IT tools and software on the quality of the audit in Kuwait. Section 5 tells about research methodology which comprises research design, structure of survey and questionnaire deployed to collect data of the elements having impact on audit quality, the extent of awareness and acceptance of audit software among audit professionals and influence of audit software on audit quality. Section 6 explains about statistical techniques such as descriptive statistics supported by t-tests to analyse the data. Section 7 has the findings of the study and discusses the suggestion for audit practices. At the end, the conclusion section comes which discusses the finding of the study in a summarized way with suggestions to audit firms and audit professionals on effective management and monitoring the audit process and to estimate the resources required for declared activities.

2. Literature Review

According to Merhout and Havela (008), to produce sophisticated and highly efficient IT audit products, a strong audit process and effective project management principles are very crucial. If these products are collaborated with sound IT management and auditors, the organizational governance and performance can be significantly enhanced. It is advocated to establish a connection between IT management and audits practices which further enhance the value of audit results. A successful IT audit comprises the thoughtful selection of IT professionals and a well-designed approach for the audit process. The authors made a conclusion emphasizing more research on challenges, information security and assurance of robust mechanisms of IT audits.

Alotaibi and Alnesafi (2023) tried to gauge the impact of IT audit solutions in the form of IT products and solutions. The study highlighted the positive and productive influence of software used for audit in Saudi Arabia. They further emphasized the need for training of audit professionals for effective application of IT solutions for audits. The study supports the notion that audit firms need to invest more in advanced audit equipment and software to improve the quality of audit and to satisfy their clients' demands to produce realistic and effective audit services.

The advancement brought by modern technology is not limited to only specific domains but it also covers the field of audit which is highly sensitive in nature. The audit software which has transformed the practices and processes of audit services. Authors explored the influence of big data on the audit process, its outcomes and decision-making concerned with audit mechanisms. Through a deep review of literature on psychology and audit, Brown-Liburd et al. (2015) touched upon the issues like ambiguity in data, relevance of data, pattern recognition and information overload. The authors suggested auditors to properly utilize software and tools to handle and analyse the big data for the purpose of auditing. They made further suggestions for audit firms to mechanize effective strategies so that the quality of audit results and process may enhance, considering the changing scenario of data analytics. As recommended, the further research for in-depth understanding of auditors' mindsets, skills combinations and adaptability to handle big data efficiently.

Krieger et al. (2021) highlighted the need for a comprehensive approach which is driven by technological, structural and environmental factors. For this, they argued that adopting IT auditing is a complex issue because of its dependencies on numerous factors. There is a need to explore Advanced Data Analytics, its procedure and practices. This study identifies the main activities with ADA which includes idea generation, its development and expansion. To accomplish these activities with ADA adoption, technical capabilities are required. Audits firms need to focus on infrastructure, talent and investment for effective deployment of IT products and successful execution of IT audits. Organizational factor is one of the important aspects to consider while adopting IT audits because it comprises some of the crucial things such as technological capabilities, structural robustness and environmental concerns.

Siew et al. (2020) highlighted the importance of adopting Computer-assisted Audit Tools and Techniques (CAATTs) and explored the influence of organizational and environmental factors in the auditing profession. This study, performed in Malaysia, recognized the organizational factors which may have direct influence on CAATT adoption and these factors are size of firm, management support for IT enabled services, and resources. The environmental factors such as regulatory framework, market conditions and competition, all of them play a crucial role in deciding an auditor's perception considering CAATTs as a beneficial tool in enhancing audit effectiveness and efficiency. There are many challenges faced by the firm in successful adoption of CAATTs which includes organization's readiness, resistance to change by staff, improper training and technological reliability.

Eilifsen et al. (2000) give the notion of working behind the research on audit IT tools which are to improve confidence and assurance in IT audits. Further they offer a valuable addition to their research which exhibits the present status of audit data analytics which has a scope of improvements in audit quality. Audit data analytics has an ability and potential to improve efficiency of audits by recognizing disparities and specific patterns of information in comparison to traditional methods which are non-compatible for this. However, adoption of audit IT solutions may face many challenges such as data breach and security, resistance to change and improper training. Further they highlighted the role IT enabled transformation in external auditing resulting in good corporate governance with accountability and transparency. As per their observations in study, there are many challenges to address in spite of the benefits of IT audit services.

The authors have explored how newer technologies like AI, Collaborative tools for data sharing, and commercial software are transforming the audit practices. Because of them, there are huge improvements in terms of accuracy, quality of audit results and speed. This impact is not limited to the audit process but it creates the need that accountants and auditors must keep themselves updated to remain effective. Abad-Segura and Gonzalez-Zamar (2020) stresses on the need of adopting the new technologies such as Cloud computing, AI and blockchain which are going to transform the future and practices of accounting. Further research is recommended and accountants must be motivated to be more adaptable to remain competitive. A model based on blockchain technology designed by Alotaibi (2023) can develop secure, robust and stable records of transactions which makes audits less fraudulent and more transparent. Chyzhevska et al. (2021) brought into notice that modern digital technologies, with some challenges, are recreating the systems of accounting to be more efficient. The challenges like training needs, organizational culture shift and cybersecurity risks are some of major concerns aroused with the advent of technological advancements.

Munoko et al. (2020) give a unique perspective of research on using AI in auditing. They examine the ethical considerations associated with AI implementation in audits. Using AI is considerably enhancing the profitability and reducing the potential risk associated with unintended outcomes. They provide a comprehensive overview of the ethical implications of adopting AI which associates unintended risk and ethical considerations. The study also highlights the positive perspective of adopting AI such as deep insight into the data, with lesser time and minimum cost, faster data analysis with high degree of accuracy as reported by audit and accounting firms. It further explores emerging technologies for audits in the context of responsible policy formulations and good governance. As AI is growing and imposing ethical considerations, it is crucial to address such issues to maintain the integrity of the audit profession. This study concludes that there is a need for careful considerations of ethical implications by the accounts and audit firms and to formulate proper governance frameworks well supported by adequate policies to ensure the responsible application of technology to minimize the risk.

Lazarescu (2019) overlooked that using computer applications in the audit process have tremendous benefits from improving efficiency to effective decision making. It is mentioned in the study that such modern technologies facilitate the streamlined audit through the automation of day to day tasks. This helps auditors in faster and better data analysis with a focus on complicated issues. Like other scholars, the authors also highlighted some of the major challenges like audit personnel training on updated software, data security. Author has a belief that auditors are to be more adaptive and flexible in the era of technological advancement. Stoel et al. (2012) extended the study by recognizing the elements which enhance the quality of audits. He gave equal importance to management support, effective communication, independent decision-making apart from technical competencies for assured successful audits.

2.1 Factors influencing Audit Quality

The stakeholders' trust is very much influenced by the quality of audits which justify the accounting process and financial information of the company. Considering the key factors that are crucial to define high quality audit is equally important for both accountants and auditors as well as the key stakeholders who rely on this work. Schoeder et al. (1986) and other

scholars have emphasized on the facts which makes an audit more reliable and high-quality. They identified two key segments which comprises Audit Committee Heads and audit associates. Other than that, they also recognized many critical elements responsible for audit quality and reliability like skills and expertise of auditors, ability to focus on objectivity ignoring conflicts of interest and solid ethical behaviour. Such factors are very crucial for a successful and reliable audit process and to uphold trust of key members of the organization. Surprisingly, some studies suggested that Audit Committee Heads have a different viewpoint for such attributes as they consider governance and vision more important while audit associates tend to focus on operational and technical perspectives of audits. This non-agreement of perceptions highlighted the role of strong communication among audit associates and audit committees to make sure that involved parties are aligned with the objectives (Albarrak et al., 2024). This will enhance the audit practices and lead towards the consensus for an effective audit process. Largely, the focus of study is on to make balance between the perspectives of the stakeholders and their expectation for improved audit quality.

There are other scholars like Carcello et al. (1992) who analyzed the attributes of audit quality and perception of various stakeholders such as audit partners, accountants and users of the information regarding good audit and its quality. The study recognizes the factors and gives detailed analyses of different elements which significantly contribute to the observed quality of audits. This study gives emphasis on the significance of accepting these perspectives for better audit processes and practices. Multiple attributes significant to audit quality such as skills and knowledge of auditors to perform audits are identified. These attributes majorly comprise objectivity of auditors, refraining from conflict of interest, critical assessment of the evidence produced for audits and rational decision-making which is not based on face value. These researches highlight the conflicts of perceptions of audit professionals, audit parties and financial information users. For example, a financial information user recognizes the reliability of an audit on the basis of the image and reputation of auditors while audit partners' focuses on technical skills and independence of auditors. As per this study, it is imperative to adopt focused efforts that improve audit quality and to recognize the worries and hopes of all parties engaged in the audit process. Audits' freedom, education and strong communications with clients are some crucial aspects for better audit quality. The authors summed-up their study by expressing the notion that perceived values for audits are very important for formulating the strategies to ensure audit objectives and good quality demanded by the stakeholders. Audit professionals can only improve the quality of audits and satisfy the perception of stakeholders by addressing the expectations and concerns of them. This will build a strong image of auditors and develop stakeholders' trust in financial reporting and audits.

Behn et al. (1997) looked at the elements impacting audit clients who are from four largest accounting firms. Authors recognized multiple key factors which determine the satisfaction level, perceived quality of the audit provided, regular communications among auditors and clients. Apart from it, the interest of the auditor to answer promptly to the clients' queries and concerns is equally crucial as it has a direct impact on satisfaction fostering. They suggested some crucial things to enhance clients' satisfaction such as prompt response to the cause and concerns of the clients, enhanced service quality and better communication. The authors summarize that to retain clients and justifiable higher charges depends on the satisfaction level of clients. They also found that understanding of the client's perceptions and experience of the audit process render the comprehension to strategies client services and relationships. This could take us to client loyalty, satisfaction, mouth publicity and referral leads of the business and increased fees. On the basis of the understanding of the client's perspective, improvised and customized services can be delivered to match up the individual client's needs and expectations. At last, the study summed up the finding focusing on the critical role of client's satisfaction which is crucial in the growth and sustainability of audit firms, and their untried efforts to improve client satisfaction and experience.

Sutton and Lampe (1991) offers an assessment model for judging the audit process quality in audit assignments, ensuring systematic evaluation for improved and effective audits. This structure model recognizes important elements of the audit process which help auditors to ensure quality largely. This includes comprehensive planning and standardized methodology for audit and rigorous review process. This model motivates audit professionals to focus on process quality which leads to better audit results. Proper evaluation of the audit process can improve service, quality and satisfaction of clients hence fostering the habit of deeper sense of responsibility for the audit process.

Lowensohn et al. (2007) looks into the connections among perceived quality, auditor's expertise and audit charges in the domestic market. The study investigates what impacts audit quality and found that auditor's specialization that comprises the skills, expertise and experience in a particular segment of industry, has an impact on the quality and delivery of audit. Association of specialized auditors supports the notion of higher perceived quality of audit but they charge higher fees which they justify with high quality services provided by them. The authors suggest the audit firms to develop expertise and specialty of audit as per local government standards which will support them to hike their charges justifiably. Further they cautioned not to be expensive by charging premiums to be more competitive in the market of audit services.

In the study conducted by Samelson et al. (2006), authors explored the factors which determine the perceived quality and satisfaction in local government audits. Expanding the previous research conducted for private sectors, they also explored the specific characteristics impacting these perceptions in audit. It is noticeable that there are many attributes positively correlated with the perceived quality of audit such as thoughtfulness of client's systems and requirements, prompt response to client needs, proficiency, specialization and internal assessment controls. These factors keep auditee satisfaction aligned. It is also noticeable that charging higher fees by large audit firms does not guarantee higher perceived quality or satisfaction

to auditees. This article summarized the critical aspects of the audit process to improve quality and relationship with clients in the domestic government aspect.

There are many crucial factors such as effective planning and management of the audit process, knowledge, honest recommendation, resource management, robust support and control system, detailed audit procedures, stable objectives and effective communication which significantly influence the audit quality. In addition to that, adherence to organizational standards, robust process and review of executive works, workforce diversity in business organizations, data handling and processing, expertise in Information Technology, consistent commitment to high ethical standards, self-sufficient approach in data collection and maintaining the strong mindsets throughout the entire audit assignment are some of crucial and adoptable attributes for enhancing perceived audit quality (Stoel and Hhavelka, 2021).

In Kuwait, the level of awareness in embracing audit software diverges across diverse audit firms. The Big 4 accounting firm auditors use audit software while local firm auditors recognize that their IT knowledge is not sufficient to use audit software. Therefore, there is a need to develop an IT infrastructure to help auditors reach the standard required to use IT in their audit work (Al-Duwaila & Al -Mutairi, 2017). The issues of undertrained auditors in IT in Kuwait are parallel to the findings of Al-Ruithe et al. (2017); Alsughayer (2021) and Razi and Madani (2013); Omitogun and Al-Adeem (2019) in relation to Saudi Arabia. The research conducted in Saudi Arabia claims that IT positively impacts audit quality, and the adoption of IT tools is influenced by the audit firm's size and the auditors' experience and expertise.

This through review of literature pinpoints the role of audit software and audit process in enhancing audit quality and perceptions concerned with it. In past studies, many crucial factors influencing audit quality have been recognized but there is the need of studies focusing on bringing such factors organized into an integrated framework. Alotaibi (2023) examined the software' impact on audit quality in Saudi Arabia, claiming it to be positive but in Kuwait, such kind of researches need to be executed which may examine the impact of IT products and services on audit quality and process.

2.2 Research Gaps

Though there are numerous researches and its findings about the audit software and audit quality across the world. These studies cover the different aspects of the auditing and audit software. The research is focused on the impact of audit software and audit quality in Kuwait as this particular geography and its community has not been observed in the context. This study is supposed to highlight the role of audit software, audit quality, auditor's perceptions in unique cultural geographical and organizational settings.

2.3 Research Questions

This particular review of theoretical literature inspires us to concentrate the focus of this study in context of Kuwait to investigate the following research questions:

1. ***What are the impacts of audit software on audit quality in Kuwait?***
2. ***What is the role of perception of auditors in adoption of audit software in Kuwait?***
3. ***Does auditor's expertise play a moderator role between audit quality and audit software in Kuwait?***

These questions provide a foundational framework to formulate the hypothesis for this study on the impact of audit software and audit quality in the context of Kuwait.

3. Hypothesis Formulation

The primary objective of this research is to analyze the impact of audit software on audit quality in Kuwait. Based on the literature review and as an extension of Alotaibi and Alnesafi's (2023) paper entitled "Assessing the Impact of Audit Software on Audit Quality: Auditors' Perceptions", the following hypotheses are proposed:

H_1: *The use of audit software positively impacts audit quality in Kuwait.*

Audit software has the potential to automate the manual process of audit through which the efficiency of auditors is improved. It leads to the accuracy and fulfillment of the audit process by minimizing the chances of errors. Hence, it is expected that adoption of audit software will certainly influence the quality of audit. This notion is supported by the studies done previously such as Bradford et al. (2020) pinpointed that auditors got advantages and efficiency in analyzing high volume data through the adoption of audit software which enhance abnormality detection and scam prevention. The value of audit software is well recognized by IT and Financial Auditors equally in improving effectiveness and expertise. This allows them for through examination of accounts and financial data and to execute control internally effectively. Another study by Stoel and Havelka (2021) advocates that boosting the competencies of audit professionals and improving organizational settings impact the audit quality positively. Additionally, auditors' efficiency and effectiveness are more evident if they understand how to deploy audit software which leads to effective and quality audit.

H_2: *The use of audit software tools positively affects audit quality in Kuwait.*

The intensity enforced by auditors to use the customized audit software features like audit analytics for audit process, is considered as Audit Software Tool Usage. The audit quality is supposed to be enhanced in proportion to the application of audit software. The financial data can be analysed effectively with prompt recognition of discrepancies against the expectations by the auditors who are well versed with audit software applications and they can conduct detailed in-depth data analysis and testing. Damer et al. (2021) recognizes the positive impact of audit software on audit quality through the empirical evidence for this notion. Further, this study highlights many important elements like performance expectancy, behavioral intentions and facilitating circumstances which certainly influence the adoption of Computer-assisted Audit Techniques (CAATs). Similarly, Lazarescu (2019) accepts the positive impact of audit software on audit quality.

H_3: *The auditor's expertise moderates the relationship between audit software usage and audit quality in Kuwait.*

The experience and proficiency of auditors expressed the degree of relationship of audit quality and audit software. The quality enhancement of audit is mainly dependent on the fact that the audit software is utilized effectively by the experienced auditor in comparison to inexperienced audit executives. So it was considered that the audit quality and audit software utilization is moderated by the auditor's proficiency. There is ample empirical support of studies done in the past. Like Jayanti and Kawisana (2022) conceals that the relationship between audit quality and auditor's experience is strengthened by the deep understanding of audit software. In the same direction, Stoel and Havelka (2021) discovered the connection between commercial audit quality and IT audit superiority. The auditor expertise has been there in between technology utilization and audit quality like a moderator as suggested by the study.

In summary, the hypotheses put forward in this study draw upon prior research and the theoretical framework derived from the literature review. The next section of the paper describes the research design and methodology used to test these hypotheses.

4. Research Methodology

The tools, techniques and procedures to be deployed in the study conduction, have been covered in this section, known as research methodology.

4.1 Research design and approach

In ensuring the trustworthiness and integrality of financial information, the audit quality has been an important factor. The potent utilization of audit software impacts the quality of audit as it improves the truthfulness and effectiveness with the ability to analyze the high volume of data. This study is supposed to inspect the impact of software and IT services for audit on the audit quality mainly for auditors in Kuwait. A survey research design, the most appropriate approach for this study has been adopted. For this selection, there are some reasons explained below:

- A survey research design, an effective tool for data collection from a miscellaneous population. It will help to gauge the influence of audit software on audit quality comprehensively.
- It is suitable for efficient data collection with affordability and flexibility of data collection methods like online survey or paper based survey.
- The quantitative as well as qualitative, both types of data can be collected through survey which provides a broad perspective of research problems.

A structured questionnaire is applied to collect the information about the application of audit software, presumed influence of it on audit quality and the auditors' challenges in adopting such technological advancements. The questionnaire for this survey comprises both open-ended and closed-ended questions to collect the both data viz quantitative and qualitative data.

In this research, the purposive sampling is used to select the participants among the targeted population of auditors in Kuwait. The selection of sampling techniques is supported by necessity to focus the auditors using audit software with specific skills and expertise. There are many reasons to adopt this technique as most viable and appropriate approach:

- The potential population for this research is comparatively small, comprising auditors skilled with the use of audit software.

- The sampling technique used in this study focuses on the participants and assures the relevancy and reliability of the data and comprehensive representation of potential population.

- For such studies, reliance on random sampling is supposed to be inefficient in collection of the data from a population of interest whereas in-depth and multi-perspectives of auditors who are well-versed with audit software and its applications can be captured by the sampling technique significantly.

The participants were approached online to finish the questionnaire conveniently. The descriptive and inferential statistics were applied to analyze the data collected from respondents. Descriptive statistics like central tendency and its measurement, frequencies and percentages were deployed to recapitulate and explain the data collected from respondents for a comprehensive understanding of the demographics of the respondents and their responses. To draw the inferences about the population and to know the relationship between two variables (use of audit software and audit quality), hypotheses are examined by using Inferential Statistics like regression analysis and correlation.

In short, this section of methodology for this study is strong enough and well-designed to generate reliable and true results depicting the real perspectives of the population. This methodology is chosen carefully to ensure the findings of the research will add to the knowledge and contribute to the field of audit by expressing the understanding of audit quality and influence of audit software on it.

4.2 Questionnaire Development

An informed exploratory approach was applied to develop the questionnaire process for this study which is focused on the evaluation of the influence of audit software on the quality of audit. In the first stage, potential attributes or survey elements were recognized on the basis of surveys done in the past and the literature that highlighted the crucial elements of audit. This specific approach of attributes identification is to assure that the key factors which have impacts on the connection between audit software and audit quality, have been measured efficiently and effectively. A comprehensive questionnaire to produce meaningful in-sights of the experience and perception of audit professionals regarding the use and practices of audit software has been done on the basis of previous research.

It was intentionally refrained to pre-define audit quality in this research because of the reason that we want to give freedom to the respondents to conceptualize their own meaning of audit quality so that individual' perspective and value of survey items can be assessed. The intention behind it, was to mitigate possible biases and to make it more realistic evaluation of elements influencing the perspectives of auditors for audit quality. This methodology catches diverse perspectives and in-sights of the respondents as well as it collects the quality data.

This research was motivated by the assessment of factors of audit quality performed by Carcello et al. (1992) and Alnesafi (2023). The basic factors considered in this survey have been taken from the studies of Schroeder et al. (1986), Carcello et al. (1992), Behn et al. (1997), Samelson et al. (2006), Alotaibi & Alnesafi (2023) and Stoel and Havelka (2021). Apart from this, different attributes concerned with audit quality have been reviewed thoroughly to recognize potent factors but excluding the studies mentioned above. It was ensured by this comprehensive method that a wide range of attributes of audit quality are captured which assures the reliability and rationality of our findings.

Table 1
The Elements of the Audit Quality Factors (AQFs)

Audit Quality Factor		Questions	Source
1.	Knowledge	Are audit team members knowledgeable about how the audit software can enhance the audit?	Carcello et al. (1992)
2.	Planning	Does the audit software standardize the audit?	Havelka and Merhout (2009)
3.	Auditability	Does the audit software have well-defined standards and processes?	Behn et al. (1997)
4.	Business process	Does the audit software help in the essential understanding of any business process?	Samelson et al. (2006)
5.	Valuable	Does the audit software provide valuable suggestions to the audit team?	Stoel and Havelka (2021)
6.	Resources	Does the audit team make extensive use of the audit software's analytics techniques in conducting the audit?	Carcello et al. (1992)
7.	Competent support	Does the audit software provide competent support to assist in data gathering?	Stoel and Havelka (2021)
8.	Internal controls	Is a thorough study of internal controls performed using the audit software?	Carcello et al. (1992)
9.	Audit procedures	Does the audit team use the audit software to automate some procedures?	Stoel and Havelka (2021)
10.	Objectivity	Does the audit team focus on facts and not act as an advocate for the audit software?	Carcello et al. (1992)
11.	Communication	Does the audit software help in communicating the audit work in an	Behn et al. (1997)

The lower-level indicators represented in the previous studies to recognize the potent attributes comprising a comprehensive set of factors of audit quality, are focused in this study. The statistical analysis is moderated by this

particular approach to define the specific attributes impacting audit quality. We incorporated additional items to represent concepts that we believe capture the relevant attributes identified in the broader audit quality literature. The survey instrument was the one used in Alotaibi and Alnesafi (2023) in Saudi Arabia which comprised 11 questions relating to various audit quality factors, as detailed in Table 1. A wide range of attributes such as accounting knowledge, audit process understanding, audit experience, autonomy of work, exposure to business practices, feedback and suggestions, application of statistical techniques, audit and internal controls, capable support, accounting system understanding, objectivity, industry understanding, exposure of fieldwork are examples of such factors. This wide-spread group of elements focuses to offer a refined overview of the factors impacting the audit quality in this particular study.

A careful consideration has been taken while designing this survey instrument so that clear and concise responses from the respondents can be produced to ensure the accuracy and reliability of data. The responses are recorded on a Likert Scale with a range of 1 (strongly disagree) to 5 (strongly agree). The Likert scale has been used in the survey to collect the quantitative responses on the respondents' perceptions about audit quality and its factors. The participants were allowed to express wavering levels of agreement or disagreement through the responses distributed across the scale. By giving a wide range of responses, it has been easy to capture the variety of opinions and perspectives of respondents which makes the analysis of the data more comprehensive.

11 questions focusing on the various attributes impacting audit quality have been used though Cronbach's Alpha so that the collected data ensures the reliability of the survey and the accuracy of the perspectives of respondents. To check the internal consistency of the survey elements, we utilize this particular statistical test to justify the consistency of the instrument in measuring the intended constructs. A pilot test has been conducted with a set of auditors to further verify the reliability and validity of the survey. To check the relevancy and clarity of the questions used in the survey, this test was employed purposefully. Valuable feedback was given by the respondents on the understanding of the survey items and the whole structure of the questionnaire. Considering the feedback, many adjustments were made, especially in the vocabulary and questions organization which enhances the clarity for them to conceptualize the intended questions. The survey instrument has got strength by this refinement and revision of the questions and improved its capacity to arrange reliable and meaningful data for the entire research.

The application of Cronbach's Alpha and Likert Scale in this survey instrument has been a decisive methodological adoption which ensures the reliability and validity of the study. While designing the questionnaire, an informed exploratory approach has been applied, aligned with elements from literature and fieldwork to make it robust and sufficient. (Havelka and Merhout 2007; Merhout and Havelka 2008; Havelka and Merhout 2009; Alotaibi & Alnesafi 2023). The questionnaire was refined through pilot testing to yield more meaningful and reliable data. This particular approach matches the best practices in questionnaire and survey formulation. Further this ensures that the outcomes of this research assemble valued understanding of the influence of audit software on the quality of audit in Kuwait.

4.3 Dependent Variables

In this study, the impact of audit software on audit quality has been investigated. A survey instrument designed on the basis of literature and experts' opinions, was employed to assess the audit quality. It was ensured by adopting this approach that essential attributes concerned with audit quality are captured and it allows for a detailed analysis of the influences of audit software on these attributes in context of audit practices in Kuwait. Inspired from the experts' opinions and literature of the audit, the focus of the survey has been to give valuable data on the perspectives of the audit professionals on the technological role in improving the audit quality. The methodology used in this study matches the approach of Carcello et al. (1992), which has become a proven and effective tool for gathering the multidimensional perspectives of audit quality. The respondents are not confined to the specific definition of audit quality but empowered to conceptualize their own understanding of the concept so that a rich and nuanced data set can be collected.

For this study, audit quality is a dependent variable, measured by audit quality factors (AQFs). A framework for the assessment of the influences of audit software on audit quality has been constructed by these AQFs. Further, these factors help in gathering the perspectives of respondents concerning the disruptive role of technologies in the audit process. Comprehensive overviews of the influences of audit software on different dimensions of audit quality have been an aim for this study through the deployment of AQFs as a tool of measurement thus it enriches the discussion of technological integration into audit processes and practices.

Audit quality being a multidimensional concept, it comprises many crucial elements such as completeness, accuracy, trustworthiness and time-bound financial records (Behn et al., 1997; Carcello et al., 1992). To ensure the transparency and integrity of financial reporting which is crucial for the stakeholders to be informed, such attributes of audit quality are becoming more important. A comprehensive approach is adopted for this research to get the understanding of the influence of audit software on the whole process of audit by considering the audit quality as a multifaceted construct comprising such factors.

Conclusively, a survey instrument is used to measure the audit quality and combines the elements which express the multi-dimensions of it. The survey was developed by guidance of expert feedback and existing literature to recognize the multi-dimensions of audit quality. Cronbach's Alpha was applied to assure reliability and internal consistency. The data collected was explored through statistical tools and techniques to know the impact of audit software on audit quality in the context of Kuwait. For thorough understanding about how audit quality is affected by the integration of audit software, this analytical method offers insights for both researchers and audit professionals.

4.4 Independent Variables

High volume of data and its processing during the audit has magnified the relevance of audit software at present time. This software has a crucial role in enabling auditors to recognize the anomalies and patterns in financial records. It minimizes the risk of financial misinformation in the statements as well as enhances the efficiency while executing the control tests and substantive procedures, ultimately minimizing the cost and time of audit. With high volume data analysis competences of audit software, not only audit workflow streamlined but also overall audit quality improves and it helps in thorough examination of financial data with ease. When auditors start adopting such audit tools, the suggestions for effectiveness and audit quality permit advanced investigation in the era of progressing audit practices. Though technological integration in the audit process offers several benefits, it also brings an impact of risk on audit quality. Being excessively dependent on software produced results, may push towards a lack of professional judgements. This dependency on audit software can lead to skepticism, lack of critical analysis and essential components of audit. Furthermore, Inaccurate results may be produced due to the wrong configuration and utilization of audit software, possibly approaching deceptive audit reports. This will not only compromise the integrity of the audit results but also push the stakeholders towards the risk, leading to the misinformed decision making.

This research is basically based on the investigation of the connection between the audit quality and audit software and to give pinpoints on the impact of technological integration on audit practices in Kuwait. This study is crucial to comprehend the improving role of audit software in multi-dimensional reliability and effectiveness of the audit process.

The audit software is considered as an independent software used by the auditors in Kuwait to examine the influence of audit software on audit quality. Audit software includes a wide range of computer generated programs and applications to employ to execute the tasks of critical nature such as preparation of financial statements, risk assessment and data analysis.

4.5 Population & Sample

In this study, two groups of respondents are examined:

1. IT Audit Professionals (ITAP)

2. Accounting Professionals and Financial Auditors (AP & FA)

ITAPs, the specialist of technological integration in the process of audit, are responsible for ensuring the audit software's effective utilization and appropriate maintenance. While AP&FA are the financial and audit professionals, engaged in recordings and auditing of financial statements with the deployment of audit software in their work. A comprehensive understanding of by what means audit software influences the audit quality in Kuwait, has been provided by this study through the detailed analysis of both groups' perspectives. A broader perspective of the technological integration in the audit process will be extracted from the insights of these two groups of professionals through which audit practices can be enriched and overall audit quality can be improved.

5. Analysis of Data

5.1 Instrument Validation Test

For the validation of reliability of the survey results, the evaluation of the degree of internal consistency of the instrument was done by Cronbach's Alpha Test which confirms that the desired underlying construct has been measured by the questions effectively. This test has got a coefficient of 0.87 for 11 survey items shown in Table 2. This result shows a different value in comparison to the study conducted in Saudi Arabia (Alotaibi & Alnesafi, 2023) with 0.91 score. Though a Cronbach's alpha score of 0.87 is a sufficient attribute and it represents a strong level of internal consistency for the survey questions. The outcomes confirm the reliability and validity of the questions in assessing the perceptions and attitudes of the respondents accurately about the audit software's impact on audit quality.

Table 2
Reliability & Validity of Test Results

Cronbach's alpha	Number of items
0.87	11

5.2 Analysis of Demographics

In this section, the methods applied are elaborated and it also represents demographic characteristics of the respondents. To ensure the reliability and validity of the survey findings, it is crucial to identify a range of potential attributes that may influence audit quality. So, a comprehensive review of literature on financial auditing and auditing was done to shortlist the items, resulting in a decisive selection of 11 elements randomly disseminated throughout the survey. It was asked to the participants to assess the influence of each element on the audit quality on a Likert Scale of five points. The summarized demographic attributes of the respondents are shown in Table 3 given below:

Table 3
Analysis of Demographics

Demographics	**ITAP (Respondents=118)**	**FA&AP (Respondents=115)**
Gender		
Male	92 (78%)	94 (82%)
Female	26 (22%)	21 (18%)
Age		
21-30 years	12 (10%)	7 (6%)
31-40 years	27 (23%)	30 (26%)
41-50 years	40 (34%)	48 (42%)
51-60 years	33 (28%)	27 (23%)
Above 60 years	6 (5%)	4 (3%)
Years of experience		
0-5 years	44 (37%)	31 (27%)
6-10 years	23 (20%)	33 (29%)
11-15 years	28 (24%)	25 (22%)
16-20 years	20 (17%)	22 (19%)
Above 20 years	3 (3%)	4 (3%)

The identified respondents are classified into two groups as Financial Auditors & other Accounting Professionals (FA&AP) and IT Audit Professionals (ITAP) engaged in audit. Three ISACA Chapters in Kuwait are collaborating to facilitate potential respondents of the survey for the ITAP category. These chapters are provided with an online survey link through the emails with a detailed list of research objectives encouraging them to reveal their experiences by assessing the influence of 11 given elements in the survey on audit quality. Out of 319, 118 participants gave practical and usable responses, ensuring 37% response rate. Remarkably, 51% of ITAP participants claimed to have more than 10 years of experience and holding the positions such as audit manager, senior auditor, auditor and associate.

The database of Kuwait Association of Accountants & Auditors has been approached for the predefined set of respondents of FA&AP. An invitation was delivered by email to 575 accountant participants urging them to participate conditioning that they were experienced in audits or financial audit. Participants were instructed to consider their overall experience with audits when rating the impact of the 11 identified factors on audit quality. Of the 575 accountants which were contacted, 115 provided usable survey responses, resulting in a response rate of 20%. Having more than 10 years of experience has been reported by 51% FA&AP respondents with a professional position such as Controller, Chief Financial Officer, Accounting Manager for internal financial roles as well as Senior Manager, Audit Manager and associate for external audit roles.

Conclusively, this study is supposed to analyze the influence of audit software on audit quality considering the perspectives of ITAPs and FA&AP in the context of Kuwait. The valuable insights about the attributes and experience of the respondents are exhibited by the demographic analysis of them. The credibility of the study and its finding is supported by the adequate response rate and the substantial chunk of participants with broad experience of financial auditing which further highlights the significance of the study to the auditing scenario in Kuwait.

6. Discussion & Result Analysis

This section highlights the outcomes of the study on the impact of audit software on audit quality in Kuwait. It comprises the results on multiple perspectives of the study.

6.1 Descriptive Analytics

In this study, the basic attributes of the data are described by descriptive statistics which is a basis of almost every quantitative data analysis. Descriptive statistics for AQF for FA&AP and ITAP in Kuwait are represented in Table 4. The sample size for ITAP is 319, whereas the sample size for FA&AP is 575. The table indicates that the number of valid responses for AQFs from the ITAP group is 118, while the FA&AP group provided 115 valid responses. Though it indicates few missing responses from each category of participants, the responses from majority participants has responded positively with valid responses.

The average score of FA&AP is 2.5 whereas the mean score of AQFs among ITAP is 4.5 which is higher. This mean score difference advises that ITAP in comparison to FA & AP might have a favorable and detailed understanding of the influence of audit software on audit quality. But there is a need for caution to interpret this approach. A potent variance between the perspective of two groups is well indicated by the difference in mean scores but it does not mean that the differences are significant statistically. To check the significance and non-random occurrence of the observed variances in mean score, it is essential to execute a hypothesis analysis and testing. This analysis exhibits the significance of variance for further considerations or it is justifiable as per the variability of sampling. Thus ITAPs higher score of mean indicates that they have reviewed the impact of audit software on audit quality in a better way whereas, to determine the importance of this variance, statistical analysis is essential to inference definitive suppositions in context of the two groups.

FA&AP and AQFs for ITAP have standard deviation (SD) of 1.82 and 1.75 respectively. SD, a statistical tool to check the variability or dispersion of answers compared to mean score. If there is a lower score of SD, it simply means that the responses are closely concentrated towards the mean value indicating significant level of covenant among participants. On the other hand, if SD is on a higher level, indicate that there is variability in the perspectives of the respondents due to the wide spread-out of the responses.

In this specific analysis, FA&AP and ITAP have almost similar SD. This closeness of responses suggests that the answers on AQFs by both groups represent a similar level of dispersion with their respective mean scores. Though there are potential variances in experiences and professional profiles of them, they have (both groups) comparatively stable perspectives about the factors of audit quality as suggested by the findings of the study.

The descriptive statistics summary for AQFs scores for FA&AP and ITAP in Kuwait is given in Table 4 which shows mean, median and standard deviation (SD) to present the comprehensive detailing of the distribution of responses and characteristics of the both groups. More nuanced inferences regarding the perspectives of audit quality factors can be drawn by the researchers using this analysis among FA&AP and ITAP in the audit landscape of Kuwait.

Table 4
Descriptive Statistics

	Audit Quality Factors (AQFs)	
	ITAP (n=319)	**FA&AP (n=575)**
Valid	118	115
Mean	4.5	2.5
Std. deviation	1.75	1.82

6.1.2 Descriptive statistics

This segment of the study comprises Table 5 which shows the comprehensive explanation of descriptive analysis to evaluate the audit software impact. To get the understanding of the perception of auditors on software impact on audit quality, the questions are designed for this analysis on the basis of AQFs stated in Table 1 which helps in developing a framework for the understanding of the different perspectives of audit quality.

The main statistical measures like variance, standard deviations, mean and right responses given by FA&AP and ITAP for 11 AQFs in Kuwait are represented in Table 5. The key focus of the research is on evaluating the auditor perspectives on effective audit software to improve audit quality with a relevant technological integration in auditing. The intention behind the use of such software is to simplify the audit process by way of timely tasks, efficiency and accuracy in audit practices.

Table 5 has the mean scores which indicate the general perspectives of auditors on audit software and its impact on AQFs. Auditors' strong belief about the positive impact of audit software on specific dimensions of audit quality, is supported by the higher values of mean, while lower score reflects the areas where software impact may not be effective.

Additional context of the analysis is provided by the variance and standard deviation showing the differences in the opinions of auditors. A wide range of opinions on the effectiveness of software is reflected by higher value of SD which shows different perspectives and experiences and possible disagreement among the auditors. This variability can be crucial for understanding the nuances of how different auditors interact with the software and the factors that may influence their perceptions.

The analysis of the mean scores for AQFs reveals significant insights into the perceptions of both ITAP and FA&AP. AQFs have the highest mean scores provided by ITAP for AQF 3 and AQF 4 which are concerned with the business process and auditability. It is a clear indication that the significant consideration is given by ITAP on auditable processes and practices as well as sound business processes which is crucial for audit activities. In contrast, for FA&AP, the highest mean score was recorded for AQF 10, labeled Objectivity. This suggests that FA&AP prioritize the impartiality and neutrality of audit findings, reflecting a strong commitment to maintaining objectivity in their assessments. For ITAPs, the identical highest mean score for AQF 10 further emphasizes this shared focus on objectivity, indicating a consensus between the two groups regarding the significance of this factor.

Remarkably, it is the fact that both FA&AP and ITAP have scored the similar mean values for AQF 10 which highlights the cohesive perceptions on objectivity and its importance in audit practices. It indicates that none of the groups has advocated for audit software but they focused on the accuracy and impartiality in the assessment. This research finding highlights the crucial role of objectivity in the audit process, which further ensures that research outcomes are trustworthy and credible. Moreover, low values of SD are observed for both sets of respondents, indicating a significant level of agreement among the participants for the objectivity factor of audit. Further it indicates that both FA&AP and ITAP have the same attitudes and perspectives for the role of audit quality and objectivity. It is beneficial for the audit organizations committed to enhancing audit quality and practices if both the groups of respondents share such a kind of consensus on the objectivity of audit, as it shows the shared belief about the understanding of crucial elements of effective audit practices.

AQF 1 designed for Knowledge, gained remarkable mean scores from both sets of respondents. FA&AP and ITAP have a mean score of 3.51 and 3.72 respectively. As per such a high score of mean, it is considered that auditors have belief generally that audit team members own a sufficient and good understanding about effective utilization of audit software in the audit process to enhance the overall audit quality. This perception suggests recognition of the importance of knowledge in leveraging technology to improve audit quality. However, it is important to note that the standard deviation for AQF 1 is higher than that for AQF 3, AQF 4, and AQF 10. It implies a higher degree of variations in the answers of auditors about the knowledge of software attributes. Some of the auditors consider them as capable of utilizing the software whereas there are chances of disagreement among the auditors because of such a high level of variability. Such variances may be due to the different level of audit experience, training and exposure to several audit tools and software. Such implications of the finding are significant. The differences in perceived knowledge are enough to highlight the scope of professional development through training. For example, additional resources, workshops or training may provide the benefits to the auditors to understand the potent applications and the functionalities of the audit software. Consideration of these discrepancies can help auditors to get equipped with required knowledge about effective audit software utilization to exploit the benefits of such tools for audit quality.

AQF 5 formulated for Valuable Suggestions gained a mean score of 3.66 and 3.52 for ITAP and FA&AP respectively which shows a wide-ranging accord about the valuable suggestions as suggested by the audit software to help in the audit practices among the auditors for their work. The potential of audit software to improve decision-making and all around quality of audit has been identified by the auditors as suggested by the moderately positive mean values. Though it is to be noticed that comparatively, SD for this AQF is higher than the standard deviation of other AQFs which significantly highlights the variability in the answers of respondents about the utility of the audit software for suggestions. Though few of them find the suggestions executable and beneficial as recommended by the software, many respondents considered it less applicable and relevant for their specific audit prospects. Such differences in the opinions of the auditors may arise because of factors such as different levels of experience and exposure to the software, awareness about the utility of the software and expectations about different forms of recommendations that must be suggested. It is noteworthy to imply such variability. Such differences of opinions among the respondents highlights a scope of further training for improvement in software too. High value of SD also suggests that a subgroup of respondents is not capable of utilizing the features of software. This implies that the organizations may also invest in the personnel development through the training or workshops focused on software utility and its features such as suggestions. If it is done, it will ensure and assist the audit professionals to be equipped with and to use the available technology in the most appropriate way to enhance the overall audit process effectively.

AQF 8, characterized for Internal Controls, gained the high value standard deviation of 1.42 and 1.38 for ITAP and FA&AP respectively which indicates a noticeable degree of variability about the efficacy and significance of internal controls in the audit process in the responses from both sets of respondents. Despite the moderately high degree of SD, AQF 8 also attaches relatively high value of mean, which means that the both sets of respondents ITAP and FA&AP diagnoses the importance of internal control in improving audit quality and it also indicates the general consensus about effective internal controls which are crucial to ensure the trustworthiness of financial reporting and audit process's integrity.

The internal control and its implementation aspect has attracted a wide range of responses as it is supported by the fact of the high value of SD. Such high variability in opinions may be due to the many factors such as auditor experience, exposure to the control system. In addition, internal control system's complications may also produce varied interpretations of the factors affecting internal control due to which discrepancies occur in perception. There are both

kinds of sentiments like who feels confident and who have issues about their expertise and effectives regarding the internal control system. This variability in the perspectives of the auditors create the scope of open discussion, resource allocations and timely training about the practices of internal controls in the organizations to ensure the alignment of the auditors towards the proper understanding of such critical aspects of the practice. By doing so, organizations can develop an integrated attitude to the internal control system for sustainable audit quality. The significance of the internal control system is not to be exaggerated as it is an essential factor in the audit process which supports risk mitigation, fraud prevention and proper compliance with regulatory agencies. So it is crucial to understand the causes of variability in the perspectives of respondents for internal control focused on enhanced audit practices in the organization.

Communication covered by AQF 11 has attracted a high score for mean for both sets of participants as ITAP has 3.59 and FA&AP has 3.43 which indicate the high perceived value of communication in the audit process. This recognizes the role of communication in effective team association, information sharing and enhancing the audit quality. Though, it has positive mean scores but AQF has relatively high value of standard deviation which indicates the significant variations in responses from the participants of both sets' perspective of the importance of communication and its effectiveness in audit. There is consensus on the importance of communication as suggested by mean scores but high value of SD indicates the variability in the perceptions of the individual for the reasons such as different experiences and communication within organization, Communication may be effective and robust, impacting positively audit for some auditors but on the other hand, it may be a challenge for some of them as it causes gaps and hindering in teamwork and flow of information. Such divergence creates varying opinions on the communication strategies and its effectiveness in the audit process. Additionally, there may be some contextual variations in communication depending upon the complexity of audit, audit team size and stakeholder involvement in the audit process. For instance, it is easy to communicate straightforwardly in a smaller team in comparison to a bigger team where communication is perceived challenging. The findings of the research are significant. The high value of SD supports the general acceptance of the significance of communication, but to ensure effectiveness, the concerned issues are required to be addressed. Organizations must take benefits from the evaluation of communication practices within the audit team and to improve it. This can be done by asking feedback from team audits regarding communication experiences and to provide adequate training on effective communication practices with the implementation of tools to enable information sharing effectively.

AQF 9 which is for Audit Procedures has attracted a mean score of 3.57 for ITAP, signifying the importance of Audit Procedure effectiveness in the audit process. Whereas FA&AP has a lower mean score of 3.22 which suggests that they may not have considered the audit procedure as favorably or have separate consideration of their own effectiveness. Such noticeable divergence in mean scores of the two groups signifies the potent variations in the opinions on the audit process and its implementation. In case of ITAP, they have a robust audit procedure contributing positively in overall audit quality and its procedure as suggested by the higher value of mean. This may be due to the IT audit attributes which is a complex audit process based on a predefined procedural framework to assure the reliability and accuracy. In contrast, FA&AP may have several underlying issues due to a relatively low score of mean for it. The consideration of the audit process as less effective or not aligned with specific goals is a perceptual indication of auditors about the audit process. Such differences in opinions might be the result of different types of audits conducted by the two groups, use of methodology and tools or regulatory environment applicable for them.

In case of AQF 9 for which both sets of participants have high values of SD of 1.42 and 1.38 for ITAP and FA&AP respectively, indicate a significant variation in the responses about the audit procedure. But few of them might feel assured about the effectiveness of the practices and procedures followed by them and many may have dissatisfaction or concerns about it. Such variability indicates that there are different opinions within the set of groups regarding the efficacy and adequacy of the audit procedures. The findings of the research are significant. In case of ITAP, higher value of mean and standard deviation suggests that many of them are happy with their audit procedures but there is a scope of improvement to warrant effectiveness and consistency across the organization. There is an urgent need of evaluating and possibly revising the audit procedures in place in case of FA&AP which scored lower value of mean and standard deviation. The discussion is crucial to get feedback from auditors about their expectations and experiences with the procedures adopted. It will give a valuable understanding about targeted areas for improvement.

AQF 6 - Resources, and AQF 7 – Competent Support both got remarkable mean scores of 3.40 and 3.55 correspondingly for ITAP. Such scores suggest that the group considers the importance of resource availability and capable staff support significantly in the audit process and its effectiveness. The relatively high mean scores suggest that auditors recognize the value of having adequate resources and skilled personnel to assist them in their work, which is crucial for conducting thorough and effective audits. However, it is important to note that both AQF 6 and AQF 7 also exhibited relatively high standard deviations, with values of 1.23 and 1.31, respectively. Such high value of SD points to considerable variations in responses from the ITAP about the perspective of competent support and resources. Some of them are satisfied with the available resources and support but others may have concerns or issues about it. This shows the inconsistencies in the resource allocation and staff support to propel the audit process.

Similarly, FFA&AP attracted a high value of mean score of 3.51 and 3.40 for AQF 6 and AQF 7 respectively which suggests the significant importance of competent support and resources for effective audit procedure. It also indicates

the general consensus about the importance of possessing adequate resources and skilled staff support for obtaining high standard audit results.

In case of FA&AP, the score of SD for AQF 6 and AQF 7 are also noticeable with a value of 1.33 and 1.32 respectively indicating that the adequacy of staff supports and resources are also considerable in the audit process. Both groups have given high scores which suggests that some of the auditors are satisfied and appreciate the resource allocation and support provided to them and on the other hand, some of the respondents feel lacking or inconsistency in support or resource allocation, impacting their performance. The research is implacable significantly for the organizations looking for the improved audit process and practices. The upper level high mean score for both groups reflect the identification of the importance of proper resource allocations and staff support but high value of SD indicates the need of advance study of the elements of influencing the perceptions. This study will further benefit the organizations in context of resource allocation and staff support through the surveys, discussions and feedback from the auditors. It will help organizations to recognize the targeted areas for improvement such as advanced training programs for support staff, ensuring adequate allocation of resources and tools for audit, or consulting the gaps in the process.

The importance of planning in audit is generically essential for recognizing the risk, resource allocation, and designing a clear roadmap for the audit. It is cautious when auditors feel that the audit software does not enhance the overall quality of the audit. This notion is indicated in the research for AQF 2 designed for planning which scores the lowest mean score of 2.94 and 2.62 for ITAP and FA&AP respectively. Such scores tell about the respondents' perception about the planning capabilities of audit software to be considered less effective than other relevant elements in audit quality. A consensus about the software's lesser capabilities for standardizing the audit process and planning, critically essential in ensuring the efficiency and efficacy of audit, is found by lower score of mean. AQF 2 lower mean score may be a reflection of the perception that there is a lack of required features or functionalities to execute comprehensive and consistent planning.

Additionally, AQF 2 has relatively high standard deviation with a value of 1.49 for ITAP and 1.28 for FA&AP which indicate a high level of variations in responses from the auditors about the software effectiveness in consistent planning. Some of the auditors have confidence in software and its effectiveness whereas some of them are cautious as per their experience resulting in different perspectives.

This variability of perceptions aroused by the level of experience of audit and software, exposure to training or specific expectations about the effective planning indicates towards the concerned issues that need to be considered by the organization. Moreover, audit planning complexity is also a crucial element in differing perceptions of the auditors regarding how software fulfills the needs of the process. The inferences of the study are important for the organizations to enhance the audit process. AQF 2 low mean score pooled with high SD scores, pinpoints the urgency for a comprehensive assessment of the planning aspect of audit software. It will benefit organizations if auditors are consulted to recognize specific flaws in the planning capabilities of software. It may be done through the surveys, interviews of individuals or focused groups to collect the understandings of the challenges in the planning phase to improve the software to support the needs of audit and auditors.

Table 5
Descriptive Analysis

Audit Quality Factor	ITAP				FA & AP			
	Mean	SD	Var	Valid values	Mean	SD	Var	Valid values
Knowledge -AQF 1	3.72	1.31	1.93	118	3.51	1.28	1.81	115
Planning- AQF 2	2.94	1.49	2.48	118	2.62	1.28	1.82	115
Auditability-AQF 3	3.76	1.26	1.76	118	3.50	1.17	1.52	115
Business process-AQF 4	3.76	1.06	1.26	118	3.58	1.22	1.67	115
Valuable suggestions -AQF 5	3.66	1.38	2.11	118	3.52	1.37	2.08	115
Resources- AQF 6	3.4	1.23	1.68	118	3.51	1.33	1.96	115
Competent support- AQF 7	3.55	1.31	1.93	118	3.4	1.32	1.94	115
Internal controls -AQF 8	3.57	1.42	2.25	118	3.22	1.38	2.1	115
Audit procedures- AQF 9	3.65	1.31	1.88	118	3.53	1.32	1.95	115
Objectivity- AQF 10	3.65	1.11	1.36	118	3.65	1.19	1.32	115
Communication-AQF 11	3.59	1.35	2.02	118	3.43	1.4	2.2	115

6.1.3 Hypothesis Testing

The perspectives and opinions of the auditors in Kuwait are to be examined in this study to assess the impact of audit software on the quality of audit by the research question. T-test and descriptive statistics were applied to test three specific hypotheses considering the mean scores represented in Table 5 and Table 6.

The perceptions about the audit quality are found to be consistent between ITAP and FA&AP with a slight divergence in means as indicated by the descriptive statistics. The elements with lowest and highest means, also those with least and

most variations, offer comprehension about the strong areas and dark areas to improve in the audit process. ITAP and FA&AP have relatively close scores of mean for all AQFs, suggesting that both sets of respondents have alike perceptions about audit quality. The highest mean score in case of ITAP is of Auditability (AQF 3) and Business Process (AQF 4) with 3.76 whereas the highest score of mean in case of FA&AP is of Objectivity (AQF 10) with a score of 3.65. Planning (AQF 2) has the lowest mean score of 2.94 and 2.6 for TAP and FA&AP respectively. The spread of responses is measured by SD and Variance (Var). Planning (AQF 2) has highest SD at 1.49 in case of ITAP and Communication (AQF 11) has highest SD at 1.4 in case of FA&AP suggesting wide variability in responses. ITAP has the lowest SD for Business Process (AQF 4) at 1.06, showing high consistency in responses. Auditability (AQF 3) has lowest SD at 1.17 in case of FA&AP.

For an adequate comparison of the mean scores of several AQFs between FA&AP and ITAP, t-test with independent sample has been conducted which reflects no statistically substantial variations between ITAP and FA&AP through all AQFs. Table 6 shows the summarized results. This suggests that both groups have similar opinions in terms of the audit quality measures assessed. The p-values for all AQFs are above the conventional threshold of 0.05, indicating that there are no statistically significant differences between ITAP and FA&AP in terms of their mean scores for the AQFs.

The lack of statistically significant differences in the mean scores for all AQFs suggests that the use of audit software does not lead to noticeable variations in audit quality for the ITAP and FR&AP groups. This finding supports the hypothesis (H1) that the use of audit software positively impacts audit quality. Specifically, the results imply that both groups, regardless of the use of audit software, have similar opinions in terms of the assessed AQFs.
For hypothesis 2 (H2), t-test with independent samples results in valuable insights about the influence of audit software on audit quality as supposed by the auditors. This test was applied to compare mean scores provided by ITAP and FA&AP for 11 AQFs. No statistically substantial differences among the mean scores provided by ITAP and FA&AP are found as indicated by t-values with corresponding p-values for 11 AQFs (Table 6).
P-values for all are bigger than the prevailing significance threshold of 0.05 which indicate perceived divergences in mean scores are not statistically substantial. The differences between the mean scores of the two groups for every AQF are moderately small, also signifying the absence of variations.
Though p-values are not substantial at the level of 0.05, it suggests evidently that the utilization of audit software impacts the audit quality (H2). The interpretations are as follows:

- Both sets of respondents (ITAP and FA&AP) have alike sentiments regarding the positive impacts of audit software on audit quality as suggested by the lack of substantial differences. Such consistency might be due to the application of audit software for standardization of audit procedure and audit quality enhancement by them.
- As reflected by the mean scores, auditor's feelings indicate the positive perception about audit software utilization which probably contributes in enhancing efficacy, accuracy and efficiency in audit practices.
- Though p-values are not lower than 0.05 but the mean divergence indicates a inclination which supports H2. A positive impact has been reflected on the audit quality by the audit software though the variations are not statistically substantial.

It can be concluded on the basis of t-tests results that no substantial differences of the mean scores provided by ITAP and FA&AP for 11 AQFs are found. But the p-values have evidence of the positive impact of audit software on audit quality as per auditors' responses (H2). It suggests that the application of audit software supports reliable and high quality audit results across the groups of participants.

Table 6
Independent Samples t-test

Independent samples t-test							
						95% CI for mean difference	
	t-vale	*df*	*p-vale*	*Mean difference*	*SE difference*	*Lower*	*Upper*
AQF1	1.24	231	0.217	0.21	0.17	-0.124	0.544
AQF2	1.76	231	0.076	0.32	0.18	-0.036	0.67
AQF3	1.63	231	0.104	0.26	0.16	-0.0522	0.57
AQF4	1.20	231	0.2286	0.18	0.15	-0.1155	0.4755
AQF5	0.76	231	0.44	0.14	0.18	-0.213	0.493
AQF6	0.66	228.5	0.513	-0.11	0.17	-0.439	0.219
AQF7	0.87	232	0.384	0.15	0.17	-0.189	0.489
AQF8	1.92	231	0.056	0.35	0.18	-0.009	0.69
AQF9	0.696	231	0.487	0.12	0.17	-0.220	0.46
AQF10	0.00	231	1.00	0.00	0.15	-0.296	0.296
AQF11	0.89	231	0.374	0.16	0.18	-0.194	0.514
p-value associated with the t-test is significant at $p < 0.05$.							

In connection to H3, the independent samples t-test linking the scores of mean of AQFs, mainly AQF 1 (Knowledge) provided by FA&AP and ITAP specified not at all statistically substantial variations. But there is a possibility that auditor

proficiency plays a moderating role. So it can be said that the influence of audit software on audit quality is likely impacted by the proficiency of auditors.

The absence of substantial differences in the score of mean might be due to the fluctuating levels of proficiency of the auditors in each set of respondents. The features of audit software are leveraged by the expertise of the auditors contributing to the audit quality. Auditors who are more proficient, have a profound understanding of audit practices, processes and utility of the audit software. It permits users to utilize the software more efficiently to achieve higher audit quality.

In conclusion, the impact of audit software on audit quality clearly examining the responses of the auditors in Kuwait is investigated in this study by using t-tests and descriptive statistics to examine the mean scores from the targeted participants, presented in Table 5 and Table 6. The discoveries demonstrate a substantial orientation of the perceptions of the groups of investigation mainly about the role of auditability, objectivity and business processes. Such findings suggest further training and development programs focused on improving audit quality across both audit professionals. This study emphasizes the need of continual edification and provisions for the pavements of the gaps in understanding of the auditors. By offering an adequate level of knowledge through the auditing groups, organizations may improve the effectiveness of the audit process and the audit quality as well. But it is important to identify the limitations of this study and to understand the need for more research. By integrating impartial actions, discovering multifold contexts and deploying strong research designs, forthcoming research can be developed on the basis of these findings to provide a wide-ranging understanding of the importance of audit software in improving audit quality.

7. Discussion & Conclusion

The discoveries of this particular research align with the preceding studies focused on the role of audit software and technological integration for enhanced audit quality. For instance, Alotaibi and Alnesafi (2023) inspected the relationship between audit software and audit quality in the context of Saudi Arabia. This study established the notion that audit quality has been improved significantly by audit software through the accuracy and comprehensiveness of audit data. Likewise, our study found that the audit software enhanced the audit quality in respect of accuracy and comprehensiveness of the audit evidence as reported by the auditors in Kuwait. The empirical evidence about the positive impact of audit software on audit quality by enhancing the completeness of audit evidence and accuracy, are provided by the study of Alotaibi and Alnesafi (2023). The auditors in Kuwait articulated in the same manner which established our study aligned with this research. The crucial role of audit tools in supporting the audit process with precisions, essential for audit quality, has been identified by both the studies.

Alotaibi and Alnesafi (2023) examined the influence of sophisticated IT tools, mainly audit software, on the several AQFs including effectiveness and efficiency. A study by Yeghaneh et al. (2015) also investigated the influence of audit software on AQFs. Alotaibi and Alnesafi (2023) summarized that the application of audit software meaningfully impacted AQFs which improved overall audit quality. Yeghaneh et al. (2015) discovered that the AQFs such as the data collection process are impacted positively by audit software to improve audit quality. The findings of this study are synchronized with the results of previous studies as the audit professionals in Kuwait have responded in the similar way, supporting the idea that audit software improves the effectiveness and efficiency of audits and improved the data collection process efficiently to enhance audit quality. The outcomes of this study highlight the fact that the application of audit software substantially improves the audit quality and its key aspects. Mainly, it ensures the reliability of audit evidence, data accuracy and completeness through the tools. These tools restructure the audit processes to make it more efficient. Now auditors have to focus only on complex aspects of audit because of the automation of routine tasks. It results in more reliable outcomes as the auditor can trust on the integrity of audit evidence arranged for audits. Audit software also enhances the quality of reports of audit through the reliable and accurate documentations which ensure the clarity and accuracy of the credentials produced by audit. It is an important aspect for stakeholders who take decisions considering these reports.

This research highpoint that audit software has a positive impact on AQFs including:

- Audit efficacy: the capability to do audits with limited resources on time.
- Audit effectiveness: the skill set to recognize and report issues with accuracy broadly.
- Audit trustworthiness: the dependability and consistency of audit reports over the time.

There is a consistency in the findings of this research with the previous study conducted by Alotaibi and Alnesafi (2023) in Saudi Arabia which investigated the impact of IT software on multiple AQFs. They summarized that audit tools impacted these factors positively, resulting in overall improvement in audit quality. Similarly, auditors have reported in the context of Kuwait that such software enhances audit efficiency and its effectiveness, resulting in improved audit quality. These findings are significant for many reasons. Firstly, it reflects the importance of considering the perception of auditors in assessing the efficacy of audit software. As per the behavior of the AQFs, business administrators can channelize their efforts for improving the attributes and functionalities, contributing to audit quality substantially. Secondly, these findings notify about the role of training and development programs on the basis of AQFs mean scores, focused on enhancing auditor's skills and expertise through effective software utilization.

Conclusively, this part of the study underlines the crucial role of descriptive investigation in evaluating the impact of audit software on audit quality. The valuable insights are drawn from this analysis by the researchers through the investigation of the perceptions of auditors based on AQFs for improving audit process and practices. This study serves as an example for practical execution to optimize the technological integration in the audit process as well as it provides the extended knowledge to the existing literature. Still, it is noteworthy that the discoveries of our research are focused on the authors' subjective perceptions which are valuable as well as variable depending upon the individual biases, expectations and experiences. The scope of the study is confined to a specific geographical and cultural context that is Kuwait. The different countries and regions may have separate and specific elements influencing audit quality in the context of audit software due to the audit practices, attitudes towards technological integration, cultural norms and regulatory environment. Future researchers are suggested to integrate more objective procedures to evaluate audit quality and may expand the scope of the study considering different regions and countries.

The future research should be done in diverse organizational and geographical contexts to assess the impact of audit software on audit quality. Deploying objective trials, evaluating specific software features and investigating cost effectiveness and efficiency will give a detailed contextual knowledge about the importance of audit software in improving the audit quality. Moreover, how auditor judgement and audit quality affected by audit software in complex circumstances will also be explored to get the insights to enhance audit practices and its quality. By considering these extents for research, future studies could build up on the present discoveries and may contribute in the progression of more sophisticated audit software and tools.

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