

THE IMPACT OF ARTIFICIAL INTELLIGENCE ON PROFESSIONAL ETHICS IN ACCOUNTING

BY

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In the dynamic and ever-evolving field of accounting, which is intrinsically tied to the financial stability and sustainability of organizations, there exists a vast multitude of professional ethics codes that are meticulously designed to govern the conduct of practitioners within the industry. These codes serve as the backbone of professionalism and accountability, guiding accountants in their ethical obligations and responsibilities. However, a prevalent assumption that underlies these extensively formulated codes is that they are intended solely for use by human beings who engage in a myriad of complex, knowledge-based decisions that are critical to the financial health of organizations. As the practice of accounting continues to mature, it is essential to recognize that ethical behavior is not only the domain of humans but has implications that extend into the realm of technology. With the rapid advancements in technology and the growing influence of artificial intelligence (AI) on various accounting processes, these traditional perspectives surrounding ethics codes require a thorough reevaluation and critical reexamination. AI is increasingly being utilized for tasks ranging from data analysis to fraud detection, which raises significant questions regarding the moral responsibilities linked to these automated systems. As an increasing number of innovative AI technologies emerge and become seamlessly integrated into diverse accounting tasks and functions, it becomes absolutely imperative to assess and adjust these ethical impacts in accordance with real-time circumstances and developments in the marketplace. This integration of AI into accounting practices introduces a new dimension of ethical considerations that must be addressed if the profession is to maintain its integrity and public trust. This in-depth examination will present a comparative analysis of various existing ethics codes in accounting alongside the unique and distinct features presented by AI technologies. By juxtaposing established ethical guidelines with the capabilities and challenges posed by AI, it becomes possible to identify gaps in current frameworks and propose necessary adaptations. Ultimately, this thorough investigation will yield a significantly more comprehensive understanding of the profound and significant influences that AI exerts on the professional ethics codes that govern accounting practices today. This investigation is crucial, as the repercussions of ignoring the ethical ramifications of AI could lead to unintended consequences that negatively affect businesses and stakeholders alike a subject that has largely been overlooked and neglected in the recent discussions among professionals within the field, even as the pace of technological change accelerates.

Keywords: Accounting processes, Accounting, Professionalism, Integration of AI**2. Introduction**

The concept of Artificial Intelligence (AI) became a hot topic in business practices in the late 2016 to early 2017. From chat bots that can speak with customers to robots capable of doing backflips, AI is changing the

way all industries need to know how to keep up with this technology. The accountancy set; however, is greatly behind the times, and because of it, professional standards are greatly at risk. The purpose of this paper is to inform professional accountants on

the basics of AI and what obligations there are to prevent loss of professional integrity (Jaslove, 2017). The analytical research will discuss the new spheres open to moreover consider ramifications.

It is important for professional accountants to understand the basics behind Artificial Intelligence. AI means that computers are programmed to become intelligent, and can learn. There is reasoning, natural language processing, learning, perception, and the ability to move or manipulate objects involved. Furthermore, the improvisations and other performance artists' involvement in a broader idea would be appertain (Bakarich and O'Brien2021).

AI is associated with the development of robotics and that robots/machines will take over more human responsibilities. This idea leads to an erroneous conception about the amount of effort that it takes to build the most superior artificial intelligence system where most developed technology scientists have today(Saluja and Mongia2025).

Rather than focusing on this, humans must tackle the problems of modern day; this includes the ethical ramifications of certain artificial intelligence systems if they fall into the wrong hands. In particular, several household names urged caution in creating powerful AI for others to use and the American Ethics Board issued a statement reaffirming plans to create ethical guidelines enclosed that AI is bound to be used maliciously(Fukuda-Parr & Gibbons, 2021).

Research Problem:

As Institutions increasingly rely on AI systems in accounting processes, critical questions arise regarding:

- 1- How **algorithmic decision-making** impacts the principles of **transparency and integrity** in financial judgments.
- 2- Who bears **ethical responsibility** for errors caused by automated systems' decisions.
- 3- Whether automation risks **eroding trust** in the accounting profession or has the potential to **strengthen credibility** through enhanced accuracy.
- 4- How to balance AI's **operational efficiency** with upholding **professional confidentiality** for sensitive client data.

These dilemmas highlight the urgent need to redefine ethical frameworks in accounting to align with

technological advancements while preserving core professional values.

Research importance

With the development of artificial intelligence, the automation of accounting is becoming increasingly prevalent. This in turn has restriction and influence as well as has brought a new challenge of professional ethics on accountants working in the environment of AI (Hasan, 2021). The purpose of this study is to specify the circumstances in which constraints on accountants' professional ethics have emerged and to show that professional ethics can be secured from the constraints based. The rise of robot, which applies to the accounting sector, has launched accounting automation. Since the automation progresses, the function of fundamental accountants and the field of accounting operations has been transferred to an ERP software, which means that the role of accountants will reduce. Despite the numerous benefits associated with this technology, big data specialists predicted that AI can also represent a risk for human rights, especially regarding to job security, personal data, and non-discrimination (Veledar et al.2024). Taking into account the job insecurity risk, AI system has the potential to replace workers due to its high accuracy, speed, and low-cost without any legal issue. Historical backgrounds and chronological data are provided for a more comprehensive understanding of the robotization of accounting and future prediction results for the next three years (Langer & Landers, 2021). The rise of artificial intelligence in the era of the 4th industrial revolution is changing accounting evidence based on 'big data'. The accounting sector has a high probability of robotization among 730 occupations (Gonschor, 2024). The results show that when the deputies of the accounting firms have a high expectation about the future development of artificial intelligence, they intend to increase effort to limit a big consultancy services and to pressure arrangements for computerizes tax audits (Goto, 2023). Text mining, which is a sub-field of big data science, has become an issue in the field of research in relation to professional ethics that arise from accounting information. As the company keeps transaction data in digital format and accesses data in an attempt to maximize profits, complicated financial frauds occur involving

executives and accountants (Duan et al.2023). For this reason, efforts have been made to improve the creative parts of professional ethics and work to prevent fraud in the accounting information unit. However, regarding innovation in federal crime such as the global financial crisis, there may be a lack of specialized ethical standards and institutional systems to cope with the ethical issues posed. In order to foster the true, clean and reliable capital market, it seems to be necessary to prepare not only creativity through basic studies, but also flexible response such as revision of ethical standards in the rapidly changing global accounting information environment (Pozgar, 2023).

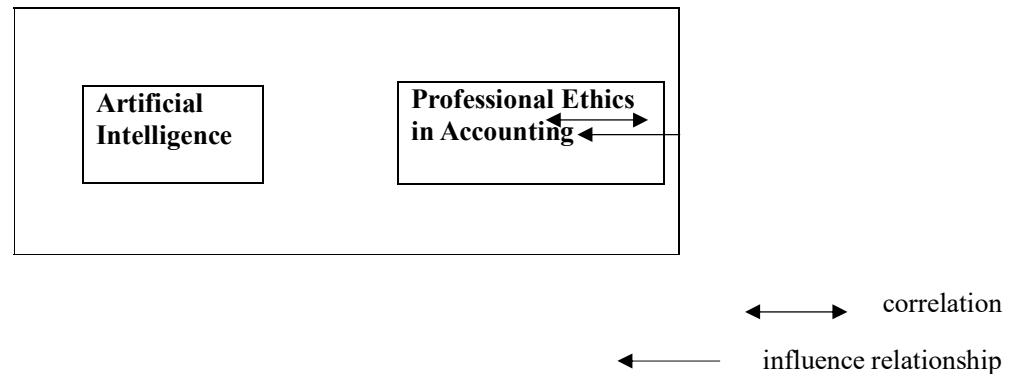
Research objective:

Over the past couple of years, artificial intelligence (AI) has not only been a hot topic in popular science, but also in the political world, with the potential to radically change modern society as we know it. Industries are being disrupted left and right by new technologies. It has gone from earning a postsecondary degree and demonstrating problem-solving skills and expertise in a specific subject, to having talent and ambition drowned out by robotic efficiency and automation (Jaslove, 2017). To experts, this is one of the key reasons why significant income disparity is expected to occur in the following years. Furthermore, by placing the focus on developing robots to take on more human responsibilities, this is reducing the efforts of what the human mind is capable of. Instead, researchers, business people, and policymakers must focus on tackling the most unique modern-day problems (Okunogbe et al.2022). It has dawned on several people that new technology is a fundamental threat to society, not because jobs will be taken away, but because someone must do the work to develop this new technology. In the near future, jobs are projected to shrink substantially, and no major replacement of the labor force is expected. This rapidly growing field has been implementing technology created to reflect human intelligence into machines, focusing on creating expert systems that are capable of mimicking complex responses of a human brain (Mindell & Reynolds, 2023). Professions such as lawyer, doctor and teacher are protected because their job is deeply integrated with ethics, politics, health, people and social life. On

the other hand, the accounting profession faces even major threats due to specific engineering and technology. Technological developments include machine learning and AI specifically made to enhance a financial field. To educate, youth and elderly are the worst to pay. With the introduction of the computer, the accounting profession had to adapt dramatically (Solikhathun et al.2023). Clerks who often spent most of their day with calculators in one hand and pencils in the other had to be requalified to work with spreadsheets. Machines have drastically sped up work hours spent keeping government records in check. Nonetheless, with the correct systems, these machines have streamed business development (Pahlka, 2023). At present, the driving force behind a company's earnings and aliveness is not the embodied asset, but instead scientific progress, culture and innovation. Career opportunities for accountings are becoming bleak. Most accounting tasks performed by actuaries, external auditors and tax advisors involve frequent routine tasks that do not observably generate value for a client (Bamber2024). It is only a matter of time for special applications to facilitate this work. The Boston Consulting Group predicts that up to 25% of present jobs will be replaced by software or robots by 2025. Accounting professionals are in the top 10% of jobs that are most likely to be automated. Current accounting firms regard auditing as a growth engine. Firms like KPMG and Deloitte are already using AI and machine learning. A computer can easily look for material misstatements in the financial statements with close to 100% accuracy and with optimal speeds (Attard, 2023). This could eventually phase out the need for auditors if this technology can work faster than it can be cheated. A programmed robot could look for differences between the acquired and already verified source data or look up tax formulations for compliance with tax codifications in seconds. Machines are more resistant to corruption. As with doctors, AI can comprehensibly analyze data on audits and make decisions that particular auditor never saw coming (Fedyk et al., 2022). Furthermore, current AI is only destined to grow and be more intelligent. Thus, customers and accounting firms may look into the cost savings from having software perform the work planning, the creation of informative materials, and legal assistance.

Research model :

The research model can be explained as follows

**Research hypothesis:**

The research is based on a main hypothesis that professional specialization in the field

1. Correlation Hypothesis:

"There is a positive correlation between the adoption of artificial intelligence in the accounting profession and increased awareness of professional ethics."

Interpretation: The more AI systems are used in accounting tasks (such as auditing or data analysis), the more practitioners will focus on discussing the ethical dilemmas associated with these technologies.

2. Causation Hypothesis:

"The use of AI in accounting is reshaping the concept of accountants' ethical responsibility."

Interpretation: AI directly changes the nature of ethical responsibility (as both cause and effect), shifting some of the responsibility from humans to algorithms, creating new challenges in determining accountability when errors occur.

Explaining the Model and Hypotheses:

- 1- Causality: The model assumes that AI positively or negatively impacts professional ethics through mediating variables (such as bias or lack of transparency).
- 2- Regulatory Context: Hypotheses are tested within existing international standards (such as IFAC Standards) to measure their suitability to new challenges.
- 3- Tools: Questionnaires are used to test hypotheses.

Limitations of research:

Limitations of the research to keep in mind when looking at any contributor's argument or view of accountancy, the future of AI in accountancy, to assess that view as a product of their historical and institutional context, of the entirety of those social and professional experiences that have accumulated in their own being. That clearly goes for a human source, but it must also apply to seemingly impersonal algorithms discussing something as diverse, historically complex and socially important as the work of accounting at the close of the twenty-second century. It must thus be seen up front that nobody can be outside a particular time and place, but some knowledge of how deep those biases run may help mitigate them. As the method of producing knowledge becomes just another marketable class product, it can always be contended, even by those with nothing to offer in the first place, that a direct attack on this process is just an attack on knowledge like any other

(Lehner et al.2022). However, it also has to be understood that ways of quantifying knowledge contribute to a particular interpretation of knowledge, which therefore is only negated by the denouncement of any hypothetical objectivity as an attainable goal of such inquiry. Unfortunately, this is a point of view presently not ubiquitous in the social sciences (Jaslove, 2017). Filling a knowledge gap that has not been sufficiently addressed in the AEC academic community, with the work of accountancy clearly threatened and reconfigured by the arc of these new technologies, it makes clear that research in AI and robotics directed at the architecture, engineering, and

construction (AEC) industry has the common goal of improving project efficiency and effectiveness, particularly in safety, productivity and quality. With major financial investments from the industry, significant advancements have been achieved and have been involved in the daily operation of projects. It has been expected that this trend will grow, and a further shift will be seen in AEC practice. However, while benefits are assumed, a shift of this scale will, of course, also have unintended consequences or technologies are envisioned involved in a scenario that is deeply ambivalent (Liang et al., 2023).

The first section:

Definition and Types of AI

A. Definition

1. Artificial Intelligence (AI)

This term is an application arising from the disciplines of computing and statistics (E. Tractenberg, 2023). AI encompasses a number of terms that are used interchangeably and defined in different ways. Both The Code of Ethics and Professional Conduct of the Association of Computing Machinery (ACM) and The Ethical Guidelines for Statistical Practice of the American Statistical Association (ASA) describe the ethical practice standards for anyone utilizing computing or statistical practices, for example, by programming, writing or debugging software, visualizing data, using data to build models, making predictions, drawing conclusions or verifying hypotheses, making comparisons between groups or interventions, using scientific procedures, or designing experiments. Such standards could collaboratively define "what is ethical AI" (Gogoll et al.2021). The term AI conveys many notions, as well as a wide array of concepts without necessarily a shared context. In the case of cross- and multi-disciplinary teams working with computational practitioners and statisticians, the need for allies with shared norms and expectations is acute. While practices and agreements that promote responsible conduct are increasingly common, there is a particular resonance and approach for leaders situated so as to influence the norms, expectations and mores of a practice culture. Therefore, it may be beneficial for all members with leadership responsibilities to recognize that even if creating one is not easy or trivial, a culture of ethical practice can be

relatively straightforward to do. For a variety of reasons, both practical and altruistic, a commitment to ethical practice will be increasingly important to both recruiting and retaining talent anchored in statistics, data science, computing, and artificial intelligence (Rawshdeh et al.2023).

2. Overview

AI combines computer science with a combination of good and robust datasets as a means to effectively solve problems. An umbrella term, AI encompasses its classic sub-field, as well as machine learning, deep learning, and a growing list of others. Other solid terms that are used interchangeably with AI include "analysts" and "data scientists." In simplest terms, AI encompasses any contends-and-sets in computations. A more nuanced vision, AI is two-fold: first, an extensive set of statistical practices leveraged upon medium- to large-sized and robust datasets; next, one or more computational techniques applied intentionally to do forecasting or emergence detection. The more formal definition paraphrases that AI arises at the strong junction of computing and statistics (Tredinnick, 2016). While there is scope for computational practitioners to practice this or other ethical standards, and there is always room to grow in ethical practice regardless, statistically facilitated decisions are largely front-facing to the wide community given the preponderance (over 90%) of AI applications that will invite statistical practices. There are, therefore, three dimensions to "ethical AI". The first dimension reflects fundamental human rights. Based on evidence and existing documentation, the requirements for "ethical AI" outline the specific ethical obligations on the part of those engaged in any facet of statistical learning capable of being utilized to implement machine learning (Sachdeva and Ailawalia2024).

The Evolution of AI Technologies

Enterprise businesses are increasingly providing various technical requirements. It is necessary that businesses are maintaining their competitive advantage by constantly seeking to develop and achieve optimal efficiency. This is why the evolution of artificial intelligence has grown tremendously and will continue to grow rapidly (Wang et al., 2022). Artificial intelligence has the ability to retrieve and process

information instantaneously, and has now reached a point where it can replicate it. The jobs that are vulnerable are then the repetitive ones that consist of a defined task on a daily basis. However, other professions can also be threatened, which leads to the fear that robots with high intelligence could eventually replace the need for human brainpower (Jaslove, 2017).

The topic of how artificial intelligence will change or even replace existing professions and job opportunities is a widely concerning issue. Upon observing the statistics, the profession that falls under the job title of accountants and auditors will decrease by 8% by the year 2024, and the job title according to bookkeeping, accounting, and auditing clerks will also have a decline in the rate of 8%, which is also by the year 2024. Additionally, the growth rate of the general occupation will be a 12% rise. Also, the growth of all occupations is predicted in a steady pattern, unlike the expected profession of accounting. (Rabbani, 2024)

The historical evolution of technology is evident that the development and invention of technology have never advanced at a uniform rate perfectly. As is clearly demonstrated now, the rise of artificial intelligence is resulting at a notably rapid pace. Many people now cannot even begin to imagine their daily lives without it (Bremmer & Suleyman, 2023). People inquire common questions to their smartphones to receive the quickest response possible, shop online using virtual assistants instead of clerks, vacuum their homes using automatic cleaning bots, and so forth. The profession of accounting is suggested to be one of the very first fields that will alter with the development of artificial intelligence (Tredinnick, 2016).

The second section

Overview of Professional Ethics in Accounting

About the development of communities and the complexity of social relations create new requirements. On the other hand, due to the necessity of job division and expert nature of affairs, professions are formed in societies to improve public welfare. The survival of any profession is subject to the type and quality of services rendered and the trust acquired from those services. Credit of the profession depends on the confidence that the community has in the professional (Razu et al.2021). The importance of maintaining

credit and confidence also depends on many issues, particularly public needs, discontent and legal problems. There is a bond between the public and its professions. Accountants must serve the community as their main duty and pursue personal benefits within the framework of these services. Serving the community reliably and responsibly can also be a source of personal benefit (Talebian, 2016). Historically, the earliest professional groups came about as a result of public needs. Practicing medicine, laying the foundation of civil structures, fighting against enemies may provide examples in this respect (Fukuda-Parr & Gibbons, 2021).

With the development of societies, an increase in the complexity of social relations and the size of societies have increased the importance of organized services. Thus, individuals who have specialized in their fields and provide services in a broad framework of social responsibility under the name of profession are formed. Those who are not competent in various matters appeal to specific forms of professions. That same commerce, political life, judicial proceedings, family issues, investment-credit-financing, health problems, personal development needs the use of relevant professional services. (Root, 2023).

Historical Context of Accounting Ethics:

Ethics is a set of norms and moral standards that are obligatory for compliance. It is a social category that reflects the level of moral orientation and development of a person, a group, a class, or the whole society. Moreover, ethics is a system of moral standards. Professional ethics is a system of rules that regulates the ways in which the members of a profession should behave in a professional context (Talebian, 2016). It is designed to support moral behavior in the profession. Accounting ethics define acceptable behavior and the role of accountants in society. Ethics are not codified into law in most legal systems, but they are of great importance for accountants (Caniago et al.2023).

Accountants deal with money and are involved in the process of capital formation. The construction of accounting is aimed at checking the accuracy of the formation of its own capital and the protection of investors. An audit is a procedure that increases the reliability of convenient data for investors. Accountants must act with professional ethics (Jaya et

al., 2021). The higher the profession, the greater the responsibility. Indeed, any deception can have far-reaching consequences for society, given the importance of accounting information in deciding where to invest. The market needs accounting information (Onyeaka et al.2021). But the existence of conflict within accounting is as old as accounting itself. Professional societies fix principles, providing the mechanism and quality control for the generation, transmission and manipulation of large-scale financial information. This facilitates the transparency of its own commitments, as professionals have their own standards. There are contracts of accountancy. Besides, accountancy has a lot of impact on the economy, as accountants act to prevent fraud and improve fraud detection (Lennox & Wu, 2022). The manipulations enter data into a computer program. Technology changes the way in which goods are defrauded. But there are weaknesses, and the ease of hiding data leads companies to try to manipulate it. For example, accountants may retire if they are too whistle-blower. Technologies give powers to create masks, make speculative loans, falsify numbers. ennes digital society ;_) profile gives accountants great flexibility. In this case, the professional action of each accountant will only be held accountable in the event of an audit groot; it marks the effect power of the story (Bateman, 2022).

Key Ethical Principles in Accounting

Ethics is an inclusive subject that covers all aspects of human life. It contains various aspects and dimensions. People's needs can be placed in that frame. The necessity of people demands have led to the emergence of various professions. At the beginning, everybody satisfies one's own needs and requirements. But gradually it became difficult to meet all requirements, so thus they tried to trade them. Over time, it was felt that trade would not meet all the needs and requirements, will work in other areas. As a result, people devoted themselves to different types of professions. Currently various professions and phenomena arise in order to fulfill people's needs and requirements. Respect for the main ancient ethics profession - honesty - is vital for all professions to maintain the credit and trust of that profession. Any consciousness profession, in the general sense, a kind

of service to the people with respect to the thrift (Deluliis, 2024). It is important to have the main goal of working for the benefit of the community so that this profession can be actualized even more. "The profession is a large group of cohesive services that function together with mutual respect and cohesiveness in the interests of the public to provide services in particular. The profession is characterized by an out-of-application body of film knowledge that is used to provide beneficial and artistic public service and requires proper practice and ethics" (Byrne et al.2025). "Members of a particular profession are required to obey relevant standards as laid down as determined by normative bodies in order to show the normal standards of the profession" which is usually lawful. A professional person should conduct herself or himself professionally with a group of ethical principles (Talebian, 2016). They should also possess personal professional knowledge and skills to present efficient and effective service. Despite this, "it is regrettable that ethics is not yet fully appreciated as a necessary subject for all humans at the moment" and it is particularly visible in developing countries.

The Intersection of AI and Accounting

Starting off with what should ideally be some necessary background as to what the reader should already know does indeed pique an interest in the captivating topic of ethics surrounding the revolutionary advancements brought about by artificial intelligence, succinctly known as AI, particularly within the intricate field of accounting. Along with this discussion, we will include some charming and relatable everyday examples that illustrate how AI is best utilized in practical scenarios. Ideally, this will morph into a robust and intelligent dialogue concerning a myriad of new advancements in machine learning, which will be carefully compiled and presented by a sophisticated computer program that distills the essence of insights shared by several seasoned experts in the field (Hasan, 2021). These experts have ingeniously engineered algorithms as well as the underlying architecture of decision-making AI systems. Such a computer program will meticulously summarize the multifaceted benefits and potential risks that AI poses to society in the near future, while also elucidating the strategic impact it

will have on the ethics and professional responsibilities of accountants in practice (Leitner-Hanetseder et al.2021). Utilizing cutting-edge technology to gather extensive data efficiently and then subsequently generating included graphics to support our arguments will allow us to articulate our points clearly; there was not much in terms of computational cost anticipated for these processes despite the complexity involved. What is expected and desired from this vibrant discussion is an assortment of cited individuals who will elaborate on the pressing needs for accountants to fully embrace the inevitable wave of technological change. We will also delve into the seven distinct industries that blockchain technology is poised to revolutionize and thereby improve significantly. Furthermore, experts will be available to contemplate and analyze the competitive landscape that will emerge between firms that choose not to automate their processes and those which fully embrace and implement automation within their operational framework (Latifah et al., 2023)(Rawashdeh2023) .

AI Applications in Accounting

Professional ethics are a diverse and complex concept consisting of moral standards for a particular profession. Professional ethics in any field is a very important fundamental for professionals to maintain its unique quality, responsibility, and privilege. It is a guideline to address common issues and to act accordingly in daily professional activities in order to produce the highest quality result. In particular, professional accounting depends on trustworthiness and ethical behaviors. Since awful incidents such as bankruptcy have resulted in the public alerting the role and responsibility of a professional accountant. Since the public and government's intervention in accounting and auditing activities, the autonomy of accountants has gradually been decreased, thus uncertainty in professional ethics has begun. However, there still are many controversies related to the ethics and responsibility of professional accountants, and it is a very complicated matter yet to be comprehensively studied. (Serwaa et al.2025)

Every coin has two faces; likewise, technology has its advantages and disadvantages too. The development of artificial intelligence has unblocked sound limitations for not only accounting and auditing fields but also any

field of online platforms such as economic and social media sections. The most significant is traditional offline programs will be needless in the near future. Traditional systems are time and paper-consuming, then, even professionals recheck it so many times, still there are so many chances to make faults, but AI systems have fewer faults compared to traditional systems because AI systems are fully software systems (Hasan, 2021). In the end, it's also likely to be underestimated the difficulties to find defrauding by establishment trading companies, but by the development of AI system-assisted programs, it's very accurately analyze the marketing system and easily identify the probabilities of establishment's leaking maintenance, it's likely to be reducing the fraud risks in the marketing system. AI systems have uncountable benefits, stop the leaking cash system of establishment companies, and also put the risk on the assurance. The development of AI systems is considerably increasing the automation of conventional systems in the assurance of bank processing. It's got greater efficiency in the detection hazard related to wholesale and wholesale guarantee of cash transactions, also, extremely observation if AI systems are on public market profits is also higher. (Haleem et al., 2021).

Benefits of AI in Financial Reporting

As technological progress persists globally, the ethical responsibilities faced by accountants become increasingly complex and demanding (Zhang, 2024). Given the increasing integration of artificial intelligence in accounting practice, it is imperative that professional ethics be established that promotes accuracy and accountability in financial reporting. However, artificial intelligence raises concerns about the ethics of these processes in evaluating, monitoring, and reporting financial information (Anshari et al., 2021). This paper analyses the benefits of artificial intelligence in financial reporting, the impacts of such advancements on professional ethics and ultimately the importance of promoting accountability and transparency in convergence with appropriate industry standards. This is achieved by synthesizing a range of academic literature on accounting, ethics, artificial intelligence, and financial markets.

As new software is developed and the experiential learning of machines progresses, the preparation of

financial statements and audit function will likely become automatized. Integrated accounting and bookkeeping programs already have the ability to generate financial statements while larger company data management systems can be programmed to provide real-time financial reports of the business. Complex algorithms can also be developed to independently audit financial statements and upon doing so, discrepancies in the balance of ledgers would be noted. Thus, it will be critical for accountants to approach such an era with strict adherence to industry codes of professional conduct and act with self-interest in mind rather than through accepting bribes (Ashraf, 2024). Furthermore, accountants who intend on programming the software will also need to be sure to approach the code objectively and remain free from conflicts of interest to avoid purposeful bias toward a specific client. This is particularly challenging when clients hold a financial interest within the firm, such as self-managed superannuation funds, and restrictions may need to be imposed in such scenarios. (Ishaque, 2021)

Ethical Challenges Posed by AI

Table of contents for this article includes a critical examination of four levels of ethical challenges, and there are questions that AI creators and users in general, accounting AI creators or managers, professional accountants using AI, and teachers of accountants and/or AI designers could ask themselves and each other on each of the cases analyzed. The modeling or document reading function of assistive artificial intelligence in the field of accounting is regarded as one of the scientific and professional activities of a chartered accountant (E. Tractenberg, 2023). When AI becomes the user from the other side, the privacy, security, professional competence, and diligence problems are explored in the practical work process in the form of a case study.

Ethical considerations regarding the implementation of assistive AI technology are generating increasing concerns from the perspective of the end user. In the rapidly evolving global market of artificial intelligence, sustainability and ethical practices should consistently take precedence. This particular study is pioneering in its approach, as it focuses on the often-overlooked side of AI from the viewpoints of

accounting and auditing professionals, along with educators in this field, thereby contributing to the vital conversation surrounding accountability (Boada et al., 2021). The aim here is to hold accountable those developers and service providers involved in the design and technology implementation of assistive artificial intelligence. These groups have largely neglected or overlooked the crucial aspects of professional ethics associated with assistive artificial intelligence. This oversight has persisted since the initial intentions for the widespread dissemination of AI technologies, which have become more integral to various industries. (Almufareh et al.2024)

Data Privacy Concerns

Advances in artificial intelligence (AI) have indeed raised a multitude of both remarkable potentials and significant pitfalls that cannot possibly be ignored nor overlooked. Once upon a time, it was widely assumed that the swift and unstoppable progress of AI technology would soon lead to the creation of machines endowed with intelligence quotients far surpassing those of human beings. This could potentially relegating people to the margins of society or even worse fates in a future we could hardly predict (Suleyman, 2023). However, that kind of dystopian vision now appears to be far less likely to occur, though the mundane capabilities of AI—such as the remarkable ability to recognize speech patterns or to recommend products efficiently based on intricate profiles constructed from vast amounts of data gathered about previous purchases—continue to advance at an impressive and swift rate. During a recent and enlightening visit to the Pantiles, it was evident that every modest and readily available aspect of AI has been put into action and practice: voice recognition systems are remarkably efficient now, and one's digital presence is scoured for an astonishing volume of information that could be utilized for various purposes (Birhane, 2022)(Brown and Samuelson2023). Naturally, these commonplace applications of AI represent just a small microcosm of what is ready for broader implementation across various sectors and industries. Reflecting on these rapid developments raises significant concerns regarding professional ethics, particularly in crucial technical fields such as financial planning,

accountancy, and audit. These important areas of industry will need to thoughtfully address the implications of AI's growing influence and the ethical considerations that must accompany such advancements in technology, ensuring that we navigate this brave new world with care and responsibility. (Murdoch, 2021)

Bias and Fairness in AI Algorithms

Many functions in contemporary society are carried out with the help of AI models, and AI bias forms an essential aspect in debates related to AI models. In general, the decisions of AI models affect the real world, and information about the real world is used for training new AI models. The concept states that more biased decisions will result in more biased data that is employed for training new AI models. Consequently, there will be developed a more biased new generation of AI models, that will result in yet more biased decisions (Hanna et al.2024). This process may commonly last for long time periods, so that biased AI may unintentionally produce detrimental effects in society, for example by increasing social inequality. Once a bias is acknowledged its rectification should be sought (Bohdal et al., 2023). Datasets and models include a wide range of sub-groups across different factors and attributes. It is known that most large language models have been shown to depict demographical bias based on different factors like gender, race, or wealth. Several synthetic datasets and benchmarks assume to be balanced and without bias. On the other hand, several fair datasets and significantly imbalanced datasets exist. A number of methods adjust the model predictions or modify the dataset or training process. They might suffer from several limitations regarding the model decisions or being unintentionally harmful (Omar et al.2025).

Transparency and Accountability Issues

Artificial Intelligence (AI) is expected to influence professional ethics in accounting. This will require accountants to consider the standards of the industry and to develop a deeper understanding of new, digitizing business processes, which regulate the impacts of AI technologies. This paper highlights key areas in which the impact of AI on professional ethics in accounting is likely to be energetic, focusing on

issues of transparency and accountability (Busuioc, 2021). This is because ethical behavior can often be guaranteed by a basic level of responsible behavior. As such, before considering bruises from an ethical perspective, the focus is on the standard problems related to transparency and accountability, which permit and provide ethical malpractice. Consideration is then given to misuse issues related to machine learning and AI in the accounting context (Sreseli2023). Accounting is a centralized profession. A depository of sensitive personal and business-related data and the institution of corporations, accountants have significant obligations to their clients or employers. The interpretation of accounting data to give advice on financial performance, offer tax advice, or take business decisions is a commonly trusted rollout of this relationship (Alsulmani et al.2021).

This particular profession is anticipated to experience a considerable impact from developments in AI and the ongoing discussions surrounding AI ethics (Cox2022). A significant portion of the work involved in AI Ethics emerges from identifying the limitations associated with big data methodologies, as well as the unintended reinforcement of existing systemic injustices that these technologies can create. This situation can lead to various harmful consequences stemming from the decisions that are guided and influenced by these AI tools (Hasselbalch, 2021). While accountants typically engage with smaller datasets, particularly in the realm of personal accounting services, there is a likelihood that the technology will see much broader implementation across the field. Given the strong trust that clients place in their accountants and the nature of the advice that is provided, the transparency related to the models that are being utilized is expected to become exceedingly vital. Consequently, numerous commercially sensitive and strategic decisions will need to be thoroughly evaluated and carefully considered to maintain the integrity and trust inherent in the profession. (Feder Cooper et al., 2022)

One common method accountants use is the Means of the Surface of Dividing Outliers, a simple mechanism involving counts of the standard deviations from the mean of a dataset. Practitioners may desire to consider the application of complex neural network models instead based on this methodology. This paper tries to design the broad picture of accountancy-related issues

that need to address them widespread adoption in the profession, and provides a few hypothetical areas in which current professional behavior may be immoral or unethical. (Ranta et al., 2023).

The third section:

The analytical framework

Firstly. Analysis of the characteristics of the research community:

Questionnaire Distribution and Response Analysis:

We distributed an online Questionnaire to 138 people, and surprisingly, we returned 138.

The research sample consisted of accountants and auditors working in Iraqi universities , and the sample size was estimated based on this.

Ultimately, we had 138 Questionnaire ready for analysis, meaning a very high response rate of 100%

1-(Gender): table 1 shows the distribution of sample members by gender We observe from Table (1) that the sample consisted of (90) males, while the sample consisted of (48) females out of the total number of the sample, which was (138) individuals.

Table 1 distribution of sample members by gender

Gender	Frequency	Percent	Valid percent	Cumulative Percent
Male	90	65.2%	65.2%	62.2%
Female	48	34.8%	34.8%	100%
total	138	100%		

Source : prepared by researcher .

2- academic qualification: table 2 shows the contribution to correlation between the adoption of artificial intelligence in the accounting profession and increased awareness of professional ethics from the academic research sample .

Table 2 distribution of sample members according to academic qualification

Academic achievement	Frequency	Percent	Valid percent	Cumulative Percent
Higher diploma	22	15.94%	15.94%	15.94%
Master	79	57.24%	57.24%	73.18%
Ph.D.	37	26.82%	26.82%	100%
The total	138	100%		

Source : prepared by researcher .

3-years of experience : we notice from table 3 that the employees of Iraqi universities experience more than 15 years and range between 16-20 years with 37 individuals equivalent to (26.82%) and this contributes paving the way of the group to deal with the problems caused by adoption of AI programs in accounting business .

Table 3 distribution of sample members according to years of experience

years of experience	Frequency	Percent	Valid percent	Cumulative Percent
Less than 5 years	12	8.69%	8.69%	8.69%
From 6-10 years	25	18.12%	18.12%	26.81%
From 11-15 years	34	24.64%	24.64%	51.45%
From 16-20 years	37	26.82%	26.82%	78.27%
More than 20 years	30	21.73%	21.73%	100%
The total	138	100%		

Source : prepared by researcher .

4-age in years :we note from table 4 that most of the employees in Iraqi universities are aged between (41 years and less than 50 years) with a 46 individuals equivalent to 34.06% of the age of the group which means that the employees of Iraqi universities have youthful energies and capable to performing challenges and complex tasks that required double efforts .

Table 4 distribution of sample members according to age

Age group	Frequency	Percent	Valid percent	Cumulative Percent
Less than 30 years old	21	15.22%	15.22%	15.22%
31 to 40 years old	35	25.36%	25.36%	40.58%
41 to 50 years old	47	34.06%	34.06%	74.64%
More than 50 years old	35	25.36%	25.36%	100%
The total	138	100%		

Source : prepared by researcher .

5-job description: table 5 shows the distribution of individual in the research sample according to job description most of the employees in Iraqi universities are titled prof.assestant with 52 member equivalent to 37.68% . this contributes to improving the research capabilities to explain the aspects of the determines

Table 5 distribution of sample members according to job description

Job description group	Frequency	Percent	Valid percent	Cumulative Percent
Assistant Lecturer	31	22.46%	22.46%	22.46%
Lecturer	44	31.88%	31.88%	54.34%
assistant professor	52	37.68%	37.68%	92.02%
professor	11	7.98%	7.98%	100%
The total	138	100%		

Source : prepared by researcher .

Secondly: describe and diagnoses of research variables

1-Independent variable the impact of artificial inelegance on Accuracy and efficiency of the accountant : table 6 display the general mean , standard division and the relative importance of the employees of Iraqi universities . through the response of the sample members we note that the general mean was 4.332717 the standard division was 0.686289 and the relative response was 82.3% .

Table (6): Description of the impact of artificial intelligence on Accuracy and efficiency of the accountant

Seq	The impact of artificial intelligence on Accuracy and efficiency of the accountant .	General mean	Standard division	Relative importance
1	Do you support the use of artificial intelligence in your accounting tasks?	4.1283	0.7928	10
2	Do you think artificial intelligence improves the accuracy of financial data?	4.1696	0.6536	8
3	Do you think artificial intelligence reduces routine tasks in your work?	4.1421	0.7138	9
4	Do you think artificial intelligence increases opportunities for innovation in the accounting profession	4.4861	0.5534	5
5	Do you think artificial intelligence technologies will impact financial data analysis in your business.	4.5962	0.5534	3
6	Do you think AI increases confidence in financial data?	4.631	0.6742	1

7	Do you think artificial intelligence affects your role and responsibilities as an accountant?	4.4907	0.6872	4
8	Do you think artificial intelligence reduces human errors in accounting processes?	4.4586	0.6444	6
9	Do you think that using artificial intelligence in auditing is beneficial?	3.9357	0.79487	12
10	Do you think artificial intelligence increases the efficiency of accounting processes?	4.3213	0.7296	7
11	Does the use of artificial intelligence technologies positively affect your personal skills as an accountant?	4.000	0.9552	11
12	Do you think that artificial intelligence will significantly change the nature of the accounting profession in the future?	4.633	0.4830	2
For all dimension		4.332717	0.686289	

Source : prepared by researcher based on the output of (spss.v.27)

2-the dependent variable : is the Professional Ethics in Accounting **Transparency, privacy, and accountability of accountant** table 7 display the General mean Standard division ,Relative importance of the variable Professional Ethics in Accounting through the response of the research sample members , we noted that the general mean 3.978 , the standard division 0.855478 and the relative importance 73% .

Table (7): Description Professional Ethics in Accounting

Seq	Professional Ethics in Accounting, Transparency, privacy, and accountability of accountant	General mean	Standard division	Relative importance
1	Do you think the use of artificial intelligence in accounting increases transparency, trust, and efficiency of financial reporting?	4.3265	0.7192	1
2	Does artificial intelligence affect the ethical responsibility of accountants?	3.5672	1.2141	11
3	Do you think artificial intelligence can reduce financial fraud by detecting errors?	4.1147	0.9211	5
4	Does the use of artificial intelligence technologies have a positive impact on the privacy of financial data?	4.2890	0.7336	3
5	Do you think artificial intelligence can increase investor confidence in financial data?	3.6651	0.7932	10
6	Do you think the use of artificial intelligence is beneficial to the accounting profession in detecting financial manipulation?	4.0872	0.73536	6
7	Do you think artificial intelligence increases the need for new ethical standards in the accounting profession?	4.1193	0.66130	4
8	How AI technologies impact the accountant's role as a custodian of financial data	4.0596	0.82088	7
9	Do you think artificial intelligence can reduce bias in financial statement evaluation?	3.7477	0.84549	9
10	Do you think artificial intelligence leads to enhanced accountability in accounting processes?	3.8624	0.9002	8
11	Do you think artificial intelligence increases the need to train accountants on ethical issues?	4.3165	0.7092	2
12	Do you think that artificial intelligence will significantly change the concepts of ethics in the accounting profession in the future?	3.5872	1.2121	12
For all dimension		3.978533	0.855478	

Source: prepared by researcher based on the output of (spss.v.27)

Third testing research hypothesis :Analyzing correlations between research variables: This axis focuses on testing first hypothesis that aims to determine strength of the correlations between the research variables, represented the positive correlation between the adoption of artificial intelligence in the accounting profession and increased awareness of professional ethics **table 8 shows the following :**

Table (8) Regression equation: the adoption of artificial intelligence in the accounting profession and increased awareness of professional ethics

variable	Regression equation	T value	Sig.	F value	Sig.	Coefficient of determination R2	M.T debugger R2
Adoption of artificial intelligence	.798	21.332	0.000	455.012	0.000	.812	.808

Source : prepared by researcher based on the output of (spss.v.27).

By observing the values of correlation coefficient and testing significant of association between those two variable we can analyze the following:

The first hypothesis: To verify the first loan test to find correlation between the research variable in Table 8, there is There is a positive correlation between the adoption of artificial intelligence in the accounting profession and increased awareness of professional ethics by 0.798 , and this came as a result of the increase in the comparison value (T) by 21.332 and (F) by 455.011, which means rejecting the null hypothesis and accepting the alternative hypothesis.

Conclusions:

1-Enhancing Accuracy and Reducing Errors, Artificial intelligence contributes to improving the accuracy of accounting processes and reducing errors resulting from human intervention, enhancing confidence in financial statements.

2-Challenges of Privacy and Data Confidentiality, The use of AI in big data analysis may lead to risks related to breaches of privacy and the confidentiality of sensitive financial information.

3-Impact on Accountant Independence ,Over-reliance on AI may diminish accountants' ability to make independent decisions, raising ethical issues surrounding complete reliance on the technology.

Risks of Algorithmic Bias ,If the algorithms used in AI are not designed fairly, they may lead to biased or unfair results, affecting the integrity of the profession. Redefining Ethical Responsibilities ,With the advent of AI, accountants must reevaluate their ethical responsibilities to ensure that technology is used in a manner that promotes transparency and fairness.

Recommendations:

for Strengthening the Ethics of the Accounting Profession in the Age of Artificial Intelligence

1- Establishing Clear Policies for the Use of AI ,Regulations and policies must be developed to govern the use of AI in accounting to ensure adherence to ethical standards.

2-Enhancing Training and Continuing Education ,Provide accountants with ongoing training on how to use AI ethically and effectively.

3-Regularly Monitor Algorithms ,Conduct periodic reviews of the algorithms used to ensure they operate fairly and unbiased.

4-Data Protection and Privacy ,Implement advanced security technologies to protect financial data and ensure privacy is not compromised.

5-Promote Transparency in AI-Based Processes ,Ensure that AI-based processes are clear and explainable to avoid misunderstandings or ethical concerns.

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