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# Overview of AI-powered predictive analytics in audits: Perspective evidence from Kuwait auditors

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**A B S T R A C T**

This paper aims to analyze the capability of advanced AI as a predictor of audit quality with particular reference to auditors in Kuwait. The research focuses on understanding the role of advanced AI technologies in the improvement of most audit activities around risk, fraud, and compliance. In order to classify the Kuwaiti auditors into different segments on the basis of their internet usage, both the quantitative data collected through a questionnaire survey is used with additional data collected from structured interviews with them. The results are expected to offer a rich and detailed account of the pragmatic opportunities and difficulties of applying AI in audits while highlighting its potential of reshaping conventional approaches. This study contributes relevant knowledge regarding the audit quality and governance garnered from linking theory and practice, providing the feasible recommendations for auditors and policymakers in the member countries of the GCC.



## 1. Introduction

Artificial Intelligence (AI) possesses the potential to revolutionize business practices, particularly in finance, accounting, and auditing. The Organization for Economic Co-operation and Development (OECD) updated its definition of Artificial Intelligence in November 2023. According to the new definition, “An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments”. This definition highlights that AI systems can operate with different degrees of independence from human intervention and can learn and modify their behavior based on new data and experiences after they have been put into operation after deployment (Prabowo & Suhartini, 2021). The OECD's definition aims to be inclusive and flexible, encompassing a wide range of AI technologies from simple to complex systems. It also acknowledges that AI systems can develop implicit sub-objectives and sometimes set objectives for other systems, reflecting the evolving nature of AI technology (Yeung, 2020). In today’s competitive markets, business integrates innovative tools such as AI for decision making. The integration of AI and other advanced technologies into business practices has the potential to revolutionize various aspects of organizational operations, decision-making processes, and strategic planning. These technological advancements can significantly impact areas such as financial management, risk assessment and accounting and auditing.

As AI systems become more sophisticated, they offer opportunities for increased efficiency, improved accuracy, and enhanced predictive capabilities across diverse business functions including accounting and internal auditing (Li et al., 2018, 2022). So, the evolving technological landscape necessitates that accounting executives and internal auditors adapt and equip themselves with advanced technological skills and knowledge. This adaptation is crucial for developing and maintaining sophisticated client-side systems that leverage cutting-edge technology and data analytics to enhance auditing processes. Recognizing the competitive advantage that these technologies offer, key players in the auditing industry are increasingly adopting and

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recommending AI and related technologies. This strategic embrace of technological innovation not only improves the efficiency and accuracy of auditing practices but also positions firms at the forefront of the industry, enabling them to offer more comprehensive and insightful services to their clients. As AI continues to evolve, its integration into auditing practices is likely to become a standard, rather than an exception, fundamentally transforming the landscape of financial oversight and compliance. The adopting AI in the auditing field can enhance audit efficiency and effectiveness through automating routine tasks, improving data analysis and auditing and assurance processes and services, and facilitating better decision-making within audit teams. AI could increase the detection of errors and increase the accuracy of financial statements and as a result increase the trust between stakeholders in the audit process (Cho et al., 2020; Moffitt et al., 2018; Enholm et al., 2021; Issa et al. 2016). Also, AI systems can efficiently process both financial and non-financial information, providing a more comprehensive analysis than traditional methods. The application of AI in generating automatic entries presents a notable benefit by substantially reducing the occurrence of human errors (Li et al., 2022; Sutton, 1993). AI has the potential to significantly transform audit processes by reducing the need for human intervention to mitigate the risk of human mistakes, while simultaneously enhancing fraud detection capabilities. By promptly alerting management to potential fraudulent actions, AI enables quicker responses to financial risks, thereby improving the effectiveness of internal controls and the overall reliability of financial statements (Bumgarner & Vasarhelyi, 2018). The risk of misrepresentation in financial statements is a critical concern for auditors, encompassing the potential for factual misstatements due to inaccurate or improper recording of transactions. To mitigate this risk, auditors must meticulously trace transactions from their source documents to the final records. However, this process faces significant challenges. If unauthorized transactions or other irregularities are not identified early in the audit process, they may become increasingly difficult to detect as the engagement progresses. Freiman et al. (2022) point out, the use of sampling techniques in auditing introduces an additional risk: even recognizable frauds might go undetected if they fall outside the selected sample. This limitation underscores the importance of robust audit procedures and the potential value of comprehensive data analysis techniques to enhance fraud detection capabilities.

The integration of AI throughout the auditing process offers substantial benefits to assurance services professionals (ASPs) as they will experience a reduction in their workload while simultaneously gaining a more comprehensive understanding of the audited firm which enhances the quality of auditing and assurance services by automating manual processes and increasing efficiency and accuracy (Havelka & Merhout, 2007; Huh et al., 2021; Razi & Madani, 2013). Consequently, the adoption of AI in auditing not only streamline operations but also elevates the overall reliability and thoroughness of financial assessments, leading to more robust and trustworthy audit outcomes (Bumgarner & Vasarhelyi, 2018; Kriege et al., 2021).

In response to the increasing complexities and challenges faced in contemporary business operations, organizations within the auditing industry are increasingly adopting technology-based decision support tools, notably AI-powered predictive analytics. This integration of artificial intelligence is transforming assurance services by enhancing the detection of fraud and addressing various concerns present in companies' financial reports. The application of AI technology facilitates the identification of red flags, which are critical indicators of potential issues within a business's records. Furthermore, such advancements support organizations in refining their accounting practices, ultimately contributing to improved financial oversight and integrity (Wilson & Daugherty, 2018). As the auditing landscape evolves, the reliance on AI tools not only streamline processes but also reinforces the importance of vigilance and accuracy in financial reporting. The current literature on the application of AI and advanced technologies in auditing has primarily concentrated on developed economies, leaving a significant gap in research related to emerging markets, particularly the Gulf Cooperation Council (GCC) countries. While some studies have investigated the factors influencing audit quality in emerging economies, including Kuwait (Carcello et al., 1992; Alotiabi & Alnesafi, 2023), there is a lack of comprehensive understanding regarding the impact of AI on auditing and assurance services in these contexts. This study aims to fill this gap by exploring the perceptions of auditors and assurance service professionals (ASPs) concerning AI's influence on service quality in Kuwait. The significance of examining auditors' perceptions of AI is underscored by the potential to enhance the productivity of auditing and assurance services, as the integration of technology is widely advocated for professionals seeking to improve service outcomes.

Moreover, Kuwait has witnessed notable advancements in service quality in recent years, primarily driven by improvements in information and communication technologies. However, research into the application of AI in auditing and assurance services remains in its nascent stages; it has yet to reach a saturation level in Kuwait. Consequently, this research endeavors to address this gap by focusing specifically on Kuwait, providing both theoretical and practical insights into the adoption of AI within an emerging market context. Furthermore, it aims to elucidate the unique challenges and opportunities presented by the implementation of AI technologies in a rapidly evolving economic environment (Siew et al., 2020). By doing so, the study enhances our understanding of the global landscape of AI adoption in the auditing profession and examines how auditors and ASPs connect the implementation of AI with improved service quality. So, this study aims to achieve the following objectives:

- Evaluate the adoption rate of AI-Powered Predictive Analytics among auditors in Kuwait.
- Assess the impact of AI-Powered Predictive Analytics on risk assessment, fraud detection, and overall audit quality in Kuwait.

- Investigate the perspectives of Kuwaiti auditors regarding the challenges and opportunities associated with the implementation of predictive analytics and artificial intelligence.
- Identify and propose potential solutions to address the challenges and facilitate effective integration of these technological innovations.

The structure of this study is organized as follows: The subsequent section presents a comprehensive literature review and formulates the research hypotheses. This is followed by a detailed explanation of the research methodology and sampling process. The study then proceeds to present and analyze the collected data. Finally, the research findings are discussed, followed by a conclusion that outlines the implications of this study.

## 2. Theoretical review and framework

Due to technological expansion, current auditing practices have adopted innovative procedures, including analytically based approaches like predictive analytics. One of the sets of artificial intelligence (AI), predictive analytics uses statistical algorithms and machine learning to examine historical data to yield superior accuracy in auditing to estimate financial risks, detection of frauds and even the financial health of an organization. This paper is intended to analysis the literature that covers the practice of predictive analytics in auditing including in the area of risk management and assessment, fraud detection and the general area of audit quality as well as the challenges and limitations of the use of predictive analytics (Lowensohn, 2007; Jayanti & Kawisana, 2022; Mardian & Avianti, 2019; Stoel et al., 2012; Yeghaneh et al., 2015).

### *2.1 Auditing and Artificial Intelligence*

The assessment of the implementation of artificial intelligence (AI) in auditing and assurance services has received much consideration in the academic literature. The same view is taken by Huang et al. (2009) who stressed the value of AI in fraud discovery and stated that the solution introduced by them improves the event-based approach to fraud identification through fusing real time video surveillance with physiological response of auditors. This advancement enhances the capacity of analysts to mitigate or avoid future fraudulent practices. On this basis, Chi and Shen (2022) also deepen the understanding of applying innovative AI and machine learning technologies in the auditing field and demonstrate how AI methods can strengthen the certainty of going-concern predictions, which in turn may enhance the quality and longevity of the auditing practice.

This is where Raji et al. (2020) advance this discourse by proposing internal AI algorithmic auditing that is aimed at filling the accountability deficit where AI is involved, especially concerning financial fraud and reporting irregularities. Their five-phase audit plan creates tangible deliverables to support a well-rounded report of the audit: the ethical principles of AI are integrated into a well-structured method for AI system development. This paper illustrates how accounting organizations have adopted AI in several ways that contribute to improving efficiency and accuracy in daily tasks and therefore enhancing the credibility of financial reports. Business intelligence is becoming popular in organizations to process large sets of data, make important patterns, and predict financial situations that may lead to better decisions. This study builds on the aforementioned line of work by comparing technological solutions concerning financial fraud and audit-related scandals; Roszkowska (2020) on how fintech could assist to improve the reliability of financial reporting by reducing the audit-related factors that lead to scandals. Facilitators of financial statement fraud as well as the progress in the field of fintech are the focus of the research conducted by Roszkowska, whose findings offer significant information in technology and auditing, specifying proposals for the improvement of financial credibility in the face of future threats. However, Khalaf et al. (2019) argue that the ability of AI to perform analysis at high speed and accuracy impacts auditing activities. Their work depicts that the combination of AI with statistical techniques can enhance the speed and precision of systems, and specifically detect distributed denial of services (DDoS) attacks. In auditing, this is a step up towards the improved fraud detection, risk assessment and even anomaly detection where the extensive datasets of financial transactions are fed into the AI algorithms to filter out complex patterns and oddities which normally escape the human auditors' vouchers (Dennis, 2024).

As the literature review reveals, AI is a crucial component in auditing, which stresses on its function's expansion further. For example, AI applications can help auditors and ASPs to detect fraud facts based on the analysis of fraud signs (Pereira et al., 2022). Nascimento and Meirelles (2022) present a framework to analyze AI focusing on the size of the business and gather 72 factors that influence AI into 10 categories. Their work combines the mentioned factors with the Technology Acceptance Model TAM to present a more nuanced model for the AI adoption process. Appelbaum et al. (2021) pinpoint the importance of the auditor to achieve expertise in data analytics because of the technological revolution in the auditing field. They did well to explain that Audit Data Analytics (ADA) and technologies should be incorporated into auditors' strategies, and embraced the idea of pursuing data analysis skills as a professional mission in today's data revolution. This paper gives a systematic analysis of the existing business environment and offers the prescriptions for the degree of ADA knowledge and skills that should be possessed by auditors (Eilifsen et al., 2020). Further, Moffitt et al. (2018) also use this lens to discuss that RPA - Robotic Process Automation can disrupt auditing profession as it automates routine but important tasks and allows auditors

to focus their higher order skills which improve audit quality. When it comes to Big Data (Brown-Liburd et al., 2015; Omitogun & Al-Adeem, 2019), it is possible for auditors to use sophisticated predictive and prescriptive tools. Nevertheless, there are several factors that still hinder the adoption of AI; no prior experience in the implementation of AI solutions, shortage of qualified personnel to head the implementation of AI projects, and the call for the accounting professionals to achieve a blend of accounting knowledge and IT skills.

The Big Data and analytics described by Appelbaum et al. (2021) for contemporary audit engagements show that there are potential and threats for the external auditors (Manita et al., 2020) to integrate the traditional audit procedures in the Big Data context. Similarly, others discuss the problems of AI database implementation for SMBs -Small & Medium-sized Businesses: cost-related concerns, lack of technical knowledge, and data protection. Last but not the least Smith et al. (2018) enlighten how the future of employment in the Auditing profession is complicated and unpredictable due to increasing adoption of AI and robotics independence by lowering the quality of auditing services and possible displacement of employees. Further, the study conducted by Khrisat et al. (2023) about the impact of Big Data in specifying customer behavior supports this idea that implementing such technologies has lots of advantages for competition but concurrently has lots of threats for personal client's financial information.

### *2.2 Audit and Predictive Analytics*

Big data and its usage infused with Artificial Intelligence seem to be one of the most revolutionary tools of the auditing profession of the twenty-first century; it empowers the auditors and makes use of vast amounts of quantitative and qualitative data in the overall measure (and even prediction) of business risks. According to Issa et al. (2016), the data that auditors deal with is vast and well-structured and therefore auditing is well suited for data analytics and predictive artificial intelligence programs. These efficient tools do help auditors tremendously to perform elaborate assessments of financial statements and improve the ability to identify risks that may cause threats to a company's financial well-being.

While conventional 'reactive' approaches rely on the identification of concrete anomalies, the 'proactive' character of AI in predictive analytics is a fundamental factor in managing financial risks before they get worse. It is also right for auditors to plan to achieve their objectives because by using quantifying tools for predictive analysis, auditors easily identify patterns deduced from history and therefore become alert of risk prone areas all along the audit process. This methodological approach helps to make audits more effective and efficient, because it provides an understanding of what happened in the past to improve the present situation and how to explain emerging fluctuations (Al-Ruithe et al., 2017). However, incorporating AI-analytics in auditing encourages a change from the traditional back-casting auditing approaches to risk-based auditing. Auditors able to work with predictive analytics will be in a better place to gather accurate risk assessment and develop corrective measures to address some of the risk factors within the financial operation of a business entity. Therefore, the roles of analyses derived from AI concerned with predictive analytics clearly go beyond work optimization – they unveil better and offer a superior quality of the audits, giving the companies a deeper understanding of their financial and operational conditions.

Moreover, AI enabled predictive analytics is likely to emerge more dramatically as the domain of financial reporting and compliance continues to evolve. Adopting these technologies, auditors can improve their capability to operate in complex data contexts, helping build transparency and accountability into financial reporting. Altogether, the application of artificial intelligence in the auditing field as one more internal use of predictive analytics represents the development of a new significant element in the auditor's education and the improvement of the profession's ability to protect the stakeholders from fraud outstanding and embezzlement.

According to Cho et al. (2020), predictive analytics as an aspect of auditing is a major improvement to the capacities of auditors to collect information that may point to a particular irregularity or problem with the financial statements through patterns of fraudulent activities. This novel application of predictive analytics has indeed revolutionized the effectiveness of auditing services right from the commercial perspective of ensuring exact routine verifications of a business entity's books of accounts, to a more targeted compliance-based method. The evolution of skills in this manner enables auditors to give more comprehensive and meaningful evaluations to clients, and in turn, offering more significant value to stakeholders. The choice of the integration of predictive analytics helps to gain a deeper understanding of the financial outcomes, which undoubtedly will help the auditors to reveal the abnormalities that are not revealed during the standard audit. When auditors use state-of-art analytical tools, patterns of possible illegality are made evident to strengthen the credibility of financial statements. This analytical capability propels predictive analytics into the toolkit of the modern auditors successfully capturing the changing nature and requirement of the financial world (Cho et al., 2020).

In addition, as organizations are faced with higher levels of external pressures meaning; increased regulatory requirements, increased competition, and volatility, predictive analytics is especially valuable. With such enhanced competencies, auditors are well placed to handle such complex areas of corporate reports as well as addressing the associated uncertainties, therefore enhancing corporate governance and investor confidence. Also, the use of predictive analytics meets international objectives to improve the quality and efficiency of audits. Specifically, as auditors adopt and implement these technologies, the profession benefits because, in addition to improving the efficiency of audits and auditors' work, they also help the auditing

profession mature. Since auditing requires fast data analysis and results in a real-time mode, predictive analytics, which enable making marketing insights on big datasets quickly, could be regarded as ensuring contemporary trends in the auditing field.

Therefore, the ideas of Cho et al. (2020) conclude about possibilities of the change through the application of predictive analytics in auditing. Given the ongoing progress to be witnessed in this field, perhaps, the future research and development of these analytical methods will remain a critical requirement for auditors in their continued efforts to respond to emerging issues and preserve financial accountability in their operations. Moffitt and his colleagues Moffitt et al. (2018) provide the understanding of the real time monitoring as well as the continuous auditing by using predictive analytics. This moderate approach enables auditors to have an overall look of organizational-fitness by discovering possible alarms that would reveal fraudulent operations. Auditors therefore have an opportunity to improve their ability to identify fraud and its impact through the installation of comprehensive monitoring tools that allow real-time reporting of financial data (Rezaee et al., 2002).

The combined use of predictive analytics with continuous auditing changes the approach of how traditional auditing was formerly done through periodic evaluations of the performance of organizations. It is essential in the present world business environment where early detection of such issues facilitates reporting of poor financial accountability practices. Using big data analysis, auditors can carry out extensive analysis of data and understand which behavior indicates variance with organizational norms; thus, giving the auditors early indications of potential fraud. Besides, with the help of predictive analytics in continuous auditing, the risk management is shifted to the proactive position by auditors. While traditional audit tools rely on historical data to make their assessments, the continuous monitoring ability in well-founded auditors permits real time data analysis, and response to emerging risks. This immediacy also provides the added advantage of improving the efficiency of the audit process and improving the level of credibility and confidence of the users of such accounts.

Therefore, the aspects discussed by Moffitt et al. (2018) confirm that the value of predictive analytics is in enhancing audit practices with the help of monitoring procedures. As organizations are gradually embracing these innovative approaches to auditing, it becomes vital to harness real-time data to fight fraud and manage risk – this however must be done in such a way that auditors can understand the emerging trends of contemporary financial systems. Subsequent studies should further examine the application and difficulty of implementing predictive analytics into Continuous Auditing paradigms to realize its benefits for auditing.

### *2.3 Artificial Intelligence in Kuwait*

Kuwait's finance sector is one of the most progressive forefronts in deploying the AI technologies; machine learning, and predictive analytics to improve the customer experience, fraud detection, and risks management. Currently, several Kuwaiti banks have utilized the effectiveness of AI algorithms in dealing with customers as well as in enhancing the maintaining of proper resource utilization within banking processes. Similarly, Kuwait's healthcare industry has also focused its attention on the use of AI-based diagnostic tools whilst aiming to improve the services provided to patients (Alenezi et al., 2020). AI is also being embedded into learning models of institutions through embracing of new approaches of teaching models including virtual teaching.

The adoption of AI throughout different industries is expected to assist Kuwait with emerging economic diversification and is consistent with the goals of the Kuwait Vision 2035 mentioned. Besides the strategic focus for innovation, the use of AI in Kuwait is essential to place the state among the leaders in the technological progress of the region. In finance and auditing, machine learning in AI has boosted the accuracy of the financial statements produced constantly. It is also noted that firms implementing AI technologies have come up with better audits and efficiency gains. Since AI reduces the extent to which human intervention is needed, it optimizes processes, as well as the accuracy of financial coefficients.

These innovations are useful in the financial sector where they can detect fraud in transactions as it occurs and notifies an institution of losses. This level of automation reduces the time it takes to identify fraud while at the same time improving accuracy compared to previous techniques (Bradford et al., 2020). These benefits are consistent with Kuwait's vision of bolstering the stability of the economy and upgrading the corporate governance structures within Kuwait's financial super sector. All the same, Kuwait still has some hurdles to jump in the exploitation of AI. The staggering costs involved in implementing AI are one of the principal issues that many organizations including SMEs face; these include costs of software, hardware and the costs of training staff among others. The third and fourth challenges are the lack of skilled AI workforce; Kuwait has no native data science, machine learning or AI specialists. This view is shared by others who call for the need to have proper policies for ethical and safer use of the artificial intelligence system in Kuwait. Legal restrictions are also obstacles to the usage of AI in Kuwait as shown below. To date, AI lacks a legal framework, which creates ambiguities on the legal aspects of AI and legal implications and/or ethical concerns. However, Kuwait has set up independent bodies to provide guidance, policies, and laws that cover the utilization of AI in the country. Thus, although the current Kuwaiti literatures concerned with the adoption of Artificial Intelligence have widely evidenced the potential advantages of it in terms of productivity, efficiency, and decision-making aids as well as in different domains and sectors, it is still significant to provide more accuracy in preferences for organizations and industries. Such questions refer to further ethical challenges and are the first to seek proper solutions and specific guidelines for using AI. With the current steps taken by Kuwait's administration

headed towards the digital government and establishment of a knowledge-based economy, AI presents itself as a vital active participant in the development of Kuwait.

*2.4 Evaluating the Assumed Benefits of AI Recognition Technologies*

Preliminary inferences indicate that AI is rather notably influencing the auditing sphere by automating many activities and increasing overall effectiveness. But it is unlikely that AI will wholly replace human auditors, as has been previously assumed by some industry specialists. However, the appearance and application of technology in auditing is seen as a method by which the auditors are supported in order to do their complex work and focus on higher level tasks such as analysis and interpretation. AI delivers value to auditing by reducing the likelihood of human errors, deepening fraud detections, and expanding the availability of data analysis. Hence, despite apprehensions about job loss, the dominant impact seems to be one involving out-loading instead of elimination of audit work. This is in line with Li et al. (2018), they have opined that the incorporation of AI and machine learning enhances the flow of data analysis and decision making. On the other hand, Smith et al. (2018) explain the nature and the prospects of AI and robotics within the context of job market's prospects, as well as the dual role of AI and robotics in shaping new opportunities and challenges in the context of techno advancement. Manheim and Kaplan (2019) explain the threats of confidentiality that are associated with the use of AI especially where large amounts of financial data are processed and stored making the systems targets for hackers in search of value added. They point out that the presented AI models may leak private data in various ways, including data leakage or inference attacks; for example, highly advanced AI algorithms may be able to extract financially sensitive information from omnipresent inputs, which is particularly dangerous regarding data privacy. For instance, if AI systems are designed to communicate with users, this means they can also obtain sensitive information from users during the interaction while enduring confidentiality. Such concerns make it paramount for the security necessary measures, ethical standards and regulations that help in the protection of the financial information in the AI-related systems. In parallel, Khrisat et al. (2023) also overview the rather challenging task of sharing data for further boosting the AI outcomes and protecting the data from misuse. Altogether these works reflect an emergent imperative of being careful in protecting information in the face of rising reliance on data to inform decisions. But still, many previous research articles have pointed to the effectiveness of the usage of artificial intelligence (AI) in different industries and emphasized on the positive changes that it brought to the optimization of efficiency and decision-making; the works of Munoko et al. (2020), Cho et al. (2020), Moffitt et al. (2018), and Kokina et al. (2025) show that AI increases efficiency, optimizes consumption, and improves efficiency. These works indicate that AI technologies can enhance administration, support identification of pertinent patterns, and assist institutions in making strategic judgments based on extensive information databases. The accumulation of the literature underlines that in the right conditions, AI has an aptitude to promote new opportunities and produce competitive advantages within the more challenging and exciting environment.

In the prior audit work of Di Vaio et al. (2020), the authors discuss the tentative audit collaborations and auditors' perceptions related to AI technology adoption, embracing both the process and the cognition and emotion aspects. The researchers identified three key characteristics that significantly influence auditors' interactions with AI: evaluative, analytic, and affective learning approaches as dynamic, skepticism, and passive. Explorers are always open to the use of AI and look forward to implementing the technology in their operations aggressively, while resistive auditors are slow to adopt the technology, and only embrace the technology after ascertaining the benefit of such a move. On the other hand, passive auditors show poor interaction with AI possibly because they did not know or they resisted accepting change. In parallel with this analysis, Roszkowska (2020) notes that the acceptance of AI technology in the public domain requires its constant use without understanding its functions or potential fully (Lazarescu, 2019). This is typical for the increasing role of technology in the modern world; still, those who did not practice using AI or even are skeptic tend to treat it rather carefully. Of these, the concept of 'active acceptance' comes to play when active use of the system is tendered; users get to experience the practical application of incorporation of artificial intelligence. On the other hand, AI use can face challenges if professionals are unable to distinguish the benefits of AI or evaluate implementation as possible, primarily due to the misinformation about AI capabilities or negative impact potential. Collectively, these pieces expose the multivariate relationship between the perception of attitudes and general acceptance of AI technology at the workplace.

AI has come to increase efficiency and effectiveness in the auditing profession in line with Li et al. (2022) argument that AI is timely given that the contemporary auditor has to deal with massive information. This combination between technology and audit needs has helped to enhance audit procedures over the years. First, it can ease the process of analyzing big data and looking for patterns and outliers is much faster and more efficient than using traditional methods (Li et al., 2018). For example, intelligent algorithms may be used for the testing of journal entries where among the unstructured data the application will be able to search for any abnormal transactions in the journal, leading to improved fraud detection (KPMG, 2024). In addition, AI crosses over to risk assessment processes, handling repetitive work tasks, and enhancing sampling precision; the audit time can be lessened by 40 percent (PwC & Deloitte, 2023). This transformation not only leads to improved audit efficiency but also to a more time-effective distribution of the audit work which results in an increase of the audit quality and depth (Caseware, 2024; Schroeder et al., 1986). With the movement of AI becoming increasingly apparent in the world, this application offers a great avenue of enhancing the auditing practice, to provide enhanced and increased auditing practices.

AI strengthens auditors' hand by automating repetitive tasks and enables the auditors to focus more on high-value work, enjoys the benefits of increased audit quality through the reduction of natural human errors, better fraud detection and precise data analysis. Despite the reasons credible on the grounds of data protection and cybersecurity risks, by example evidence positive effects of AI on the auditing sphere. Implicit in these studies are the need to also consider the perceptions of the auditors on the risks involved as well as the need to ensure that adequate security has been put in place, and that adequate ethical standards have been put in place as safeguards against the risks involved. Also, hints exist that AI may expand the quality of auditing and assurance services in Kuwait; although it is crucial to identify the ways it is adopted and assessed before providing conclusive evidence. It will be important in the future of the profession as a whole, to establish an organizational culture of active acceptance amongst auditors so as to gain the most from AI, whilst ensuring secure and efficient implementation. Hence, it can be observed that the future scope of auditing in Kuwait is quite dynamic and aligned in a mutually dependent manner with technological intelligence and human endeavor to arrive more at right decisions and to augment the total performance in an evidently growing and challenging finance market.

### *2.5 Theoretical research framework (TRF)*

Since earlier research has focused primarily on establishing the advantages of artificial intelligence (AI), this current study adds value to the existing literature by examining the present utilization of AI in improving the quality of assurance services under the audit conditions of Kuwait. Consequently, Kuwaiti auditing common and distinct characteristics are evident because it involves the combination of traditional auditing and new technologies which are advised by the standard bodies, macro environment in Kuwait and auditing culture. Recognizing that AI is already in use by the firms offering auditing and other assurance services across the globe and that those operating in Kuwait are no exception, this study seeks to identify the ways in which it is being utilized by directly comparing their practices. The conclusion of this study is informed by a rising body of evidence that emphasizes the potential of AI in realizing auditors' process benefits, where technology can help overcome chronic challenges of work simplification and data analysis, while improving the reliability of audits. Notably, the big four accounting firms have started to adopt AI to strengthen their assurance and compliance services as suggested by Mökander and Floridi (2021), the AI- driven tools to analyze data and to assess the risks as well as to automate several activities to increase operational efficiency and the quality of audit. Considering the benefits, a growing number of local firms are looking into deploying AI in their operations; however, there are still significant concerns or barriers to be dealt with such as lack of sufficient internal capability, data privacy, and regulatory issues. Such early adoption among large firms and the more hesitant approach of smaller organizations creates the conditions for a revolutionizing phase in Kuwait auditing, the effective implementation of which may redefine the benchmark of assurance services. However, before proceeding to definite conclusions, it is necessary to mention how Artificial Intelligence is applied and assessed in this sphere as well as this knowledge will be a cornerstone for further practices and policies in the sphere of Artificial Intelligence.

Over the past few years, there has been a surge of making use of AI in the delivery of assurance services, and the theories have been adopted in designing the model explaining current uses of AI. These theories offered basic knowledge regarding imposition of AI technologies in auditing practices and their consequential influence on service delivery. Scholars have used various theories originating from various disciplines like information systems, organizational behavior and cognitive sciences to build infrastructure robust models that explain adoption and implementation effects of AI in assurance services. Importantly, these models provided an understanding of the existing use of AI in the context of the audit while at the same time forming the foundation for identifying the possible future developments and enhancements in audit quality and efficiency (Kokina et al., 2025; Moffitt et al., 2018; Munoko et al., 2020; Chyzhevska et al., 2021). Specifically, the present research adopts the Technology Acceptance Model (TAM) developed in 1989 to evaluate many factors affecting the incorporation of AI by auditors and assurance service professionals (ASPs) in Kuwait. In relation to TAM, it is hypothesized that perceived usefulness and perceived ease of use are behind the adoption of novel practice of technology. In the field of auditing, perceived usefulness might be described as the anticipated advantages of adopting and employing AI to improve audit quality, review speed, and deception identification, together with the overall correctness of coherent financial evaluations. On the other hand, perceived ease of use looks into the view of the auditors where they stand in relation to the usability of AI solutions that they are willing to embrace. Thus, integrating these theoretical concepts with the practical perspective, the present study established its objective to explain the factors that affect the implementation of artificial intelligence in Kuwait's auditing environment emphatically (Samelson et al., 2006).

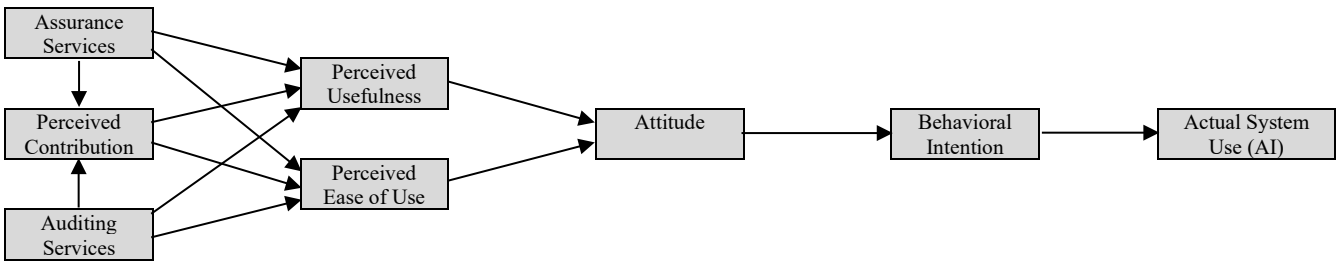


**Fig. 1.** Theoretical framework research

These perceptions describe a field of Attitudes known as AT to the definite technology which in turn govern the Behavioral Intentions or BI concerning the acceptance of the technology. Therefore, this model formulates the basis of technology acceptance forecast for many arenas today. By encompassing TAM, this paper designs a framework to classify how end users' see towards AI and get knowledge of its uses in the auditing profession in Kuwait and how such development can accompany present old-style auditing procedures.

*2.6 Hypothesis Development*

Based on the research objectives and the context of AI adoption in auditing and assurance services in Kuwait, the following hypotheses are proposed:

**$H_1$:** *Kuwait based Auditors and assurance service professionals (ASPs) perceive that artificial intelligence enhances the quality of auditing and assurance services.*

**$H_2$:** *Lessons learned from Kuwait's auditors and ASP's views of the role of AI in the quality of auditing and assurance services differ substantively.*

These hypotheses are also to examine the perceived benefits of AI on the improvement of audit quality and any significant differences in the opinion among this group of respondents in Kuwait's auditing industry.

## 3. Research design and methods

This research solely used the survey method to collect the views of the targeted auditing and assurance services professionals in Kuwait. The reason for employing a survey has been to capture the perceptions of a wider population of people on AI technology in this domain. It was established that after devising the main survey questionnaire, a preliminary screening should be executed to measure the viability and accomplishment of the instrument. This research project set out with the vital objective to analyze the trends of the responses and the differences that flow from the various positions of the industry's professionals about the impact of AI on increasing the value of services offered. The research process has embraced rigorous research activities; Self developed questionnaires were used to obtain primary data from participants working in auditing and assurance services firms in Kuwait.

*3.1 Populace & Sample:* The overall population for this study is the professionals that are involved in auditing and assurance services within the registered firms in Kuwait. This population will consist of auditors, assurance service personnel, managers, partners, and senior staff, and associates with experience in this field. These professionals in Kuwait's audit industry were the primary data sources and data collected using a judiciously developed questionnaire focused on the perceptions and the perceived benefits of AI-Powered Predictive Analytics. The audit professionals were asked to fill the questionnaire online through their personal e-mail and different social networks in Kuwait in the period between March and July of 2024. Out of the 114 participants, nine responses were omitted due to invalid or missing data on the corresponding survey questions. As a result, the final sample consists of responses from 60 participants employed in Auditing services and 45 in Assurance services.

*3.2 Dependent Variable:* As a theoretical context, the Technology Acceptance Model is reflected to describe the application of innovative technologies. It associates the state of actual system use to the stage where people take a technology into use. Behavioral objectives show the motivation of people to accept technology. Further it can also be ascribed to at least a level of self-interest, which indicates that individual opinion and views about technology hold a substantial influence in their perception. In this model, it is projected that at any time individuals are trained to new technology, they evaluate several aspects before shaping how and when to practice the new technology. This study has acknowledged that the perceived role of AI in improving service quality is the crucial element of people's acceptance of AI technology. The model defines three approaches to the deployment of AI tools: There are three classes of users; passive, active, and sceptical. Few of the survey queries drawn in Table 1 underneath were established from the study done by AlOtaibi (2023a). The influence of AI technology in Auditing and assurance services will be tested with perceived contribution (PC) as the measure of impact.

*3.3 Independent Variable:* This research examines two groupings of independent variables: The objectives are dual: first, to categorize each of the independent variables with respect to the perceived impact of AI on refining service quality, and second, to commence a appraisal of the answers of the respondents from auditing services with the participants in assurance services. With respect to the independent variables, the participants had an immensely dissimilar understanding of their professions, education level, training and experience.

**Table 1**
The quality of audit, assurance services & PCs

| PC | The PCs to Audit & Assurance Quality: Implemented from AlOtaibi (2023a,b) |
|---|---|
| PC1 | My professional suspicion will be supported by using AI systems in auditing. |
| PC2 | Employing AI, auditors and ASPs can give more time to appraising cases requiring substantial decision. |
| PC3 | Applying AI methods will aid me to learn more about clients and their operations. |
| PC4 | Integrating AI will allow for accurate risk calculation by testing the whole populace of records. |
| PC5 | AI in auditing and assurance services will empower continuous risk calculation process. |
| PC6 | AI will streamline the assessment process even for the whole populace of records for auditing. |
| PC7 | Employing AI, auditing and assurance services can be conducted on huge scale or with complex data, terrible to do manually. |
| PC8 | Employing AI in auditing and assurance services will enhance complicated computations and modelling. |
| PC9 | Integrating AI into auditing and assurance services will lead to superior reliability and validity. |
| PC10 | Using AI tools for auditing and assurance services will support in possible fraud detection. |
| PC11 | Employing AI tools to auditing and assurance services will help notice outliers that would else go unobserved by the traditional approaches. |

## 4. Statistical analysis & results

*4.1 Validation of Instrument:* To confirm validity or internal consistency, the survey instrument was tested; and Cronbach coefficient alpha was applied as the main measure of scale reliability. From Table 2 beneath, the reliability test produces a Cronbach's alpha for the 11 survey substances at 0.82 which indicates that the survey design is worthy. High value specifies that the queries are adequate, reliable, and internally consistent; hence, assurance in the next investigation and study results is enlarged.

**Table 2**
Reliability & Validity Test

| Cronbach's alpha | Number of items |
|---|---|
| 0.82 | 11 |

*4.2 Analysis of Demographic:* In the demographics segment of the survey, respondents were asked to provide the type of service, gender, education, years of experience service, job title, and key professional credentials. The type of services was characterized into dual groups: auditing services and other assurance services mentioned in the Table 3 below.

**Table 3**
Demographic Constructs

| Demographic Constructs | | Frequency | Response Rate |
|---|---|---|---|
| **Type of Service** | Auditing services | 60 | 57% |
| | Other assurance services | 45 | 43% |
| **Gender** | Female | 32 | 30% |
| | Male | 73 | 70% |
| **Education** | Bachelor's Degree | 86 | 82% |
| | Master's Degree | 15 | 14% |
| | PhD | 4 | 4% |
| **Years of experience** | 0-5 years | 25 | 24% |
| | 6-10 years | 30 | 29% |
| | 11-15 years | 26 | 25% |
| | 16-20 years | 20 | 19% |
| | Above 20 years | 3 | 3% |
| **Job position** | Partner | 16 | 15% |
| | Manager | 29 | 28% |
| | Senior | 34 | 32% |
| | Other | 26 | 25% |

About half (52.5%) of the participants were operational in auditing services and the rest (47.5%) in assurance services. The demographic profile of the respondents is as shown below in Table 3 comprises 30% female while 70% male. The education level distribution suggests that just over four-fifths of the respondents – or 82% – reported having at least a bachelor's degree: only 14% had a master's degree and 4% a doctorate. Concerning professional experience, 29 percent respondent have six years and above while 24 percent have 0-5 years of professional working experience. Further, about 25% of the participants commenced their practice 11-15 years prior, 19% had 16-20 years of professional practice, and 3% had more than 20 years of practice. With regard to the occupation type, 28 % of the participants represented the position of a manager, 32% – a senior associate, 15% – a partner, and 25% occupied other positions. In addition, 7% of participants were certified public accountants, 11% of participants had other professional accounting and business certifications, while the rest had no certification. Interestingly, 35 % of respondents said that they had localized qualifications.

*4.3 Descriptive Statistics:* As stated before, a self-administered questionnaire has been applied to quantify how different sorts of audit firms perceive the impact of AI on service quality. The services provided in Kuwait were considered into two groups namely; (1) auditing services (Frequency = 60) and (2) other assurance services (Frequency = 45). As evident from Table 4, auditors who are engaged in auditing services reflected the contribution of AI in audit quality with a mean value of 2.79 and with a value of SD 1.154 while those engaged in other assurance services reflected the influence of AI in service quality with a mean value of 2.88 and SD with the value of 1.124.

**Table 4**
Descriptive Analytics-I

| | **Perceived Contributors (PCs)** | |
|---|---|---|
| | **Auditing services** | **Other assurance services** |
| Valid | 60 | 45 |
| Mean | 2.79 | 2.88 |
| Std. deviation | 1.154 | 1.124 |

These remarks conclude that respondents of the other assurance services regarded AI's role in refining the quality of their offered services in a somewhat more positive light.

**Table 5**
Descriptive Analytics-II

| | | *Type of service* | |
|---|---|---|---|
| | | *Auditing services* | *Other assurance services* |
| P1 | Mean | 2.88 | 2.92 |
| | Std. deviation | 1.16 | 1.14 |
| | Variance | 1.69 | 1.62 |
| | Valid values | 60 | 45 |
| P2 | Mean | 2.09 | 2.3 |
| | Std. deviation | 1.20 | 1.30 |
| | Variance | 1.78 | 2.11 |
| | Valid values | 60 | 45 |
| P3 | Mean | 2.09 | 3.024 |
| | Std. deviation | 1.096 | 1.08 |
| | Variance | 1.50 | 1.64 |
| | Valid values | 60 | 45 |
| P4 | Mean | 2.94 | 3.184 |
| | Std. deviation | 1.09 | 0.904 |
| | Variance | 1.47 | 1.024 |
| | Valid values | 60 | 45 |
| P5 | Mean | 2.89 | 2.94 |
| | Std. deviation | 1.22 | 1.19 |
| | Variance | 1.84 | 1.78 |
| | Valid values | 60 | 45 |
| P6 | Mean | 2.88 | 2.70 |
| | Std. deviation | 1.18 | 1.16 |
| | Variance | 1.74 | 1.67 |
| | Valid values | 60 | 45 |
| P7 | Mean | 2.78 | 2.83 |
| | Std. deviation | 1.17 | 1.14 |
| | Variance | 1.71 | 1.62 |
| | Valid values | 60 | 45 |
| P8 | Mean | 2.62 | 2.86 |
| | Std. deviation | 1.22 | 1.23 |
| | Variance | 1.86 | 1.90 |
| | Valid values | 60 | 45 |
| P9 | Mean | 2.90 | 2.92 |
| | Std. deviation | 1.32 | 1.12 |
| | Variance | 1.73 | 1.58 |
| | Valid values | 60 | 45 |
| P10 | Mean | 3.00 | 3.11 |
| | Std. deviation | 0.97 | 0.944 |
| | Variance | 1.17 | 1.11 |
| | Valid values | 60 | 45 |
| P11 | Mean | 2.81 | 2.87 |
| | Std. deviation | 1.25 | 1.16 |
| | Variance | 1.94 | 1.70 |
| | Valid values | 60 | 45 |

The descriptive analysis of both calculations has been offered in Table 5 to compare the mean of the study's PC components for (1) auditing services providers and (2) other assurance services providers. The PC4 findings presenting the extent of integrating AI tools with assurance services in Kuwait show an appreciable mean score of 3.184 (SD = 0.904). Information sharing in the different organisational functions suggests a high level of belief by participants that integration improves risk evaluation processes. This finding also supports the findings by AlOtaibi (2023) in Saudi Arabia suggesting that there is convergence for the use of AI in enhancing assurance services in the whole GCC countries. The consistency in findings between Kuwait and Saudi Arabia can be attributed to several factors:

1. Common GCC affiliation might cause similar perception and practise in regard to application of AI within professional services because of the common cultural and economic characteristics.
2. Similarity in the regulatory settings, compliance to international accounting and auditing standards, which may result in a similar trend in the adoption of AI solutions.
3. Likewise, our findings suggest that accounting and auditing professionals who have pursued similar professional development and training courses will have similar levels of AI familiarity and knowledge of AI applications.

Also, the mean score of 3.00 (SD = 0.97) expressed by auditing professionals about the use of AI tools in auditing and assurance services implies that these tools can help to identify potential fraud, based on the provisions of PC10. This score, still being below the general mean, yet it is still indicative and characterizes both respondent groups with a high degree of consensus in recognizing AI tools' capability in probable identifying of fraud in auditing and assurance services. Importantly, the present study shares this observation with AlOtaibi (2023) in Saudi Arabia.

As for the other six questions, both sets of participants stated their consensus that the practice of AI tools would not permit extra time for them to evaluate the cases for the judgement. Hypothesis H1 was consequently confirmed that both the groups sense the prospect of AI to increase the quality of auditing and other assurance services.

To test hypothesis H2, an exploratory t-test analysis was deployed for two independent variables, assuming equal variances. The discoveries revealed in Table 6 also advocate no significant dissimilarity between the auditing services providers and the other assurance services providers in Kuwait with t (114) = - 0.416, p = 0.39. On the same note, the result is inside a 95% confidence interval of [-0.416, 0.23]. Consequently, the null hypothesis was accepted whereas rejecting Hypothesis H2 in this study.

**Table 6**
Independent samples t-test

| Independent samples t-test | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | 95% CI for mean difference | |
| | t | df | p | Mean difference | SE difference | Lower | Upper |
| PEOU | -0.46 | 104 | 0.39 | -0.09 | 0.16 | -0.416 | 0.23 |
| p-value associated with the t-test is significant at $p < 0.05$. | | | | | | | |

## 5. Discussions and Recommendations

Specifically, this research was undertaken to establish the attitudes of Kuwait-based auditing and other assurance service providers towards AI tools as vehicles for improving the quality of their services. To this end, the research aimed at responding to the concerned questions regarding the application of AI in enhancing service delivery in the auditing and assurance industries of Kuwait. Also included was the importance of AI tools, based on the views of assurance service providers and non-providers. One of the major areas was to examine whether these two groups view the need to incorporate AI technologies in their supplied service portfolios as essential in different ways. This comparative study seeks to explain possible differences in perceptions to using AI in auditing by comparing the providers of assurance services with those in other related or ancillary positions. The findings outlined above advance knowledge about AI adoption by firms in the professional services industry.

To establish the credibility of the study and to assess the results of the survey, an extensive statistical approach was used. First, exploratory analysis in the form of preliminary statistics was employed to conduct face validation to the instrument, and also to compare the perception of the two groups with regard to the role of AI towards the enhancement of service quality. After this, an independent sample t-test was conducted with the view to finding out if the two groups held significantly different perceptions about the effects of AI. Such a methodological approach helps to give proper consideration to the key instrument's reliability, as well as the substantive research questions, thus giving methodological grounding to the study's conclusions.

Quantitative data analysis was used in this study to examine two different groups' opinions on the use of AI to improve the quality of services with a focus on Kuwait's auditors, and Assurance Service Providers (ASPs). The research approach was chosen to provide the necessary data to support and refute the hypotheses put forward by this study to establish the professionals' views about how the introduction of AI affects the quality of auditing and other assurance services. This approach provided a systematic way of identifying impacts of AI in the professional practices of the field and sought to gain insight of the AI transformational value to the auditing and assurance sector of Kuwait.

For the purpose of determining the similarity of views between auditors and Assurance Service Providers, an independent sample t-test was performed with regards to the impact of AI. From both the qualitative and quantitative results, this study established consensus understanding from both groups that the proposed AI tools has benefits in enhancing quality of services delivered. This research supports the H1 hypothesis as proposed that providers of auditing and assurance services believe that the implementation of AI tools will improve service quality. The confirmation of this hypothesis underlines the ongoing sympathy in the professional community towards the capabilities of AI for enhancing and developing the conventional auditing and assurance practices that can lead to improved service methods in these significant financial domains.

However, this outcome supports a vast bulk of the existing literature that explains the numerous advantages of AI applications in auditing and assurance services. A critical analysis of literature shows that myriad ill-effects arise from thinking errors and these can be proved beyond doubt from studies outlined (e.g., AlOtaibi & Alnesafi, 2023; Roszkowska, 2020). All these different studies together thus demonstrate the potential that exists for various aspects of auditing and assurance to be improved by using AI. Replicating this result across such a vast spectrum of research further strengthens the validity of the aforementioned positive effect of AI on the discipline.

The use of Artificial Intelligence (AI) in auditing and assurance services was discussed by Li et al. (2022) and he classified all the usages of AI which includes; AI for data review, data analysis and for decision making provision. This work has employed advanced techniques for data analysis, investigation and decision making to demonstrate the ways through which AI can reimagine the existing audit practices and enhance the effectiveness of assurance services. It is for these reasons that this exploration confirms that AI is not only useful in these fields, but can in fact develop parameters for Reports adequate for organizational needs, improving information management.

Zhang's empirical results conform with those who have developed an AI audit tool intended for analyzing textual evidence. That is why, their analysis proved that the use of this tool resulted in a stunning 92 percent increased effectiveness and achieved 95 percent of that recognized by human auditors. Such consistency of the findings strengthens supporters for AI in current auditing environments because the rapidity and precision in handling and processing audit evidence revered in advanced AI tools cannot be overemphasized. Such advancements do not only enhance performance on the various activities, but also give efficiency in utilization of resources in all aspects of auditing.

Additionally, the result of the AlOtaibi et al. (2023) research supports the finding of this research as implementing AI in the document analysis provides the strategic benefit of organizations gaining greater working productivity in terms of both time and cost besides improving on accuracy of data processing. Using computer algorithms to rationalize the handling of repetitive documents, ability to extract and analyze data is done with precision. This technological integration not only serves best on the aspect of cost efficiency but also specifies the risk analysing and decision making thus resulting in better operational performance and strategic planning. AI thus comes dash boarded with the capacity to take methods of risk analysis to higher levels, thus underlining its capacity to revolutionise organisation operation models.

The results of this study show that there are few differences between auditors and Assurance Service Providers (ASPs) in Kuwait with regard to the effects of Artificial Intelligence (AI) on the quality of auditing and assurance services, consistent with the outcome of AlOtaibi et al. (2025) investigation in Saudi Arabia. Such an outcome is not unexpected since most of the GCC countries reside in the same general cultural and economic environment. The literature emphasises that the appearance of AI at the right time makes it an effective means of improving the auditing and assurance practices' effectiveness and efficiency. Primarily identified already as an important enabler, AI is crucial for optimizing the value and efficiency of these services. As a tool for performing analytical reviews on large datasets, AI can be considered as a disruptive technology that can change the existing landscape of modern auditing by providing a stepwise increase in the amount and quality of analytical outcomes available to auditors and ASPs.

The study stresses the need for auditors and ASPs to have high analytical ability in order to perform a big amount of data and make quick correct decisions while working with large and complicated volumes and kinds of financial information, which increase year by year. Using various types of specific auditing software, professionals can optimize data processing procedures, which will help improve the performance of their analytical functions and focus more on specific analysis and decision making processes. In addition to increasing efficiency in operations, this technological application also complements modern approaches to auditor and ASP function in the current form of digitised financial environment. The result points to

the need for these professions to develop and sustain up-to-date expertise in data analysis in order to support the deployment of efficient technologically driven audited and assured services.

## 6. Conclusions

This research further enriches the existing body of knowledge on auditing and assurance services by investigating the thoughts of both auditors and assurance service providers (ASPs) in Kuwait about the use of AI technology. The work shows that both parties acknowledge that the adoption of AI tools in the services they offer can be instrumental in enhancing the quality of such services. This same thinking suggests the need for an effective route in enhancing the array of service offerings through AI, thus introducing potential to accept these technologies' impacts.

The author also showed that organizations stand to gain a lot by integrating AI into operations thereby making it crucial for stakeholders to analyse the findings of this study keenly. Nonetheless, with these negative effects realized with improper use of the AI technology, its implementation requires dire planning and organization. The primary operations should be carried out with the help of specialists, who have profound knowledge of accounting information systems to avoid eventual problems with AI implementation.

However, any decision to go for AI should be done with an appreciation of its consequences, should create enough flexibility for people and organisations to come to terms with this technology. As with any form of technology endowment, the use of accounting information systems may call for recruitment of specialists to work on it and equally ensure that all risks attached to its usage are dealt with. Altogether, this work aims at creating the base for increasing awareness and stimulating constructive discussion relative to the tactics for AI implementation in the organizations, which in turn will help to enhance auditing and assurance services in Kuwait.

These research questions are of high importance since this study provides a valuable insight into how auditors and assurance service providers (ASPs) in Kuwait perceive the benefits accrued from incorporating AI into their services, which is a gap that has not been filled in the existing literature. Stakeholder perspectives drawn from the current study reveal hope for improvement in service delivery when AI is adopted, and serves as a useful resource for researchers and other advocates calling for the integration of this technology in auditing and assurance paradigms. The conclusions drawn offer sufficient reason for auditors, managers, and policymakers to invest in AI tools with a view towards raising the standards of service. Finally, this research thrusts theoretical implications for the managerial issues by claiming that the integration of AI would dramatically enrich the quality of auditing and assurance services. Therefore, besides having theoretical implications for the further development of this research topic, the investigation also points to practical applications in the industry, stressing the need for the entities to acknowledge and use the capabilities of Artificial Intelligence in their activity.

The present work is useful for financial and non-financial firms that can consider investing in AI tools; it provides a proper understanding of AI capabilities and potentials. The study therefore makes specific recommendations of how more investment has to be made in these technologies showing the leadership role that AI is going to play in making operations efficient and giving organisations the competitive edge they need. More importantly, they establish that AI also creates significant positive non-pecuniary outcomes both in terms of efficient cost implementation and through increased customer satisfaction and usage, which accumulate massive economic returns for service providers. Therefore, the conclusion of the research supports the notion of adopting AI investments aggressively.

However, as evidenced by the enrolment of only 60 participants from auditing services and 45 from other assurance services, a key improvement needed in future research is marked by the relatively small sample size we adopted. A better instance would extend the population to increase the reliability and generalizability of the study and to have a more extensive understanding of the variables involved. The future researchers should not only attempt to use a larger sample but also to look at other possible factors that can influence the results. In addition, there is a need for future research to determine the extent to which AI enhances the quality in line with different dimensions of auditing and assurance services. As such, future research that looks into this issue with an emphasis on different quality aspects may prove useful in generating knowledge to enhance AI quality and that will complement the scarce information in the literature.

In the end, as technology advances and AI becomes more of an ongoing tool merged into auditing practices, it becomes more evident that proper use of AI can improve a number of aspects connected to services that auditors and ASPs offer. The conclusions of the study promote the understanding of the need to adopt new artificial intelligence technologies and the cultivation of higher analyst skills to enable these specialists to address emerging financial needs. This strategic approach does not only enhance the auditing and assurance framework but also supports the importance of technology in developing professions in the industry.

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