

The Use of Artificial Intelligence in Digital Accounting: A Systematic Review of Applications and Emerging Trends in the Fourth Industrial Revolution

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Abstract

Purpose: This study provides a systematic synthesis of the applications, implications, and emerging trends associated with artificial intelligence (AI) in digital accounting within the context of the Fourth Industrial Revolution. It clarifies the conceptual foundations of AI, distinguishes machine intelligence from human intelligence, and examines how AI-driven technologies and intelligent automation are reshaping accounting practices, professional responsibilities, and organizational decision-making.

Design/methodology/approach: The study employs a descriptive-analytical approach supported by a systematic review of peer-reviewed literature. The reviewed evidence primarily comprises studies published between 2013 and 2023 in journals indexed in Scopus and Web of Science. The selected literature was analyzed thematically to identify the principal applications of AI in accounting, the organizational benefits arising from its adoption, and the technical, professional, and institutional challenges associated with its implementation.

Findings: The findings indicate that accounting is undergoing a fundamental transition from conventional record-keeping systems to intelligent, data-driven, and increasingly automated business models. AI technologies facilitate the automation of repetitive accounting activities, improve the accuracy and timeliness of financial information, strengthen fraud detection and risk assessment, and enhance forecasting and managerial decision-making. The automation of routine

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processes is also expected to enable accounting professionals to devote greater attention to strategic analysis, advisory services, professional judgment, and other value-creating responsibilities. Nevertheless, successful implementation depends on data quality, technological infrastructure, professional competencies, ethical safeguards, cybersecurity, and effective governance.

Research implications: The study consolidates the fragmented literature on AI-enabled accounting and provides a conceptual foundation for further empirical research on organizational readiness, implementation barriers, professional transformation, and the long-term consequences of intelligent automation.

Practical implications: Organizations should approach AI adoption as a strategic transformation requiring investment not only in technology but also in employee training, data governance, internal controls, cybersecurity, and ethical oversight. Accounting professionals must consequently develop interdisciplinary competencies that combine accounting expertise with data analytics, digital literacy, and critical professional judgment.

Originality/value: By integrating conceptual, technological, organizational, and professional perspectives, this review offers a comprehensive account of how AI is transforming digital accounting in the Fourth Industrial Revolution. It highlights the shift from transaction-oriented accounting toward predictive, strategic, and value-generating functions.

Keywords: Artificial intelligence; Digital accounting; Intelligent automation; Fourth Industrial Revolution; Financial reporting quality; Accounting transformation

JEL Classification: M41; O14; O33

Introduction:

Humanity currently lives in an exceptional technological age, one of the most important and transformative periods in modern history. At the heart of this tremendous technological leap, artificial intelligence (AI) stands out as a pivotal force, radically changing various aspects of our lives. The history of this revolutionary technology dates back to the second half of the 20th century, when researchers began developing computer models capable of mimicking human intelligence. AI represents a unique field within computer science, aiming to empower computer systems to learn, reason, and make decisions independently. This rapid growth has accelerated the integration of AI into various sectors, including industry, medicine, finance, commerce, and accounting.

Accounting is perhaps one of the most prominent operational areas where AI plays an increasingly transformative role. Accounting is central to recording and analyzing financial data to support strategic decision-making. This field has witnessed fundamental transformations due to the adoption of AI technologies, driven by rapid technological advancements. From this perspective, this research paper seeks to clarify the features of artificial intelligence (AI) application in the field of accounting and the most prominent new trends reshaping this profession.

Accordingly, the central question of this paper is: What is the nature of the fundamental changes brought about by the adoption of AI technology in the field of accounting, and what are its implications for the quality of financial statements and the operational efficiency of institutions?

Objectives of the Study:

- To define the concept of artificial intelligence, its history, and the differences between it and human intelligence.
- To clarify the features of the concept of digital accounting and identify its basic components.
- To analyze the justifications driving companies towards adopting AI in their accounting systems.
- To identify the main accounting areas where AI applications are firmly established.

- To evaluate the added value that AI contributes to improving the quality of financial information and the efficiency of decision-making.

Importance of the Study: The importance of this study stems from the rapidly evolving technological landscape the world is witnessing, as AI technologies have come to affect all economic sectors without exception, including the accounting profession. Therefore, this paper acquires multifaceted significance. This study alerts accounting professionals in Algeria to the nature of the changes that artificial intelligence is bringing to their work environment. It also clarifies for economic institutions the expected gains from employing these technologies and fills a gap in Arabic literature on this subject, given that most available studies are written in foreign languages.

Methodology: This research paper adopted a descriptive-analytical approach through a systematic literature review. This review included a selection of peer-reviewed scientific studies published in reputable journals indexed in Scopus and Web of Science databases, most of which cover the period between 2013 and 2023. Reports from accredited professional accounting bodies (ACCA, IMA, CAPA, PwC) and specialized websites where researchers and practitioners publish their work were also consulted. The selection of sources was based on their relative recency and the academic standing of the journals that published them, in order to ensure the research's scientific originality.

First: An Overview of Artificial Intelligence

The term artificial intelligence was first formally used in 1956 at a conference at Dartmouth College in Hanover, New Hampshire, where scientists were optimistic about the rapid development of this technology (Stancu & Duțescu, 2021, p. 750). The development of artificial intelligence has been remarkably accelerated, particularly following the Deep Learning revolution and the proliferation of big data. Rob (2017) noted that artificial intelligence represents a trajectory we are striving for, not a current state we have reached, which necessitates a more precise definition. According to Glikson & Woolley (2020, p. 628), artificial intelligence is a new generation of technologies capable of interacting with the surrounding environment through four functional axes: gathering information, interpreting and pattern recognition, generating results and answering questions, and evaluating the results and improving decision-making mechanisms.

The fundamental difference between artificial intelligence and human intelligence lies in humans' possession of consciousness and the ability to see complex problems within their broader context, along with their inherent understanding of language and logic (Loureiro et al., 2021). In contrast, artificial intelligence operates according to specific mathematical calculations and lacks self-awareness, yet it surpasses humans in its ability to process massive amounts of data with exceptional speed and accuracy (Fülöp et al., 2023, p. 392). Perhaps the most striking example of this is Google DeepMind's AlphaGo program defeating the South Korean Go champion in 2016 (Sang-Hun, 2016), demonstrating the capacity of intelligent systems for self-learning and exceeding human performance in certain areas.

The PwC 22nd Annual Global CEO Survey revealed that artificial intelligence (AI) will contribute \$15.7 trillion to global GDP by 2030, a figure exceeding the combined GDP of India and China. Furthermore, three out of five global CEOs believe that the future impact of AI will surpass that of the internet revolution (PwC's 22nd Annual Global CEO Survey, 2020).

Second: The Historical Development of AI in Accounting

Accounting has evolved since its initial codification by Benedetto Cotrugli and Luca Pacioli in the 15th century. Initially, it relied on manual bookkeeping using physical paper and pencil (Adriantoetal, 2023, p. 1). The primary challenge of traditional accounting lay in the repetitive manual entry of data, making it prone to errors and tedious for practitioners (Minovskietal, 2020, p. 51). Accounting has undergone three significant evolutionary phases within the framework of digitalization: the first phase (1960-1970) began with the introduction of computer information systems; the second phase, in the late 1990s, saw the rise of internet applications and Enterprise Resource Planning (ERP) systems; and the third, contemporary phase has been launched with the deployment of advanced disruptive technologies such as artificial intelligence, big data, and blockchain (Kartikasaryetal., 2023, p. 2). This transformation coincided with the COVID-19 pandemic, which prompted professional accounting organizations to rapidly adopt technological solutions to ensure business continuity (CAPA, 2020, p. 9).

Figure (1) below illustrates the evolutionary stages of digitalization in accounting, showing the timeline of technological shifts that have reshaped the profession.

Table (1): Stages of Digitalization in Accounting

Platform	Description
Platform 1	<i>Calculators, punch cards, and mainframe computers.</i>
Platform 2	<i>Enterprise Resource Planning (ERP) systems, databases, data warehouses, local and wide area networks.</i>
Platform 3	<i>E-commerce, electronic transactions, the Internet of Things (IoT), extranets, and intranets.</i>
Platform 4	<i>Personal computers, specialized accounting software, spreadsheets (Excel), and XBRL programming language.</i>
Platform 5	<i>Disruptive digital technologies: Robotic Process Automation (RPA), Big Data Analytics (BDA), Artificial Intelligence (AI), Cloud Computing, Blockchain Technology (BT), and Digital Communications.</i>

Source: (Nwakeze & Onwuliri, 2023, p. 205)

Third: The Concept of Digital Accounting

The term digital accounting is composed of two words: (accounting), which represents the art of recording, classifying, and summarizing transactions, and (digital), which means that all accounting records and books are in electronic, not paper, format. Therefore, digital accounting is a natural evolution of traditional accounting, allowing for greater flexibility and accuracy in information (Ali, 2023, p. 108)

Digital accounting refers to the use of technology in managing financial transactions and data. It includes software applications specifically designed for accounting tasks such as bookkeeping, invoicing, payroll processing, and financial reporting. Adopting digital accounting allows companies to automate their financial operations, reduce the risk of errors, and gain real-time visibility into their financial performance (Mas-udiyahetal., 2023, p. 199).

As Souzaetal (2023, p. 3077) points out, digital accounting enables greater interaction and communication between accounting firms and their clients, and contributes to reducing

bureaucracy and waiting times for vital information. Among the most common applications in this field are QuickBooks, Xero, and FreshBooks, which are cloud-based software programs that facilitate real-time collaboration between accountants and stakeholders.

Table (2): Comparison between Traditional Accounting and Digital Accounting

<i>Digital accounting</i>	<i>Traditional accounting</i>	<i>Comparison criteria</i>
Digital electronic (cloud/digital databases)	Manual paper-based processes (physical books and records)	Recording nature
Immediate and extremely fast (instant processing)	Slow and time-consuming	Data processing speed
Very high accuracy (minimizing human error)	Prone to human error and oversight	Data accuracy
Available anytime, anywhere via the internet	Limited to the office and official working hours	Accessibility
High initial investment, declining in the long run	Incurs recurring and ongoing paper and human costs	Cost structure
High (encryption, access permissions, backups)	Limited (cabinets, locks, paper copies)	Security level
Immediate and automated with the click of a button	Requires time and effort to prepare	Reporting
Easy real-time access across electronic platforms	Difficult and necessitates physical paper exchange	Interparty collaboration
Automation and machine learning capabilities	Completely manual processing	Automation capabilities

Source: Prepared by the researchers based on: (Mas-udiyahetal, 2023; souzaetal, 2023; Ali, 2023)

Fourth: Components of Digital Accounting

The researchers (Okpo & Eshiet, 2023) presented a brief overview of the most important components of a digital accounting system, which can be summarized in three essential elements:

.1Accounting Software

Accounting software plays a pivotal role in processing the details of initial transactions and producing various reports such as ledgers, trial balances, balance sheets, and profit and loss statements. It also processes payroll and generates multiple reports. Some of the most prominent software programs include QuickBooks, Peachtree, and Sage.

.2Advanced Digital Network

The digital network forms the backbone for exchanging information and reports between different departments within the organization. This network allows users in disparate locations to access the system seamlessly, enhancing operational efficiency and reducing processing time.

.3Qualified Human Resources

Despite rapid technological advancements, human expertise remains an indispensable pillar, responsible for operating, regulating, and reviewing the results of systems. The absence of qualified personnel inevitably leads to a decline in the quality of financial performance, regardless of the sophistication of the technologies used.

Fifth: Justifications for Adopting Artificial Intelligence in Accounting

There are several justifications driving economic companies to employ artificial intelligence in their accounting systems. Tajak (2022) highlighted the most prominent of these justifications, which can be summarized as follows:

.1Labor Shortage

The COVID-19 pandemic and its repercussions led to a severe shortage of on-site employees, forcing companies to find smart alternatives. Artificial intelligence contributes to alleviating this burden by automating routine accounting processes, thus enabling human resources to focus on more complex and strategic tasks.

.2Improved Delivery and Customer Service

In an increasingly competitive environment, companies cannot afford any delays in processing invoices or dealing with customers. Intelligent automation technologies empower companies to handle routine tasks in real time, improve service delivery, and enhance customer satisfaction.

.3Regulatory Compliance

As the operating environment expands to include cloud platforms, the challenges of complying with international and regulatory standards have become more complex. Intelligent automation technologies help companies ensure the accurate and consistent application of accounting best practices by creating documented automated audit trails that reduce the risk of non-compliance.

.4Data Governance and Protection

Accounting tasks involve handling highly sensitive customer information. Intelligent automation technologies provide effective tools for extracting and processing data with complete confidentiality, reducing the risk of data leaks or customer privacy breaches.

.5Comprehensive Digital Transformation

Disruptive technologies have leveled the playing field between startups and large corporations. Robotic Process Automation (RPA) is a pivotal step towards comprehensive digital transformation, enabling the digitization of invoices, automation of accounting processes, and the use of artificial intelligence to streamline workflows (Gotthardt et al., 2020).

Sixth: Accounting Areas Where Artificial Intelligence is Applied

Dilmegani (2023) identified four key accounting areas where artificial intelligence is actively and increasingly present, which can be summarized as follows:

First Area: Accounts Receivable and Payable

Manual processing of accounts receivable and payable transactions is inefficient and prone to errors, which can lead to delayed payments to suppliers and a decline in customer satisfaction.

The use of intelligent automation allows for significant improvements, including: tracking vendor data and transactions, processing invoices in various formats, verifying their conformity with purchase orders, and detecting forged documents. Automating accounts receivable also enables the automatic creation of invoices, sending of payment reminders, processing of collections, and automated reconciliation.

Area Two: Intercompany Reconciliation (ICR)

Accurate accounting between affiliates requires tedious manual tasks to extract the necessary information. Intelligent robots address these challenges by extracting and consolidating transaction data from multiple systems, comparing balances, sending alerts in case of discrepancies, and automatically generating journal entries.

Area Three: Financial Reporting

Accurate and timely periodic financial reports are essential for organizations to comply with regulations and disclosure requirements. Intelligent robots powered by Natural Language Processing (NLP) can identify and collect data from various systems, perform the necessary processing, generate reports, save them, and send them to the relevant parties.

Fourth Area: Financial Planning and Analysis

58% of medium and large companies manage their financial planning and budgeting processes using traditional spreadsheet software. However, 41% of these companies believe that this software is inadequate for handling the growing volumes of data. Utilizing intelligent automation technologies provides more accurate forecasting, faster performance, and a significant improvement in decision-making.

Table (3): Summary of Artificial Intelligence Applications in Accounting

<i>Accounting field</i>	<i>Key smart applications:</i>
Accounts receivable and accounts payable	Tracking vendor and customer data, automating invoice processing, detecting forged documents, creating invoices and sending reminders, and performing automatic reconciliations.
Intercompany reconciliations (ICR)	Extracting and consolidating transaction data from systems, comparing balances, sending discrepancy alerts, and automatically generating journal entries.
Financial reporting	Identifying and collecting data from systems, performing necessary processing, creating periodic reports (quarterly and annual), saving and sending them
Financial planning and analysis	Collecting and organizing big data, analyzing market trends, making accurate comparisons for forecasting, and improving budgeting models.

Source: Prepared by the researchers based on: (Dilmegani, 2023; Gotthardt et al., 2020)

Seventh: The Value Added by Artificial Intelligence to the Field of Accounting

In the era of the Fourth Industrial Revolution, reliance on traditional software or manual data processing has become an outdated approach that no longer meets the rapidly evolving demands

of the market (Mas-udiyahetal, 2023, p. 198). Rashwan & Alhelou (2020) confirmed that the application of artificial intelligence in accounting contributes to ensuring business continuity by automating bank transfers, payments, and account reconciliation, and reducing the time required for processing cycles.

A survey conducted among one of the Big Four audit firms indicates that 10% to 30% of accounting operations can be automated, reducing expenses and allowing employees to dedicate their skills to value-added tasks instead of wasting time on routine tasks (Adriantoetal, 2023, p. 2). On a broader scale, the World Economic Forum observed that 36% of repetitive tasks in financial services are already performed by algorithms, with this figure expected to rise to 61% by 2021 (World Economic Forum, 2018).

Regarding the accuracy of accounting estimates, a pioneering study demonstrated that machine learning can substantially improve managers' estimates. Machine learning models outperformed actual managers' estimates in four out of five tested datasets, indicating significant potential for enhancing the reliability of financial statements (Dingetal, 2020). As for fraud prevention and detection, artificial intelligence applications are an ideal option because they are impervious to bribery and coercion, being pre-programmed and operating according to fixed rules and algorithms. Machine learning models can predict and identify fraudulent activities because they can easily model 'normal' patterns and detect deviations from them (Stancheva-Todorova, 2018, p. 135; Munokoetal, 2020).

In practice, AI-powered cloud solutions are demonstrating increasing automation efficiency. A comparative test of four cloud accounting solutions showed that OneUp achieved a 95% automation rate after five months of use, followed by QuickBooksOnline at 77%, Xero at 38%, and SageOne at 30% (Su, 2018). Recent research also indicates that implementing robotic process automation (RPA) in accounting firms significantly enhances audit efficiency, although implementation challenges remain (Perdana et al., 2023).

ACCA and IMA predicted in their joint 2013 report that the accounting profession would evolve into a hybrid occupation, integrating financial, technological, and information processing skills. Furthering this trend, Lehner et al. (2020) concluded that development would progress step by step toward a fully autonomous accounting system (FAAS), a self-aware and self-improving system based on a deep neural network capable of comprehensively mimicking human cognitive processes and decision-making.

To simplify the added value of artificial intelligence in accounting, it can be summarized in the following points (Mas-udiyahetal, 2023):

Cost savings: In the long run, the use of digital accounting technologies reduces expenses related to paper, ink, office supplies, and the human resources required for routine tasks.

Improved data accuracy: By reducing manual accounting processes, human error decreases, leading to more accurate data and enhanced decision-making efficiency (Dingetal, 2020). • **Improved accessibility:** Financial data stored in digital accounting systems can be accessed from anywhere, anytime, via the internet, facilitating faster financial analysis and decision-making.

Faster reporting: Digital accounting enables the rapid and timely preparation of financial reports, empowering management to make quicker and more informed decisions.

Fraud reduction: Fraud prevention is a promising area for artificial intelligence applications; machines are less susceptible to manipulation and can detect fraud patterns by modeling normal activities and identifying deviations from them (Munokoetal, 2020).

Eighth: Developments in Generative Artificial Intelligence and the Determinants of its Adoption in Accounting

Generative Artificial Intelligence and Large Language Models: The period between 2023 and 2025 witnessed a qualitative shift in the relationship between artificial intelligence and the accounting profession, embodied in the widespread adoption of Large Language Models (LLMs) and their generative applications, such as ChatGPT. These represent a distinct technological generation, different from the traditional intelligent automation tools discussed earlier, including Robotic Process Automation (RPA) and machine learning systems based on predefined rules. Unlike these tools, which execute pre-programmed and limited-scope tasks, LLMs are distinguished by their ability to understand natural language and generate analytical outputs that adapt to the query context. A study by Zhao & Wang (2024) demonstrated that ChatGPT, built on the GPT-4 architecture, holds promising potential for reshaping several accounting processes by automating repetitive tasks, enhancing the quality of financial and management reports, improving audit and tax practices, and simplifying customer interaction. However, the same study cautioned against the risks of over-reliance on these tools without sufficient human oversight, particularly regarding the phenomenon of digital hallucination, which can lead to the generation of inaccurate information.

Expansion of the Research Field: To underscore the novelty and rapid pace of this research, a comprehensive systematic review by Dong et al. (2024) of the literature on the application of ChatGPT and big language models in accounting and finance identified three main research areas. The first section examines the practical applications of these models across various branches of accounting and finance. The second explores their capabilities as a new research tool (such as classification, summarization, and text generation). The third section investigates the professional and organizational implications of adopting big-language models for practitioners and institutions. This review indicates that academic research in this field is still in its formative stages, opening up fertile ground for future studies, particularly in developing environments like Algeria, which lacks sufficient applied research on the impact of these emerging technologies.

The Black Box Dilemma and Explainable Artificial Intelligence: While deep machine learning models offer significant gains in improving the accuracy of accounting predictions and classifications, a fundamental problem arises: the interpretability of these models decreases as their complexity increases. This is known as the Black Box Dilemma. Accountants and auditors find it difficult to understand the internal mechanisms the model uses to arrive at a particular result, which weakens confidence in its outputs and complicates compliance with documentation and verification standards in audit processes (Zhangetal, 2022). To address this challenge, a growing field of research known as Explainable Artificial Intelligence (AI) has emerged. This field aims to develop techniques that enable the interpretation of complex model decisions in a way that is understandable to human users. Zhangetal (2022) presented a practical demonstration of the most prominent of these techniques, particularly LIME (Local Interpretable Model-agnostic Explanations) and SHAP (Shapley Additive Explanations). He explained how these techniques can be used to assess the risk of material misstatement in financial statements, enabling auditors to understand the factors that led the model to classify a particular transaction as high-risk and subsequently document this judgment in accordance with audit evidence requirements. The application of these techniques is essential for establishing sound AI governance within the accounting

environment and ensuring its alignment with the principle of professional accountability that underpins the auditing profession.

Determinants of AI Adoption in the Auditing Profession: While previous studies have primarily focused on reviewing the application areas of artificial intelligence and its potential advantages in accounting, understanding the determinants of practitioners' adoption of these technologies remains an equally important research dimension. In this context, a recent field study conducted on a sample of 130 Spanish auditors (Torrobaetal, 2025) provided an empirical analysis of the factors influencing the adoption of data analytics and artificial intelligence technologies in the auditing profession, classifying them into three levels: technical factors (such as perceived benefits, compatibility, and technology maturity), internal organizational factors (such as institutional readiness, data quality, and trust level), and external environmental factors (such as auditing standards, the regulatory framework, and client readiness). The study concluded that the most influential factor in the adoption decision is the availability of clear and binding regulations governing the use of these technologies in the audit environment. Conversely, the absence of a suitable regulatory framework and a lack of institutional trust constitute the most significant obstacles to the actual adoption of these tools, despite the positive psychological readiness shown by auditors towards them (Torrobaetal, 2025). This finding is of paramount importance to the Algerian and Arab environments in general, as the absence of clear regulatory frameworks governing the use of artificial intelligence in the financial and accounting professions is one of the most significant structural obstacles that could slow the actual adoption of these technologies. This necessitates that professional bodies and relevant regulatory authorities take the initiative to develop proactive regulations that keep pace with this technological transformation.

Table (4): Comparison between generations of artificial intelligence technologies used in accounting

Comparison criteria	Explainable Artificial Intelligence (XAI)	Generative artificial intelligence (large language models)	Robotic Automation (RPA) and Traditional Machine Learning
Nature of tasks performed	Interpreting and explaining the decisions of complex models to a human user	Understanding natural language and generating context-adapted texts and analyses	Pre-programmed, limited-scope tasks (data entry, adjustments, classification)
Explainability	High (the primary goal of this technology)	Low (black box dilemma)	Relatively high (clear logical rules)
Key practical examples	LIME and SHAP technologies	ChatGPT and similar large language models	RPA systems, rules-based fraud detection systems
Major risks	Technical complexity requiring specialized expertise	Digital hallucinations and impaired accountability	Limited flexibility in the face of exceptional circumstances

Source: Prepared by the researchers based on: (Zhao & Wang, 2024; Donget et al., 2024; Zhang et al., 2022)

Conclusion and Recommendations

This research paper aimed to clarify the features of the transformation that artificial intelligence (AI) is bringing about in the field of accounting, through a systematic review of a wide range of recent research and reports issued by reputable professional bodies. The findings suggest that the introduction of AI in this field has given a qualitative modernization boost to efficiency and accuracy, as it facilitates the automation of accounting records, accelerates the analysis of financial data, and monitors potential risks, thus contributing to improved financial performance and tax compliance.

Key Findings:

- AI is the only program capable of drawing conclusions from massive amounts of data and adjusting its activities in real time, making it applicable at the company level.
- AI has had a significant impact on the accounting profession by automating multiple tasks such as invoicing, financial data analysis, report generation, and the detection of anomalies indicative of fraud.
- Cloud-based accounting platforms powered by machine learning provide detailed analytical insights that enable accountants to offer specialized advice to their clients.
- Immunity to financial fraud is a key advantage of artificial intelligence, as its applications operate according to programmed rules that are not susceptible to external influence, thus reducing the manipulation of real company data (Munokoetal, 2020).
- Automating routine tasks allows accountants to focus on more complex and value-added strategic tasks, instead of being bogged down in repetitive work (Perdana et al., 2023).

Recommendations: In light of the findings of this study, we call for intensified research efforts related to artificial intelligence, cloud computing, and blockchain technology, and their connection to the field of accounting and auditing, to anticipate expected changes and take proactive measures to keep pace with this inevitable digital transformation. We also recommend that universities and professional bodies in Algeria update their accounting training curricula to include skills in working with intelligent systems and data analysis, in preparation for the demands of the future job market. Furthermore, based on recent literature identifying key determinants for the adoption of artificial intelligence in financial professions (Torrobaetal, 2025), the study concludes that Algerian regulatory and professional bodies must take the initiative to establish a clear and binding regulatory framework governing the use of artificial intelligence and data analysis technologies in accounting and auditing. The absence of such a framework is considered one of the most significant structural obstacles hindering the actual adoption of these technologies, despite the growing readiness of practitioners.

Declarations

Ethics Approval: Not applicable. This study is based exclusively on previously published literature and did not involve human participants or animals.

Consent to Participate: Not applicable.

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