



Category: STEM (Science, Technology, Engineering and Mathematics)

ORIGINAL

Revolutionizing Tomorrow: The Role of Artificial Intelligence in the Accounting Profession

Revolucionando el mañana: El papel de la Inteligencia Artificial en la profesión contable

Sophia Vandapuye¹  , Siham Jabraoui¹  

¹Hassan 2 University, ISO Laboratory. Casablanca, Morocco.

Cite as: Vandapuye S, Jabraoui S. Revolutionizing Tomorrow: The Role of Artificial Intelligence in the Accounting. Salud, Ciencia y Tecnología - Serie de Conferencias. 2024; 3:1015. <https://doi.org/10.56294/sctconf20241015>

Submitted: 02-03-2024

Revised: 21-05-2024

Accepted: 02-07-2024

Published: 03-07-2024

Editor: Dr. William Castillo-González 

ABSTRACT

Given the increasingly sophisticated technological advancements that are reshaping our current work environment, it is crucial to acknowledge that the concept of artificial intelligence represents a fundamental lever in the development process of the accounting profession, which accountants must integrate. This profession is undergoing significant transformation, as tasks once thought to be exclusive to humans are now being performed by machines. By incorporating artificial intelligence, the accounting profession would experience an evolution through the involvement of robots and machines within their firms, simplifying many tasks and enabling professionals to focus on high-value-added activities. Accountants are developing professional profiles through complex systems based on artificial intelligence, aiming to enhance the skills and performance of their employees while remaining competitive. To achieve this, employees must be ready to adapt and acquire training to effectively embrace and navigate this digital revolution.

In line with this objective, this research paper aims to analyze the implication of integrating artificial intelligence on the accounting profession. To accomplish this, the study relies primarily on existing theories and includes a qualitative investigation through semi-structured interviews conducted with 20 accounting firms operating in different cities across Morocco.

Keywords: Accounting; Artificial Intelligence; Digitization; Technologies.

RESUMEN

Dados los avances tecnológicos cada vez más sofisticados que están remodelando nuestro entorno laboral actual, es crucial reconocer que el concepto de inteligencia artificial representa una palanca fundamental en el proceso de desarrollo de la profesión contable, que los contadores deben integrar. Esta profesión está experimentando una transformación significativa, ya que tareas que antes se consideraban exclusivas de los humanos ahora son realizadas por máquinas. Al incorporar la inteligencia artificial, la profesión contable experimentaría una evolución mediante la participación de robots y máquinas dentro de sus empresas, simplificando muchas tareas y permitiendo que los profesionales se concentren en actividades d'alto valor agregado. Los contadores están desarrollando perfiles profesionales a través de sistemas complejos basados en inteligencia artificial, con el objetivo de mejorar las habilidades y el desempeño de sus empleados mientras se mantienen competitivos. Para lograr esto, los empleados deben estar listos para adaptarse y adquirir formación para abrazar y navegar efectivamente esta revolución digital.

En línea con este objetivo, este artículo de investigación tiene como objetivo analizar la implicación de la integración de la inteligencia artificial en la profesión contable. Para lograr esto, el estudio se basa principalmente en teorías existentes e incluye una investigación cualitativa a través de entrevistas

semiestructuradas realizadas con 20 empresas contables que operan en diferentes ciudades de Marruecos.

Palabras clave: Contabilidad; Inteligencia Artificial; Digitalización; Tecnologías.

INTRODUCTION

The world is evolving, and technology is becoming increasingly present in our daily lives. We are currently experiencing a new industrial revolution. It is important to seize the opportunities offered by new technologies such as artificial intelligence (AI), robotics, cloud computing, and many others, as they will have a considerable implication on all sectors of production and will affect the world as a whole, often referred to as globalization 4.0.⁽¹⁾ Indeed, artificial intelligence will enable the creation of new modes of production and also serve for customer relations, as AI-supported proximity with the client becomes possible. Innovation and mastery of new technologies will therefore be key success factors for businesses. If they successfully undergo digital transformation, they will gain a significant advantage over other players who are less inclined to utilize these technological opportunities.⁽²⁾

The evolution of technologies, new work methodologies, digital tools, environmental fluctuations, regulatory changes, and the ongoing health crisis have forced organizations to adapt their work methods and accelerate their digitalization projects. Accounting firms have not been exempted from these changes. They are affected by numerous technological advancements and digital transformations that implicate their function, requiring them to adapt and reinvent themselves in order to evolve. Digitalization represents the initial stage of artificial intelligence (AI) and can be defined as the replication of intelligent human mental capabilities through machines. This means that AI should be capable of understanding the world, speaking, reading, calculating, comprehending, reasoning, and analyzing the environment and data in order to generate responses.⁽²⁾

The rise of artificial intelligence in accounting firms is undeniable. We are witnessing both the emergence of increasingly mature and efficient technologies and the evolution of practices. Significant efforts have been made in recent years to develop complex systems based on artificial intelligence (AI) with the aim of enhancing the performance of accountants and financial auditors, thus providing more value to organizations and improving the quality of business and investment decisions, which aligns with the main mission of the accounting profession. With the development of technology, accounting systems and operations have transitioned from paper-based and ledger-based formats to digital formats through the use of computers and expert systems. More recently, with the advances in artificial intelligence, the field of accounting is undergoing its greatest transformation.⁽³⁾

Similarly, according to ⁽⁴⁾, robotics and automation have reportedly eliminated around 40 % of the work traditionally performed by accounting professionals. Intelligent robots are currently used to conduct inventories, manage bank audit confirmations, read contracts or other documents to generate relevant information, plan audits, evaluate evidence, analyze specific accounts, and produce audit reports.⁽⁵⁾

The digitization of accounting data, also known as the automation of accounting data, is just the first step in the digital transition. Financial leaders and business executives have been seeking ways to transition accounting tasks, whether technical or manual, to a more precise, thoughtful, and cost-effective manner.

Artificial intelligence is being developed to enhance two fundamental aspects: learning and problem-solving. In this research, we aim to examine the determining effect of artificial intelligence on the accounting profession. Our research question revolves around whether artificial intelligence is the future of the accounting profession. This reflection can only be approached through a questioning process that takes into account the various aspects of this issue.

Foundation of the study

Research questions

- Is there a close relationship between the establishment of artificial intelligence and the future of the accounting profession?
- Does artificial intelligence have a positive implication on the future of accountants?
- What role does artificial intelligence play in improving the accounting profession?

Three research propositions have been formulated in this study, namely:

- Proposition 1: Artificial Intelligence would lead to the elimination of the profession of the chartered accountant.
- Proposition 2: Artificial Intelligence would have no implication on the profession of the chartered accountant.
- Proposition 3: Artificial Intelligence would enable the transformation of the foundations of the chartered accountant profession.

Purpose statement

Our study aims to clarify and analyze to what extent artificial intelligence can contribute to the improvement or deterioration of the chartered accountant profession. This will be done through the analysis of responses obtained from 21 accounting firms located in different cities in Morocco.

To address our research problem, we will first conduct a literature review on the fundamental concepts underlying our research, namely artificial intelligence and the chartered accountant profession. Secondly, we will attempt to test the causal relationship that may exist between the integration of AI and the chartered accountant profession. Finally, we will present the results of our qualitative research on the case of 21 accounting firms.

Literature review*Artificial intelligence*

Defining the concept of artificial intelligence (AI) is not a simple task. Since its emergence as a distinct research field in the mid-20th century, AI has continually pushed boundaries and expanded its scope. It is inherently broad, encompassing various disciplines and defying specific categorization. AI is less about a well-defined research domain and more about a program centered around an ambitious goal: understanding human cognition and replicating it through the creation of cognitive processes comparable to those of humans.

At the intersection of computer science, mathematics (logic, optimization, analysis, probabilities, linear algebra), cognitive science, and domain-specific knowledge, AI encompasses a diverse range of algorithms. These algorithms include semantic analysis, symbolic representation, statistical or exploratory learning, neural networks, and more.⁽⁶⁾ Today, we stand before an unimaginable tool that was inconceivable just a century ago. AI is not a creature; it lacks physical existence. It is the first tool in human history to possess intelligence.⁽⁷⁾

The objective of AI is to replicate certain mental faculties of human beings through technical means such as computer science, automation, mathematics, and more. It involves extracting information and knowledge from big data through intelligent learning, rather than simply presenting numerical results, survey statistics, sales figures, or macroeconomic indicators.⁽⁸⁾ However, discussing AI requires questioning and defining human intelligence. It is a challenging task since intelligence is multifaceted. According to the Larousse dictionary, intelligence is linked to knowledge, conceptual and rational understanding, adaptability, and decision-making based on circumstances;

In this context, AI is concerned with processing large amounts of diverse information, classifying and sorting it, and automating processes. It is undoubtedly an area within computer science, which deals with “the theory and processing of information using programs implemented on computers.” AI relies on four pillars:

- The first pillar is essential for partially or fully replicating human intelligence.
- The second pillar encompasses mathematics, “the science of quantity and order,” enabling the analysis, modeling, and organization of data. Statistics, probabilities, algebra, and logic are crucial subdomains for modeling intellectual processes through algorithms.
- The third pillar is cognitive science, which aims to understand the physiological mechanisms of the human mind, including the functioning of the central nervous system and neural networks.
- The fourth pillar is language sciences. Language plays a vital role in assessing the intelligence of higher mammals. Humans rank at the top, and the most intelligent animals are those with sophisticated linguistic abilities. Language is central to conceptual representation and social interactions among individuals. It is the combination of these four disciplines that has made the creation of AI possible.⁽⁹⁾

Having defined the concept of AI, our analysis will now focus on the implication of AI utilization on the accounting profession, particularly on the role of accountants and expert accountants.

Use of Artificial Intelligence in the Accounting Profession

Artificial intelligence (AI) enables the automation of time-consuming financial and accounting tasks, and it has become a reality for many accounting professionals, particularly in accounting firms. Its purpose is to save time for professionals by significantly reducing the time required to perform certain tasks manually. For example, tasks that would take half an hour manually can now be completed in a matter of seconds with AI, resulting in better data quality control.

The accounting profession used to operate in a traditional retrospective accounting logic. However, it is now governed by numerous laws and regulations that aim to modernize the profession. Accountants receive data and process⁽¹⁰⁾ it within an information system. This includes preparing monthly financial statements, daily recording of accounting transactions, invoice processing, payroll management, preparation of annual financial statements, and tax and social security declarations. The system takes the data and generates more data and instructions. These instructions can involve making payments or issuing invoices, and the remaining data is used to create various financial and management reports for review. These reports are then filed or analyzed to make decisions about the future direction of a company or product. Sometimes, the trends in this data can

be repeated with different data or modified to reflect

changes in the market. AI introduces predictive and anticipatory accounting, allowing these tasks to be performed quickly based on historical patterns.

Various technologies are already being used in the accounting ecosystem to automate a significant portion of a company's accounting processes. These technologies include:

- Optical Character Recognition (OCR): This technology automatically digitizes paper invoices by recognizing characters within scanned documents. For example, it can identify a customer number, an amount, or a description and directly integrate them into the accounting system.
- Robotic Process Automation (RPA): RPA involves using robots to connect to platforms and retrieve data flows. This technology sometimes incorporates AI. RPA captures, manipulates, and interprets transactional data from multiple software applications simultaneously. In other words,⁽¹¹⁾ RPA processes and interprets the data and transforms it into accounting information for accounting software. Tasks such as data entry, account closing, cash management, dispute management, supplier management, document management, financial operations, consolidation, budgeting, forecasting, and tax operations can be automated using RPA. The main goal is to help accounting firms improve efficiency, increase operational speed, and reduce costs by automating manual, repetitive, and time-consuming tasks.
- Machine Learning: Machine learning is a subset of AI that involves modeling phenomena to make strategic decisions. It helps match invoices with payments to generate alerts in case of late payments or exceeding credit limits. AI can also identify overpayments, thus generating cash. Machine learning algorithms can learn and improve on their own by analyzing data.⁽¹²⁾ By providing data for machine learning, the algorithms can build an internal representation and perform the required tasks. The recent advancements in machine learning have significantly enhanced the learning capabilities of AI tools.
- Deep Learning: Also known as deep neural networks, deep learning emerged in the 2010s. It can be defined as a type of AI where machines are capable of learning on their own without explicit programming. Deep learning enables personalized recommendations, text translation, fraud detection, image reconstruction, and more.

In conclusion, to harness the full potential of AI in financial services, including accounting, it is crucial to ensure data quality and consistency. The success of machine learning relies on the quality of invoice recognition algorithms and accurate accounting allocations. Currently, the AI used in the accounting profession falls under the category of weak AI, where it solves problems with human intervention,⁽¹¹⁾ surpassing human capabilities. Strong AI, which would be capable of independent and intelligent reactions similar to human consciousness, does not exist at present.

Overview of the study and presentation of the findings

To address our problem statement, we conducted a qualitative study to design the future and assess the implication of this technological advancement (AI) on the profession of accountants in Morocco.

METHOD

To conduct this work and explore the new functionalities and tools emerging in the accounting profession, we first conducted extensive research on different scientific databases and reviewed relevant literature to gather a maximum number of articles on the subject. We discovered that there were several established scenarios regarding the future of this profession. Additionally, we decided to interview professionals in the accounting field to observe how they are responding to this technology. It was interesting to determine if the individuals we interviewed already had a grasp of AI concepts, whether they were already incorporating it into their processes, or if they had plans to integrate this new technology.

Our research followed a qualitative approach using a semi-structured interview guide. We conducted interviews with 21 accounting firms located in different cities in Morocco. We scheduled appointments in advance with the targeted respondents, including Certified Public Accountants (CPAs), Chartered Accountants, Chief Accountants in fiduciary companies, and Accounting Assistants. The average duration of each interview was estimated at 40 minutes, during which we recorded the conversations, took notes, and transcribed the responses afterward. The final number of interviews was determined based on the principle of information saturation defined by Glaser and Strauss.⁽¹³⁾ This means that we stopped conducting interviews when we felt that the respondents were no longer providing new information beyond what had already been collected. The study was conducted over a two-month period in April and May 2023.

The aim of this study was to explore the opinions of accounting professionals, gather information, and derive recent findings about their perspectives on the integration of AI within their firms and its implication on their profession.

Analysis of the responses

CPAs perception of AI and digitalization in the accounting field

According to the respondents' answers, AI will be the most influential technology in the financial domain over the next five years. AI is expected to create new modes of production and, in a few years, be capable of conducting analyses, generating statistical reports, and performing global implication studies on accounting firms. Many firms already possess large amounts of data, but they may not necessarily know how to utilize it effectively. AI will open up new possibilities for data exploitation. It will enable quick data analysis, constant monitoring, and compliance analysis. The combination of widespread adoption of electronic invoicing and AI-based systems will lead to significant automation of the accounting production process.

Some firms are more inclined toward digitalization, as it facilitates the management of personnel working in the field. Especially in the past three years with the COVID-19 pandemic, the accounting function has transformed, embracing digital advancements. Numerous consultants and accounting firms are assisting companies in this transformation. They scan electronic invoices, bank statements, electronically collect client data, and manage payroll processes to record accounting operations. This approach enables faster, simplified, and cost-effective communication. The goal is to evolve tools and work methods. This digitalization is just the beginning of artificial intelligence, which can collect, transfer, and present information and living data. It has the potential to automatically make decisions and follow accounting recommendations to perform tasks.

According to the surveyed individuals, artificial intelligence and combined digitalization can take on many tasks that were previously handled by accountants, with little or no human intervention.

These technologies and digital tools will support professionals in the financial and accounting sectors in their ability to reconcile financial and non-financial data with accounting information. Not only will they facilitate decision-making, but accountants and auditors will also be able to implement real-time risk-based approaches for greater responsiveness and adaptability of businesses.

AI integration benefits

The vast majority of interviewees have confirmed the positive implication of integrating AI. According to them, we are in a rapidly evolving world, and AI is the only choice to remain competitive and innovative. However, it is necessary to think globally. The interviewees added that we need to reconsider the nature of work that will be disrupted by integrating AI as a new axis of productivity, allowing us to save time (work could be done 7 days a week, 24 hours a day without any breaks) since tasks will be performed by machines, saving energy and resources.⁽¹⁴⁾ Additionally, the risk of errors committed by robots is almost non-existent. Reports can be generated and sent to relevant individuals with automated follow-up. It's a tremendous opportunity to increase productivity and efficiency.

AI can be a valuable asset for an accountant in leveraging the thousands of data collected on their clients and prospects since AI can provide support in creating and analyzing databases, relieving operators who may take a long time to perform these tasks. Up to this point, the opinions of the target audience have been similar, expressing their overall opinion regarding the effect of digitalization and their thoughts on AI. They believe that AI will be used primarily for task automation, such as real-time accounting entries, providing sales forecasts, and even analyzing documents like contracts or emails in minimal time. The most important aspect is that AI is reserved solely for purely technical skills.

AI Training

Regarding AI training, all the survey respondents expressed a strong need to acquire training in this field in order to support all employees in their own digital "evolution." Simply put, the accounting function will experience a surge as individuals working in this domain must have programming knowledge. Similarly, accounting firms and professional networks in the field are lacking visibility, and it is necessary to raise awareness through early-stage training related to digital technical development. According to the respondents, there is a real need for awareness on this point: it is time to receive training that enables them to think beyond accounting and taxation techniques, making the profession of an accountant even more exciting. They believe that being equipped to work with AI systems, providing quality data, educating, controlling, developing, and collaborating with human tasks will create new sources of added value. Digital training and education represent an asset for the inclusion of AI systems in tasks performed by humans. Digital transformation will facilitate the integration of AI solutions.

According to the survey respondents, major accounting firms invest substantial amounts of money to stay updated and aware of everything that is happening. As the market becomes increasingly competitive and regulatory bodies adopt a firmer stance on the pitfalls of the profession, these firms have no problem spending more money on relevant training.

Artificial Intelligence implementation

The responses to this question vary from one firm to another. 40 % of them are in favor of integrating AI because it will transform their ways of living and working, enabling them to create innovative solutions and advance their company. On the other hand, 60 % are hesitant about implementing AI. They see this new technology as something unfamiliar and terrifying, lacking a clear vision regarding its implication and use. There is a lack of awareness regarding what technology can bring. Additionally, if artificial intelligence falls into the wrong hands, it could pose a serious threat to humanity. According to the survey, generally, everyone should be concerned about the consequences that AI could have.

The Implication of Artificial Intelligence on Accounting Firms

Based on interviews conducted with the target audience: "The Covid-19 health crisis has made the digitization of the relationship between accountants and their clients mandatory. While electronic invoicing is already mandatory for public procurement, this obligation is expected to extend to the private sector. In the absence of this, optical character recognition has historically been the first contribution of artificial intelligence to the accounting function, allowing for the automatic extraction of relevant information from a purchase order or invoice once these paper documents are digitized.

The respondents add that in these times of economic crisis, accountants play a crucial role. They have acted as advisors to help entrepreneurs navigate this troubled period. For example, verifying the regularity of accounts, invoices, and collections, maintaining working capital, amicably collecting client receivables, providing advice to business owners on management, taxation, and labor law.

In this context, professionals can focus on higher-value-added tasks, which does not mean the end of the accounting profession. It is true that the field of numbers will be disrupted by this new innovation, and there will be a decline and even the disappearance of small firms or fiduciaries, especially in the role of accounting assistants. This revolution will benefit those who anticipate and accept the use of new technologies, and it will undoubtedly have a negative implication on those resistant to change. Genuine problems will inevitably arise, with unemployment being a recurring concern, while also noting the cancellation of certain positions and the creation of new roles such as business analysts, AI project managers, and process monitoring.

Experts still have a future ahead of them, and accounting firms will need certain future-oriented skills, such as:

- Accountants can play a role as advisors and position themselves as true coaches to their clients. Machine learning can be considered as a support to assist them in their work. For example, the payment history of a client's account can allow professionals to anticipate the risk of non-payment and implement corrective actions. The coaching function relies more on listening and empathy and will be able to foster client relationships.
- Accountants must form teams where soft skills and interpersonal qualities are key competencies that are more important than technical expertise. Many entrepreneurs and business leaders expect their accountants to provide guidance in areas they are not familiar with, such as management, litigation, recruitment, and law. A robot cannot (yet) fulfill the role of a "professional." Teams should be trained in skills, qualities, creativity, decision-making abilities that machines cannot provide.
- Accountants, auditors, and accounting experts must ensure the reliability and accuracy of financial statements before certifying a company's accounts. This will be easier if, during such a review, we quickly find the associated invoice for each entry, and artificial intelligence helps us reduce or even eliminate human errors.
- 10 % of the firms explained that machines can break down, and in such cases, they will be required to work as they did before without waiting for the machines to be repaired.

Despite all these advantages and the benefits of AI, 80 % of the respondents expressed concerns about integrating this new technology as they are currently at the center of the workflow. They need to interconnect, meaning they must use software that generates the necessary accounting data and focus on the quality of the data, which is essential in the financial domain. With automation, they need to be highly vigilant about the quality of the data they input, as this is what AI will learn from, and it will only repeat and transfer what it has been taught. For example, if information on an invoice is unreadable due to poor scan quality, or if a stamp or paperclip obscures information, algorithms can be disrupted (AI being misused), which could have a negative implication on their work and team. The risk is giving too much freedom to AI and losing control over the consequences it produces.

Furthermore, if there is a programming error, the responsibility lies with the programmer, as machines execute what is programmed and cannot judge what is right or wrong. In essence, new technology never replaces humans; it can only facilitate everyday life. One response that stuck with me is that any innovation (machine, robot, device, etc.) can never replace the human who will always come up with innovative ideas. Otherwise, we wouldn't call it artificial intelligence but human intelligence. Therefore, we must keep the

understanding and use of artificial intelligence at the level of augmenting and reinforcing human intelligence.

DISCUSSION

Through interviews conducted with accounting firms, we found that the respondents' views were almost similar. They agreed that Artificial Intelligence (AI) will have a positive influence on the performance of accounting operations. AI will enable the automation of repetitive financial and accounting tasks, solving simple problems, and saving time for professionals, leading to improved productivity and competitiveness in the field of accounting.

The qualitative study revealed that accounting firms are fully supportive of any changes that can be advantageous to them. AI is undoubtedly part of our future, and it is important to prepare and predict the upcoming changes instead of just accepting its arrival. Implementing AI requires dedicated projects and significant budget allocation. If companies do not invest in new technologies, they run the risk of missing out. Additionally, there are certain tasks that remain inaccessible to AI and require human expertise, such as negotiation, social foresight, team training, persuasion, artistic sense, and the emergence of new professions and skills. It is essential to understand that AI is a human adventure before being a technological one.

AI will bring about three major transformations:

- Developing client relationships.
- Optimizing processes.
- Creating new services tailored to the new economic model.

Despite the enthusiasm among these accounting firms regarding the use of AI to enhance the efficiency of daily tasks and allow employees to focus on other activities, it is important to note that 10 % of these firms are not motivated to integrate this technology due to the negative implication on hiring new employees and interns, which could lead to potential unemployment. Idle individuals can engage in the destructive use of their creative minds. Humans can become unnecessarily dependent on machines if the use of AI becomes pervasive, leading to a loss of their creative power and making them lazy.

However, we can address this issue by evolving employees or accounting assistants to become responsible for programming and controlling the machines. AI does not replace the creativity and inherent learning ability of humans. Its role is to reposition employees with "soft skills" to tasks of higher value rather than changing or reorganizing accounting firms. The introduction of AI may add new responsibilities and complexity to the role of financial directors, making proper accounting assignment essential.

The accountant of the future will need to develop interpersonal skills and data analysis competencies to understand how algorithms work. They must master systems, problem-solving, demonstrate business intelligence, and adapt to change. They will also be heavily involved in tax processes and compliance since AI-related topics will implicate tax authorities.

Employers should support their financial teams in this transition through training and skills development, enabling them to understand the workings of these tools. Moreover, acquiring technical expertise and data analysis skills creates new possibilities for professionals in the field of accounting, allowing them to play an increased role in more sophisticated strategic decision-making for organizations.

As long as AI is considered a complement to human intelligence, the risk of increased unemployment rates in the accounting profession remains minimal. New profiles should be sought, and the accounting function consists of a set of activities that are challenging to automate. This evolution of roles and required competencies is a lever for attracting and retaining talent, as professionals will be able to dedicate themselves more to high-value-added tasks. The use of innovative tools and the elimination of tedious tasks can appeal to the digital-native generation.

In our opinion, AI will simply take its place as an innovative technology, still in the early stages of development, with significant shifts in certain positions, the disappearance of others, and the creation of new ones. AI alone does not improve the accounting system, and humans will always remain at the center. It is essentially a technology that makes tools more efficient.

Based on the extensive reading of various scientific studies, articles, and books, as well as the responses collected during interviews, it is evident that the accounting profession will be among the most impacted by AI. Accountants agree on the integration of AI within their firms. They realize that this digital revolution brings numerous advantages, such as time savings, improved productivity, and enhanced work quality and efficiency by minimizing or eliminating errors. The biggest concern is the potential unemployment resulting from this new technology. To address this, employees need to transition to tasks related to AI, and it is crucial to act swiftly in training employees in the use of technology and developing new social skills. If this transformation is not implemented in a timely manner, employees will face a greater risk of unemployment.

Based on the various studies and responses gathered, we concluded that the accounting profession will undergo a radical transformation, but accountants will still have a role in the future. They may even potentially gain added value and be more involved in decision-making, as managers will rely on their expertise to analyze

and understand the data provided by AI. Accountants will also need to be experts in their field and capable of programming, controlling, and correcting AI to ensure proper task execution.

In summary, AI will have a positive implication on the accounting profession, including:

- The elimination of certain positions, particularly tasks that can be automated, with the creation of new positions focused on computer-based tasks.
- Time savings in repetitive tasks and a reduction in the number of errors.
- Greater emphasis on social, communication, and listening skills.

It is important to note that this analysis is limited by time since the systems in place may not yet be adequately coordinated to enable accounting firms to fully embrace AI. Furthermore, the integration of this digital revolution represents a significant financial investment that poses a challenge for some accounting firms.

CONCLUSION

We are living in a time where technology occupies an increasingly prominent and rapidly evolving role. Artificial Intelligence plays a crucial role in the financial field and is merely an aid, a support to various accounting professions, as repetitive tasks will be handled with higher quality and minimal irregularities. It is an opportunity for accounting firms to enhance human skills and capabilities. AI is simply an intelligence that improves human intelligence with machines and robots that are quite basic but fundamentally essential due to their fast calculation capabilities. AI will become an essential partner that provides valuable assistance to accountants. Professionals must be attentive and reflective regarding the types of uses and objectives they wish to assign to these machines, as they can be used for both good and bad purposes. AI has its limitations; it lacks reasoning and intuition, it cannot do everything, and most importantly, it cannot do anything on its own. It is merely a solution that enhances capabilities and brings the expected benefits to firms to maintain performance. It always requires someone to be accountable if things go wrong. Accounts will always need to be reviewed, decisions will always need to be made in their context, and as more data and analyses become available, someone needs to know exactly what should be analyzed.

All of this leads to the necessity of relying on accountants in two distinct domains:

- The first domain focuses on the process: ensuring that the right procedures are followed consistently and that they flow correctly within the system to achieve regular and accurate results.
- The second domain involves those who will continue to play an increasingly important role in business partnerships, negotiations, and relationship management.

Based on the results of our research, we were able to confirm our third proposition titled “Artificial Intelligence would modify the foundations of the accounting profession.” Indeed, many basic positions will disappear, but new accounting profiles and jobs with higher added value will emerge, requiring skills in computer science, programming, etc. To succeed in this transition, it will be necessary to reconsider the organization of accounting firms to harness the full potential offered by new technologies while creating new opportunities for employees.

In conclusion, regardless of size, industry, or economic model, companies are compelled to initiate a digital transformation using AI to innovate and remain competitive. These innovations can undoubtedly be used to optimize energy consumption and recycling, thereby reducing greenhouse gas emissions. The challenge of AI usage is closely linked to an important aspect of sustainable development. AI has the potential to lead us to a completely new approach to addressing the challenges of the current world, such as “Artificial Intelligence: What implication on the environment?”

REFERENCES

1. Agustí MA, Orta-Pérez M. Big data and artificial intelligence in the fields of accounting and auditing: a bibliometric analysis. *Span J Finance Account Rev Esp Financ Contab.* 22 juill 2022;1-27. <https://doi.org/10.1080/02102412.2022.2099675>
2. Stoel D, Havelka D, Merhout JW. An analysis of attributes that impact information technology audit quality: A study of IT and financial audit practitioners. *Int J Account Inf Syst.* 1 mars 2012;13(1):60-79. <https://doi.org/10.1016/j.accinf.2011.11.001>
3. Bedard JC, Jackson C, Ettredge ML, Johnstone KM. The effect of training on auditors' acceptance of an electronic work system. *Int J Account Inf Syst.* 2003;4(4):227-50. <https://doi.org/10.1016/j.accinf.2003.05.001>
4. Mghizou H. L'IMPACT INDIVIDUEL PERÇU D'UN LOGICIEL D'AUTOMATISATION D'AUDIT PAR LES AUDITEURS FINANCIERS MAROCAINS : RESULTATS D'UNE ENQUETE EXPLORATOIRE. 2017;21. <https://doi.org/10.3166/rfg.207.169-180>
5. Marie Younis NM. THE IMPACT OF BIG DATA ANALYTICS ON IMPROVING FINANCIAL REPORTING QUALITY. *Int J*

Econ Bus Account Res IJEBAR [Internet]. 23 sept 2020 [cité 21 nov 2022];4(03). Disponible sur: <https://jurnal.stie-aas.ac.id/index.php/IJEBAR/article/view/1108> <https://doi.org/10.29040/ijebare.v4i03.1108>

6. Agustí MA, Orta-Pérez M. Big data and artificial intelligence in the fields of accounting and auditing: a bibliometric analysis. *Span J Finance Account Rev Esp Financ Contab*. 22 juill 2022;1-27. <https://doi.org/10.1080/02102412.2022.2099675>

7. Fedyk A, Hodson J, Khimich N, Fedyk T. Is artificial intelligence improving the audit process? *Rev Account Stud*. 1 sept 2022;27(3):938-85. <https://doi.org/10.1007/s11142-022-09697-x>

8. Munoko I, Brown-Liburd HL, Vasarhelyi M. The Ethical Implications of Using Artificial Intelligence in Auditing. *J Bus Ethics*. 1 nov 2020;167(2):209-34. <https://doi.org/10.1007/s10551-019-04407-1>

9. Fukas P, Rebstadt J, Remark F, Thomas O. Developing an Artificial Intelligence Maturity Model for Auditing. 2021. https://doi.org/10.1007/978-3-031-07472-1_7

10. Adrian C, Abdullah R, Atan R, Jusoh YY. Conceptual Model Development of Big Data Analytics Implementation Assessment Effect on Decision-Making. *Int J Interact Multimed Artif Intell*. 2018;5(1):101. <https://doi.org/10.9781/ijimai.2018.03.001>

11. Mugwira T. Internet Related Technologies in the auditing profession: A WOS bibliometric review of the past three decades and conceptual structure mapping. *Rev Contab*. 1 juill 2022;25(2):201-16. <https://doi.org/10.6018/rccsar.428041>

12. Hampton C, Stratopoulos TC. Audit Data Analytics Use: An Exploratory Analysis. *SSRN Electron J [Internet]*. 2016. <https://doi.org/10.2139/ssrn.2877358>

13. Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory Strategies for Qualitative Research*. Mill Valley, CA: Sociology Press. - References - Scientific Research Publishing. <https://doi.org/10.4324/9780203793206-1>

FINANCING

The authors did not receive funding for the development of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

Conceptualization: Vandapuye Sophia, Jabraoui Siham.

Data curation: Vandapuye Sophia, Jabraoui Siham.

Formal analysis: Vandapuye Sophia.

Investigation: Vandapuye Sophia.

Methodology: Vandapuye Sophia.

Resources: Vandapuye Sophia, Jabraoui Siham.

Supervision: Jabraoui Siham.

Validation: Vandapuye Sophia, Jabraoui Siham.

Writing - original draft: Vandapuye Sophia, Jabraoui Siham.

Writing - review & editing: Vandapuye Sophia, Jabraoui Siham.