IMPACT OF ARTIFICIAL INTELLIGENCE ON ACCOUNTING PROFESSION

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BEING A PROJECT WRITTEN AND SUBMITTED TO THE DEPARTMENT OF ACCOUNTING, FACULTY OF MANAGEMENT SCIENCES, UNIVERSITY OF BENIN, BENIN, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE IN ACCOUNTING.

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DECLARATION

I, Dorcas Peace MOSES, do hereby declare that:

i) This project report is based on a study undertaken by me in the department of Accounting, University of Benin, under the supervision of Prof F.K. Emeni.

ii) This work has not been previously submitted for the award of degree elsewhere.

iii) All ideas and views are product of my personal research and where the views of others have been expressed, they have been duly acknowledged.

iv) All liabilities arising from the study are entirely mine and not those of the supervisor

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CERTIFICATION

We certify that this work was carried out by Dorcas Peace MOSES with the matriculation number MGS2007460 in the Department of Accounting, University of Benin, Benin City.

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DEDICATION

This research work is dedicated to God Almighty for his constant love, mercies and faithfulness over my life, and holding my hands all through my academic pursuit and aspirations.

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ABSTRACT

The main purpose of this study was to examine the impact of artificial intelligence on the accounting profession. It examines the usefulness of artificial intelligence to the accounting profession. The findings indicate that artificial intelligence and the accounting profession are positively correlated, and that AI will have an impact on the accounting profession in the future. The accounting profession's adoption of artificial intelligence has improved the quality of financial information, relevance, faithful representation, efficiency, and corporate governance information. However, it is advised that a comparison of the use of the accounting profession in other fields and in other accounting professions could offer some insights into institutional and cultural factors that influence the decision to use artificial intelligence. Additionally, the use of AI technology can help improve the quality of their asset base and lower leverage ratios by reducing debt. A survey research design was used in the study. A total of 50 questionnaires were distributed equally among penultimate, final-year students and faculty members working in the accounting department of the University of Benin in Benin City, Edo State, as the primary method of data collection. Regression analysis was used to formulate and test five hypotheses. The analysis's findings led to the acceptance of the alternative hypotheses and the rejection of the five null hypotheses. Thus, it was determined that artificial intelligence significantly affects how the accounting profession is perceived. According to the study, the accounting profession should implement stronger artificial intelligence procedures in order to enhance the caliber of their financial reporting and, consequently, their overall worth.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

In recent years, there has been a lot of research on how artificial intelligence (AI) is affecting the accounting industry. The accounting industry is not an exception to the growing use of automation and artificial intelligence in many other sectors. Accountants can concentrate on more intricate, value-adding duties by using AI technologies like robotic process automation, machine learning, and natural language processing to automate repetitive work.

Studying this subject aims to find out how much artificial intelligence is altering and upending the traditional role of accountants, especially in areas like auditing, financial reporting, tax compliance, fraud detection, and a few other accounting-related fields. Additionally, it looks into the possible advantages and difficulties of implementing AI in the accounting industry.

Although artificial intelligence (AI) has been around since the 1950s, corporations have only lately begun to be able to purchase AI products. Many organisations are increasingly using AI to boost efficiency, improve performance, and improve decision-making due to the availability of huge data and advances in processing power.

The impact of AI on the accounting sector has been the subject of numerous studies and research articles. They have examined a number of AI adoption-related topics, including the effects on job positions, the skills that future accountants will need, and the moral implications of AI use in accounting.

AI has the potential to streamline accounting processes, reduce errors, and enhance decisionmaking, according to research. AI is not a one-size-fits-all solution, though, and there are still worries about how it will affect employment and job displacement in the accounting industry. It is impossible to overstate the importance of artificial intelligence (AI) in the accounting industry since it is here to stay. It is concerning that more and more technologies are being developed to replace people in businesses, including the accounting industry. It is imperative that accountants educate themselves on the latest technological advancements. The process of making computers, computer-controlled robots, or software think intelligently like a human is known as artificial intelligence. This suggests that technology may lessen the role of people in businesses, especially in accounting (Ezeribe, 2019).

Along with the Internet of Things, cloud computing, and blockchain, artificial intelligence (AI) is one of the most significant technologies of the future. It is seen as a machine's capacity to mimic human behaviour, such as speech and decision-making. Some advantages of using artificial intelligence systems are already well-known in various sectors of endeavour, including the potential for more accurate outcomes and time savings when processing massive amounts of data. Artificial intelligence solutions, namely their impact on the accounting field, are an intriguing topic for study cases, although they are neither a novel issue for researchers nor a standard practice for technologically savvy firms (Andriosopouloset.al., 2019).

1.2 Statement of the research problem

The rapid advancement of artificial intelligence (AI) technology has expanded its use in a number of industries, including accounting. The application of AI may result in major changes to the duties and responsibilities of accountants and, eventually, the accounting profession as a

whole, even though it has the potential to increase efficiency and accuracy in accounting activities.

Because artificial intelligence software can analyse and identify patterns in previous data to predict future market moves, it has made human financial analysts redundant. Even the store worker who fills the cans in the aisle might not be human in the near future. A robot called Tally was developed to search shelves for misplaced items, out-of-stock items, and pricing issues. Similarly, human banking jobs have been replaced by ATMs and smartphone apps. Artificial Intelligence is likely to replace many of the remaining human-performed teller and bank representative jobs. In addition to processing financial transactions, AI will be able to open accounts and process loans much more swiftly and affordably, which is necessary for workers.

Investigating the possible effects of AI on the accounting industry and recognising the challenges and opportunities associated with its incorporation into accounting procedures and certain areas of the accounting profession constitute the research problem.

1.3 Research Questions

The research questions for the study on the impact of Artificial Intelligence on Accounting Profession are as follows:

1. How has Artificial intelligence education and training impacted accounting profession?
2. What is the Artificial intelligence potential benefits on the accounting profession?
3. How has Artificial intelligence technology reduce the place of humans in the accounting profession?
4. What are the artificial intelligence potential risk and challenges on accounting profession?
5. How has artificial intelligence affected the different sectors of the accounting profession?

1.4 Objective of the Study

The main objective of this study is to examine the impact of Artificial Intelligence on Accounting Profession.

Other specific objectives which are to be obtained are to:

1) examine the impact of artificial intelligence education and training on accounting profession.

2) ascertain the impact of artificial intelligence potential benefits on the accounting profession.

3) examine how artificial intelligence technology can reduce the place of human in the accounting profession.

4) determine the effects of artificial intelligence potential risk and challenges on accounting profession.

5) examine the effects of artificial intelligence on the sectors of accounting profession.

1.5 Hypothesis of the Study

The hypothesis is mentioned in the null form for testing.

Ho1: There's not significance connection between the impact of artificial intelligence education and training and the accounting profession.

Ho2: There is no significant relationship between artificial intelligence potential benefits and accounting profession.

Ho3: There is no significant relationship between artificial intelligence technology and accounting profession.

Ho4: There is no significant relationship between artificial intelligence potential risk and challenges and the accounting profession.

Ho5: There is no significant relationship between artificial intelligence effectiveness and accounting profession.

1.6 Scope of the Study

Considering the use of AI-based accounting systems, the evolving roles of accountants, and the consequences for accounting professional education and training, the study's scope is to investigate how artificial intelligence is affecting the accounting industry. Different viewpoints and ideas on artificial intelligence are what we wish to compare and contrast. This objective will be achieved by creating a survey and looking at literature reviews. Data will be gathered mostly from a questionnaire given to accounting students and faculty members working for the University of Benin. Investigating the effects of artificial intelligence on the accounting profession is the aim of the explanatory questionnaire.

1.7 Significance of the Study

The study on artificial intelligence's effects on the accounting profession is significant in a number of ways and for different areas of the accounting profession.

This research would benefit several different groups of people such as:

1. Accountants: Accountants could benefit from understanding how AI is likely to impact their profession in the coming years. This knowledge could help them prepare for changes in the industry and identify new opportunities for growth and development. For example, to stay competitive in the field, they might need to pick up new abilities and information..
2. Accounting Firms: Research on how artificial intelligence is affecting accounting firms' business models could be beneficial. They might utilise this information to pinpoint areas where they can apply AI to boost production and efficiency as well as possible hazards and difficulties related to its application.
3. Researchers: Researchers would find this study to be a useful tool for expanding knowledge, refining methodology, and clarifying the ways in which artificial intelligence is

impacting the accounting industry. Researchers can better grasp the topic by identifying areas that require more research and by offering perspectives on the challenges and opportunities presented by the use of artificial intelligence in accounting.

4. Regulators and Policymakers: Understanding the potential effects of artificial intelligence on the accounting industry from a wider economic standpoint could be helpful to regulators and policymakers. With this information, they may create rules and procedures that encourage the industry's ethical use of AI while reducing any potential drawbacks.

5. Business Owners: Knowledge on how AI is affecting the accounting industry can help business owners, especially small businesses, understand how AI can help them reduce the costs of bookkeeping and other accounting-related tasks. Also, the research can guide them in choosing the right accountinging software that uses AI and machine learning.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter review the various literature related to this study. These are contained in various subheadings and these include introduction, the history and evolution of Accounting and Artificial intelligence, its usefulness in the Accounting Profession, theoretical framework, the related theories to the study (theoretical review).

2.2 Conceptual Review

Conceptual Review on Artificial Intelligence on Accounting Profession

2.2.1 Artificial Intelligence

Artificial Intelligence (AI) is " a multi-disciplinary field of research that covers a wide variety of content, technologies and different applications involving cognitive science, robotics and natural interfaces" (Borana, 2016; Brill, 2018).

The Origin of Artificial Intelligence

Artificial intelligence adaptation began decades in the past and became prevalent when businesses began using computer systems. AI is seen as an improvement of the accounting services' quality, due to the possibility of the intelligent systems of over-take human tasks and even to reach decisions independently (Stancheva, 2018).

The field of AI was founded, formally, in 1956 in Hanover, New Hampshire during a conference at Dartmouth College, where the term artificial intelligence was first mentioned. At that conference the scientists were positive regarding the fast development of Artificial Intelligence, one of them being Marvin Minsky which is the author of a book about AI. (Rosario et. al., 2016).

The evolution was not as expected due to the absence of government financing and the critical reports, which led to a research stasis between 1974 and 1980, prevented this progression from happening as planned. In an effort to compete with the Japanese government, the British government began investing in AI technologies in 1980. Following this brief upturn, the production of computers and the lack of government financing led to a second winter in interest in artificial intelligence, which lasted from 1987 to 1993. However, after this time, studies in the field started to take shape, and in 1997 an IBM computer defeated a Russian champion at chess. In 2011 a computer program has won a quiz show (Greenman, 2017).

The term "Artificial Intelligence" was coined by John McCarthy (Yadav et Al., 2017). Artificial intelligence (AI) is the academic field of study that deals with the technical know-how on creating computers and computer software that are capable of intelligent behaviour or the study of programming computers to do things better and more accurately than humans (Elaine, 2000). In another perspective, artificial intelligence refers to the capability of a programmable apparatus to execute tasks that are typical of the human brain. These activities include the following: knowledge and the capability to acquire it, judgment, original thought, and relationship understanding. The primary goal of artificial intelligence is creating intelligent computers with human-like response capabilities.

Artificial intelligence can be divided into four different aspects which include; intelligence, business, research, and programming dimensions (Carol and O' Leary, 2013).

Artificial Intelligence: It entails programming machines to act in ways that humans would act.

Business and Research Dimensions: are effectively tools used in solving human and business problems better than human solutions.

The last dimension is programming: it includes symbolic programming.

Expert system software can be developed for any kind of problem that involves a selection from a group of choices especially if the decision is based on logical steps. Hence any area where a person or group of persons has special expertise needed by others is a potential area for creating an expert system. (Taghizadeh, et al., 2013).

A key component of the modern technology sector and a vital area of computer science is artificial intelligence (AI). It is described as the capacity of digital devices and computers to carry out operations that mimic those carried out by intelligent beings (humans), such as thinking and picking up knowledge through experience. Artificial intelligence (AI) aims to develop systems that are clever and operate similarly to humans, depending on learning and comprehension to offer customers a choice of precise and speedy services (Al-Ratami, 2012).

Artificial intelligence, as defined by Yaseen (2012), is both the intelligence that a human develops and transmits to a machine or computer, as well as the intelligence that a human makes or produces in a machine or computer. It is also a science with the objective of giving computer systems the ability to do tasks that call for intelligence.

According to Anbar and Muhammad (2016), artificial intelligence is a computer program that can study and implement repetitive human activities, as well as understanding complex mental processes and turning them into solvable ones in seconds transform accounting processes. According to Belhamou and Warzi (2017), artificial intelligence is a branch of computer science that seeks to mimic a cognitive ability to replace humans in performing relevant tasks in a specific environment that requires intelligence. The two researchers discovered that the foundation of the idea of artificial intelligence is the ability of machines (computers) to interact or communicate with humans and provide them with information (as feedback) as in a way that makes them feel as though they are interacting with a human of the same sex without realizing it.

In the field of accounting, artificial intelligence (AI) refers to the implementation of machine learning, natural language processing, and robotic process automation to simplify accounting processes (Schaudt, 2023). The concept of AI involves machines carrying out tasks that typically require human intelligence in an AI strategy (Zhang et al., 2023).

Al can be utilized for various accounting tasks, including data entry, financial analysis, and fraud detection. Automating these tasks with Al can save time, reduce errors, and provide valuable insights for accountants to make informed decisions (Thakker & Japee, 2023).

AI technology allows accountants to allot their attention towards more complex activities that need human cognitive abilities, while it can rationalize decision-making processes, save costs, and improve overall efficiency. (Chua, 2013).

Given the human capacity for cognition, judgment, and intention, Smith (2020) claims that artificial intelligence (AI) is commonly understood as machines that react to simulation in ways comparable to conventional human responses. The question of whether AI was intended to support or replace humans—especially professional accountants—was raised by the fact that it was developed to mimic and enhance human intellect.

Artificial intelligence (AI) has been pushing limits and broadening its scope ever since it became a separate subject of study in the middle of the 20th century. It is by its very nature inclusive, spanning multiple fields and resisting particular classification. Artificial Intelligence is not so much a program with a clearly defined research domain as it is a program with an ambitious goal: comprehending human cognition and reproducing it by building human-like cognitive processes.

Artificial Intelligence (AI) is the broad category of algorithms that lie at the confluence of computer science, mathematics (logic, optimization, analysis, probability, linear algebra), cognitive science, and domain-specific expertise.

AI encompasses a diverse range of algorithms. These algorithms include semantic analysis, symbolic representation, statistical or exploratory learning, neural networks, and more. It seems unbelievable that a century ago we could not have imagined the tool we are in front of today.

Artificial Intelligence is not a creature; it is non-physical. It is the first intelligent tool in human history. The objective of artificial intelligence (AI) is to mimic some of the mental abilities of humans using technical tools like computer science, automation, mathematics, and more. Rather than just providing numerical findings, survey statistics, sales figures, or macroeconomic indicators, it entails extracting knowledge and information from large data through intelligent learning. But to talk about AI, one must question and define human intelligence. Given that intelligence is multifaceted, this is a challenging task. 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:

i. the first pillar is essential for partially or fully reproducing human intellect.

ii. the second pillar includes mathematics, which is known as " the science of quantity and order," and which makes data analysis, modelling, and organizing possible. Algebra, logic, statistics, and probability are essential subdomains for using algorithms to simulate cognitive processes.

iii. the third pillar is cognitive science, which seeks to comprehend the physiological mechanisms of the human mind, particularly how brain networks and the central nervous system operate.

iv. the fourth pillar is language sciences. When evaluating the intelligence of higher mammals, language is essential.

Humans are the most intelligent species, and the most intelligent animals are those with sophisticated linguistic abilities. Language is central to conceptual representation and social interactions among individuals. The combination of these four disciplines has allowed for the creation of artificial intelligence (AI).

Having defined the term artificial intelligence (AI), our analysis will now center on the implications of AI utilization on the accounting profession, specifically on the role of accountants and expert accountants.

2.2.2 Accounting Profession

The history of accounting as a profession can be traced back to ancient civilizations, including the Mesopotamian, Egyptian, and Greek societies. Early forms of accounting were based on simple record-keeping of transactions involving bartering and trade. During the Middle Ages, bookkeeping became more complex as Europeans began using the double-entry bookkeeping system, which recorded transactions in two columns to balance debit and credit. Luca Pacioli, an Italian mathematician, is considered the father of modern accounting for his contributions to the development of double-entry bookkeeping.

The industrial revolution of the 19th century saw accounting become more important as businesses became larger and more complex. As a result, many American universities began offering accounting courses, and the American Institute of Accountants was founded in 1887, later renamed

to the American Institute of Certified Public Accountants (AICPA). In the 20th century, the accounting profession continued to evolve with the growth of multinational companies, globalization, and technological advancements. In response to new regulations, the Sarbanes-Oxley Act was passed in 2002, requiring public companies to have more comprehensive financial reporting, which led to an increased demand for trained accountants.

Today, the accounting profession continues to evolve with technological advancements such as the emergence of artificial intelligence and automation. The profession is also being impacted by changing business models, with more companies adopting sustainable accounting practices to reflect on their environmental and social impact. Accounting has become an integral part of businesses and economy, with various sub-fields like auditing, taxation, financial and management accounting. The profession of accounting continues to adapt to new challenges and is essential for ensuring businesses' financial health and integrity. Overall, the accounting profession has a rich history that has been shaped by social, economic, and technological changes over time.

2.2.3 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 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.

RPA or Robotic Process Automation: is the use of 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, 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 (ML): Machine learning is a subset of artificial intelligence. It serves as the technical basis for solving problems, uncovering insights or producing a behaviour (Wittten, Frank, Hall and Pal, 2016) 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 is achieved through the analysis of a large set of structured data (that is, traditional machine learning) and unstructured data (that is deep learning) to find useful information that is important for predicting, explaining and understanding a phenomenon" (Witten et al, 2016).The " goal of machine learning is to develop cognitive learning algorithms that can be programmed to solve new problems using applied learning from previous examples rather than directly programming algorithms to solve new problems as they arise' (Najafabadi et al, 2015). Nowadays businesses make use of machine learning " approaches to gain a competitive advantage, generate revenue, as well as deliver intelligent product that are more personalized, efficient and adaptive" (Alpaydin, 2014). A major component within the growth of AI technologies business to industry 4.0 is machine learning (Zawadaki and Zymicke, 2016). In marketing, machine learning gives the firm insight on how to refocus the firm' s resource towards providing personalized offer to customer needs. It also enables the organization to do research on the customers in order to understand the demographics as well as purchase patterns of these customers (Davenport and Kim, 2013). Insight can be extracted from analytical " advancements in the areas of visual objects recognition, sentiment analysis,

question answering and speech recognition" (LeCun, Banjio and Hinton, 2015; Brill, 2018).

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, surpassing human capabilities. Strong AI, which would be capable of independent and intelligent reactions similar to human consciousness, does not exist at present.

Natural Language Processing (NLP): Natural learning processing is the " part of the computational linguistics branch of computer science focused on ensuring that computer learn, understand and produce human language content" (Hirschbergg and Manning, 2015), NLP " tries to understand speech and text as human beings would do" (Osman and Zalhan, 2016). The" activities performed by NLP include correcting of spelling errors, forming semantics, sentence structures, providing semantic relationships for the appropriate response" (Canbek and Mutlu, 2016: Brill, 2018). In business, NLP is a technology bridge that enables " machine language to ultimately be transformed to human communication and vice versa" (Daris and Marcus, 2015). NLP has made it possible for companies to identify and monitor emerging topics and options. Identifying customers' needs and tailoring such needs with the demographic

information of customers is one of the many functions of NLP in marketing (Hirschberg and Manning, 2015). More so, knowledge gained from NLP would provide a proactive competitive advantage to response to the market " by focusing specific resources and extending personalized (customized) offers to the customer" (Moorthy et al, 2015, Bill, 2018).

Chatbots: Chatbots are text based conversational applications that let a human user talk with a bit that replies immediately to them. A study conducts by SAP (a market research firm) revealed that only 9% of future 500 companies are implementing chatbots (SAP, 2018). Chatbots are of two forms namely

The rule – based chatbots and

The AI – powered chatbots.

The first which is rule – based chatbots responds only to specific commands. If the user does not input the correct command, the chatbots will not understand and respond accordingly to the prompt. Meanwhile learning, natural language processing, natural language understanding and natural language generation to enable human – like conservation are the features of AI-powered chatbots. This form of chatbots learns from past conservation with user and can assess important information to store for reference in future conservations (Cannella, 2018). Specifically, in finance artificial intelligence applications relevant to the field include robotic process automation and intelligent automation (Marr, 2022).

2.3 Analysis of Dependent and Independent Variables.

2.3.1 Impact of artificial intelligence education and training on the accounting profession

Accounting is one prominent profession where major changes in professions have resulted from the incorporation of Artificial Intelligence (AI) into numerous sectors. As AI technologies develop, they offer tools that can do a variety of jobs that accountants have historically handled, such as data entry, analysis, and reporting. The accounting profession is now more aware than ever of the need for education and training in artificial intelligence and associated technologies. This research investigates the effects of AI training and education on the accounting industry,

focusing on changes in skill demands, job roles, productivity, and the overall strategic direction of accounting firms.

The accounting profession has historically required a strong foundation in principles of accounting, finance, and regulation. However, with AI's emergence, there is a growing need for accountants to acquire competencies surrounding data science, machine learning, and AI technologies. According to a study by the American Institute of CPAs (AICPA), accounting professionals expect their roles to evolve to include more analytical and advisory functions, necessitating training in AI tools and analytics (AICPA, 2021).

Nowadays, accountants must learn how to comprehend the data outputs produced by AI systems. Effectively managing and analyzing large amounts of data is now a necessity rather than an option. Universities and professional training facilities are modifying their curricula in response to these developments.

Many universities are integrating AI courses into their accounting programs, focusing on big data, predictive analytics, and technology management to ensure that graduates are job-ready (Dumay, 2020).

As automation takes over routine accounting tasks, the traditional role of accountants is evolving from record keepers and data processors to strategic advisors and consultants. A report by Deloitte highlights that tasks previously performed by staff accountants, such as bookkeeping and compliance, can now be automated through AI technologies, which allows professionals to focus on higher-order tasks (Deloitte, 2019).

Accountants, for example, are increasingly providing advice on technology investments and participating in strategic planning. To effectively assist clients in comprehending and applying AI-generated insights, they must acquire competencies in business intelligence and data storytelling. This change in job roles highlights how important it is to provide adequate AI education and training; without the right knowledge and abilities, accountants risk being ill-prepared to deal with the quickly evolving field of accountancy.

AI has shown to have a great deal of promise for increasing accounting professionals' productivity. Accounting professionals can devote more time to information analysis and strategic client advise like data reconciliation and other repetitive tasks can be automated, report preparation, invoicing. A study by McKinsey indicates that AI could automate up to 40% of activities in the accounting profession, with minimal human intervention required for routine tasks (McKinsey, 2017).

Maximizing these productivity improvements requires education and training. Professionals need to know how to properly implement AI tools and incorporate them into their operations. Courses that offer practical experience with AI applications can greatly improve an accountant's capacity to use automation to their advantage, resulting in higher productivity and efficiency.

The adoption of AI in accounting firms requires a comprehensive reassessment of staff planning and resource allocation. Businesses must make sure that workers have the skills needed to properly

use AI products. As a result, a lot of businesses are spending money on upskilling their staff members through internal training initiatives and collaborations with academic institutions.

Research by the Association of Chartered Certified Accountants (ACCA) indicates that organizations that prioritize continuous learning and AI training for their accountants are better positioned to compete in an increasingly automated environment (ACCA, 2020). Firms that invest in the education and development of their workforce are likely to see a return on that investment in the form of improved client service, increased operational efficiency, and enhanced professionalism.

The accounting industry has seen a rise in ethical concerns due to the quick advancements in artificial intelligence technology. The repercussions of employing tools and data generated by AI must be understood by professionals. If AI algorithms are not properly understood, biases may be introduced, which could result in inaccurate findings in financial reporting and analysis.

Transparency, accountability, and fairness are being emphasized more and more in ethical AI usage education. Training programs need to incorporate modules that educate accountants on the ethical implications of AI in accounting practices, impacting how they manage client data and the recommendations they offer based on AI outputs (PwC, 2021).

Successful case studies illustrate the tangible benefits of AI education and training in accounting. For example, Ernst & Young (EY) has developed programs that focus on AI-driven analytics to improve auditing processes. Their training initiatives allow accountants to better understand how to apply AI tools, such as anomaly detection algorithms, to enhance audit quality and efficiency (EY, 2021).

These real-world examples demonstrate how AI training can result in notable enhancements to operational efficacy and service delivery.

Additionally, companies such as KPMG have begun integrating AI and machine intelligence into their training programs in order to highlight the value of workforce flexibility. They put a lot of emphasis on lifelong learning, giving staff members the skills they need to apply AI applications to a range of accounting tasks like tax preparation, auditing, and consulting services. This proactive approach to training ensures that employees do not merely fear the onset of AI but embrace it as a valuable asset (KPMG, 2020).

The intelligent integration of AI education and training in accounting faces a number of obstacles despite its many advantages. Access to high-quality training materials varies, especially between smaller and larger businesses. Small and medium-sized businesses may be at a competitive disadvantage because they lack the resources to invest sufficiently in AI training programs.

In addition, some accountants may be reluctant to adopt new technologies due to a cultural reluctance to change in the field. To guarantee a seamless transition, organizations must implement efficient change management techniques, such as showing staff members the advantages of AI tools and offering continuing assistance.

In summary, AI training and education have had a significant impact on the accounting industry, bringing with it new demands for skills, changes in work roles, and increases in productivity. It is essential that accounting education stay up with technology developments as the field continues to change.

Encouraging accounting professionals to adopt AI technology while emphasizing the development of complementary skills that improve their capacity to offer strategic advice is imperative. Companies also need to understand how important it is to make continuous educational investments and ethical concerns for AI applications. Aiming for adaptability and ongoing learning

will be crucial components of staying relevant in the shifting landscape as the profession and technology both continue to advance.

2.3.2 Benefits of Artificial Intelligence in Accounting

The accounting profession has witnessed a significant shift in recent years, thanks to the integration of AI technologies. The benefits of incorporating artificial intelligence in accounting are numerous such as streamlining financial processes, enhancing accuracy, automating tasks, and gaining valuable insights.

Embracing AI in Accounting

AI offers a several benefits that enable accountants to streamline their processes, enhance accuracy, and make data-driven decisions. In this way, accounting professionals can focus more on strategic tasks that require human expertise, while routine and repetitive tasks can be automated.

Automating Routine Tasks

One of the primary advantages of AI in accounting is the automation of mundane and repetitive tasks. AI-powered systems can handle tasks such as data entry, invoice processing, and payroll calculations with speed and precision. This automation not only saves time but also minimizes the risk of human error, ensuring greater accuracy in financial records.

Enhancing Accuracy and Efficiency

AI algorithms can process the large amount of data in a fraction of time that a human accountant may take. AI systems can analyze financial data, identify patterns, and extract insights from it by using machine learning and NLP techniques. It will increase the accuracy and efficiency of accounting processes, reducing the likelihood of errors and improving overall productivity.

Advanced Data Analysis

With the ability to analyze large volumes of data, AI enables accountants to gain deeper insights into financial patterns and trends. AI algorithms can identify anomalies, detect potential risks, and highlight opportunities for cost savings or revenue growth. This advanced data analysis empowers accountants to make data-driven decisions that contribute to the financial success of organizations.

Real-Time Reporting and Decision-Making

AI-driven accounting systems can generate real-time reports and provide up-to-date financial information to stakeholders. This enables faster and more informed decision-making because executives and managers can access accurate financial data when they need it. Real-time reporting also allows for timely adjustments and course corrections and optimize business strategies for better outcomes.

Improved Fraud Detection

Fraudulent activities pose a significant threat to businesses of all sizes. AI algorithms can help detect anomalies and patterns indicative of fraudulent behaviour. By analyzing financial transactions and identifying suspicious activities, AI systems can flag potential fraud risks, enabling accountants to investigate and mitigate them promptly. This proactive approach strengthens internal controls and minimizes financial losses due to fraud.

Improving Customer Experience

By offering individualized and effective services, artificial intelligence can also improve the accounting client experience. Virtual assistants and chatbots can respond to customer questions, offer self-service choices, and offer real-time assistance. This reduces reaction

times, boosts customer satisfaction, and aids businesses in forging closer bonds with their clients and providing more valuable, value-added service.

Handling Complicated Regulatory Compliance

An essential component of accounting is adherence to constantly evolving regulations. By automatically tracking and analyzing regulatory changes, artificial intelligence (AI) can help simplify compliance procedures. Artificial intelligence (AI) systems can detect possible compliance gaps and offer suggestions for guaranteeing adherence by examining pertinent laws and regulations. This proactive approach helps businesses maintain a strong legal and ethical standing while reducing the risk of non-compliance.

Facilitating Predictive Analytics

AI' s predictive capabilities empower accountants to forecast future financial trends and outcomes accurately. By analyzing historical data and market trends, AI algorithms can identify patterns and make predictions regarding cash flow, revenue growth, and profitability. This foresight enables businesses to make informed decisions and develop effective strategies to capitalize on opportunities and mitigate risks.

Mitigating Human Error

Even the most diligent accountants are prone to human errors. AI technology can significantly reduce the occurrence of mistakes through the automation of data entry, computations, and conciliation procedures. AI systems reduce the need for human intervention, preserving data integrity and correctness while lowering the possibility of expensive errors and guaranteeing accurate report statement.

Breaking Through Linguistic and Cultural Hindrance

Language and cultural diversity can pose challenges in accounting processes. AI-powered language translation and interpretation tools bridge these gaps by facilitating seamless communication and understanding. Accountants can rely on AI to accurately translate financial documents, collaborate with international counterparts, and ensure effective cross-cultural communication.

Supporting Sustainable Practices

Sustainability and environmental responsibility have become essential considerations for businesses worldwide. AI in accounting plays a role in promoting continuous methods by making effective resource administration possible. AI systems can find chances for cost reductions and environmentally friendly projects by examining energy consumption, supply chain data, and effectiveness. This integration of AI helps organizations align their financial practices with sustainability goals.

Future Implications of AI in Accounting

The future of AI in accounting holds immense potential. As technology advances, AI systems will become even more sophisticated and enable the accountants to automate complex tasks, enhance predictive capabilities, and also provide advanced financial insights. With increased adoption of AI, the role of accountants will evolve to focus on strategic decision-making and value-added services.

2.3.3 Challenges of Artificial intelligence on accounting profession

The industry has changed at the quickest rate in history. It is expected of accounting professionals to work well in an environment based on AI technology, which is marked by ongoing technological advancements, a blurring of the lines of authority, and inexplicable AI results.

While AI offers numerous benefits in accounting, there are challenges and limitations to consider. The implementation and integration of AI systems may require substantial investments and training. It is essential to strike a balance between human expertise and AI capabilities to maximize the benefits while minimizing potential drawbacks.

Here are some challenges of artificial intelligence on accounting profession:

Job displacement: AI and automation are likely to automate various repetitive and mundane accounting jobs. With AI replacing jobs, accounting professionals may need to reskill themselves to remain relevant in the industry.

Data quality: AI relies on quality data to produce unbiased and accurate results. AI technologies are based on algorithms and machine learning models that are only as effective as the data they are trained on. It is important to remember that AI algorithms can still make mistakes. The accuracy of results or output generated by AI systems is based on the quality of data inputted into the system.

Ethical concerns: AI systems can make decisions that can have significant ethical implications. Accounting professionals need to develop a better understanding of ethical concerns related to AI and learn how to address them proactively.

Dependence on AI: Over-reliance on AI may limit the critical thinking abilities of accounting professionals, which makes them vulnerable to errors and potential fraud.

Cost: Implementing AI technology requires a significant investment in terms of cost and time. Hence, small accounting firms may not be able to afford to implement advanced AI systems, making them less competitive against larger firms that have automated their processes.

Security and privacy risks: Using the increasing application of AI in accounting, the risk of data breaches and confidentiality violations may also increase. AI systems dealing with sensitive financial data could be vulnerable to cyber-attacks or hacking, ultimately compromising the integrity of the data sets.

Security concerns: The growing application of AI technologies in the field of accounting profession might lead to security threats such as data breaches and hacking. Such attacks could result in the loss of sensitive financial information or damage to a company's reputation.

Lack of human touch: In accounting profession, interpersonal skills such as communication and relationship building play a crucial role. The increased use of AI could lead to a loss of human touch and personal connection, which could negatively impact client relationships.

In conclusion, while AI has the potential to revolutionize accounting in many ways, we should be aware of its drawbacks and seek to identify ways to overcome them to derive the maximum benefits of the technology.

2.3.4 The Impact of Artificial Intelligence Technology on Human Roles in the Accounting Profession

The accounting profession is just one of many industries where artificial intelligence (AI) is becoming a more significant force. The integration of artificial intelligence (AI) technologies has resulted in significant changes within accounting organizations, essentially modifying conventional roles and responsibilities. Artificial intelligence (AI) has the potential to improve productivity, accuracy, and decision-making, but it has also raised real concerns about the loss of human intervention in many accounting jobs. This essay elaborates on automation, data analysis,

and the implications for human roles as it examines how AI has diminished the importance of people in the accounting industry.

Automation of Routine Tasks

Automating repetitive and routine tasks is one of AI's most significant effects in accounting. Accounting tasks including data entry, processing invoices, bank reconciliations, and simple bookkeeping have historically required accountants to put in a lot of human labor. Automation of these processes has been made possible by AI technologies, such as robotic process automation (RPA), which has decreased human error and allowed for speedier processing.

According to a report by ICAEW, tasks such as data collection and routine bookkeeping are among those most susceptible to automation. As a result, many firms have integrated AI tools such as Kofax and UiPath to automate these functions, reducing the need for human accountants to handle them manually. This transition not only increases productivity but also frees up accounting professionals to focus on higher-value activities, creating a dichotomy where certain traditional roles may become obsolete.

Advanced Data Analysis

AI is significantly more capable than human accountants in analyzing large volumes of data. Complex datasets may be sorted through by machine learning algorithms, which can find patterns, anomalies, and insights that humans might miss. Artificial intelligence (AI) programs, like SAS Analytics and IBM Watson, are capable of doing risk assessments and predictive analytics, giving businesses useful information to improve decision-making.

Accountants are now more strategic counselors than data processors as AI takes over data analysis tasks. For example, in order to offer clients value-added services, accountants are increasingly expected to understand insights produced by AI. Since AI systems are more efficient than humans

at performing these activities, many traditional analytical roles may disappear or become less necessary as a result of this transformation. The World Economic Forum projects that the labor split between people and robots will change by 2025, potentially dislodging over 85 million jobs, mostly in fields that involve data analysis and manipulation.

Financial Reporting and Compliance

Another area where AI has a significant impact is the creation of financial reports. Financial statements can be generated and assembled by automated reporting systems with little assistance from humans. AI is used by systems like Xero and QuickBooks to automatically produce accurate tax filings, compliance checks, and financial reporting based on real-time data.

The more AI systems handle duties linked to compliance, the less human intervention is required. AI is proving to be more accurate and quicker than a human at evaluating regulatory requirements and making the required adjustments than accountants who are often in charge of guaranteeing compliance. Additionally, the introduction of AI in this field has resulted in stricter laws, decreasing the need for human supervision and raising reliance on technology.

Client Interactions and Advisory Roles

In the accounting industry, customer relations have changed due to the emergence of AI-powered chatbots and virtual assistants. Without the need for human accountants to step in, virtual assistants like Shout-out and Chatbots provide instantaneous engagement with clients by responding to frequently asked inquiries, setting up appointments, and providing basic instruction.

Although these technologies enhance the provision of client services, they also lead to a reduction in face-to-face encounters between clients. Traditional consulting jobs may become less in demand as clients grow acclimated to self-service tools. Going forward, accounting professionals will need to adjust to the changing role of strategic consultants as opposed to merely service suppliers.

Although empathy, forming relationships, and having high-level strategic insights are still necessary, the effectiveness and accessibility of AI tools may eventually eclipse these human-centric abilities.

Skills Gap and Workforce Displacement

There is a skills gap that has arisen as AI technologies gain traction. Many accounting professionals today might not be technologically savvy enough to adjust to the way the industry is changing. Change happens quickly, making some people susceptible to losing their jobs if they don't upgrade their knowledge or adopt new tools.

According to a Deloitte report, people with high technology abilities are increasingly in demand as artificial intelligence (AI) becomes more and more integrated into accounting and finance. According to the survey, there will be a growing need for tech-savvy financial analysts who can bridge the gap between accounting and technology, even while there may be a drop in the demand for traditional accountants. Accounting roles won't completely disappear; instead, there will be a shift in need for professionals who can handle and harness AI tools.

Ethical Considerations and Human Oversight

While artificial intelligence (AI) offers many benefits, there are ethical concerns about its application in the accounting field. Relying heavily on AI for critical financial analysis and decision-making can present ethical challenges because these systems may unintentionally perpetuate biases or reproduce historical errors. Accountants are essential in upholding ethical standards and making sure that AI systems are used responsibly. They must supervise algorithmic processes, validate AI outputs, and put policies in place to address any ethical dilemmas that may arise. Since machines cannot fully replicate human judgment, maintaining human oversight in the decision-making processes is vital.

In summary, AI has significantly reduced the place of humans in the accounting profession by automating repetitive tasks, improving data analysis capabilities, altering financial reporting, and changing client interactions. Although these developments boost productivity and efficiency, they also bring about issues like workforce displacement and skills gaps, so the industry needs to prioritize reskilling and adaptations for accountants to stay relevant.

The need for strategic advice, ethical supervision, and relationship-building will guarantee that human accountants continue to play a crucial part in the profession even while certain traditional functions may disappear. AI and humans will most likely work together in the future of the accounting sector, with technology enhancing rather than totally replacing human abilities

2.3.5 Artificial Intelligence Impact on Accounting Profession

The accounting profession has undergone significant change in the last few decades as a result of computers and, more crucially, software programs that have decreased errors and time spent on repetitive tasks, replacing pen and paper tasks (Stancu & Duțescu, 2021). Communication and decision-making are two human tasks that AI handles in accounting (Andriosopoulos et al., 2019). The accounting profession has evolved significantly over the last ten years, according to Banta et al. (2022), from the first computers made by International Business Machines Corporation (IBM) to the AI-powered solutions of today. Development of technology have coincided with changes in the accounting field. The accounting industry is greatly impacted by the inclusion of intelligence in accounting software today.

By keeping an eye on papers, comparing them to rules, and identifying errors within the organization, AI systems support compliance and audits; yet, they can also provide unintended dangers. It can be challenging to use these technologies in finance, and it may be expensive to train

accountants to use them. However, organisations would profit from setting aside enough time for research in order to implement AI (Munoko et al., 2020).

Prevent the Chance of Financial Fraud.

Jobs in the accounting department are often not segregated into the traditional accounting positions in small and medium-sized organizations. Financial fraud may occur when arrogant criminals profit from a lack of organization brought on by everyone on the finance team having access to cash flow and accounting information. However, a lot of accounting and related tasks can now be completed by computers owing to artificial intelligence, which reduces the accounting staff's responsibilities to just entering and confirming instructions. At the conclusion of the trial billing term, the system automatically bills. A distinct password, permissions within the accounting system, and a well-defined division of duties for every accounting employee help to mitigate risk to some extent. Accounting systems can help lower the risk of financial fraud, even though human involvement is still necessary. This is especially true now that digital footprints can be tracked and artificial intelligence detections can be monitored (Jedrzejka, 2019).

Enhance the Accounting Information's Quality.

Traditional accounting tasks include recording company books, preparing accounting documents, and preparing bank statements. Process monitoring is the responsibility of accounting personnel, and conventional accounting practices are labor-intensive, costly, and materially demanding. Even if chores can be accomplished on time, they are not completed in accordance with a predetermined schedule, which makes it inefficient. This leads to errors, weariness, and more overtime, all of which skew accounting data. On the other side, by using accounting software for all financial procedures, a corporation can save

time and boost productivity. The finance clerk only needs to input the auditing and accounting clerks' information; the rest will be handled by the computer. Despite the possibility of errors when the accounting staff attempts to input the necessary data, the accounting software system automatically indicates the error as inaccurate data entry, which may be repaired to enhance the accuracy of the accounting information (Jedrzejka, 2019).

Encourage the reform of traditional accounting and auditing methods.

The job portfolios of accounting employees serve as a representation of the departments into which conventional auditing and accounting work is divided in the conventional accounting field. But this will alter as artificial intelligence becomes more prevalent. This modification will alter the traditional financial and practical methods of operation, boost productivity, help accounting personnel enhance the caliber and skill of their own job, optimize the structure layout, and optimize the arrangement of accounting items. The growing application of artificial intelligence in the accounting industry is another obvious development, as it reduces the need for numerous staff.

2.3.6 Artificial Intelligence Impact on the Sectors of Accounting.

Financial Accounting

Financial accounting is a subfield of bookkeeping that deals with the recording, examination, and disclosure of an extensive variety of business-related exchanges over the long run.

Condensing transactions that take place over a certain period of time is necessary in order to create financial statements, which include the statement of financial position, profit or loss, and cash flow

statement. Financial accounting was first designed to provide data to support corporate choices, but artificial intelligence frees accounting staff from tedious and repetitive work.

The financial robot follows the established procedures, while the financial staff only enters data and completes the operation step by step. This leads to less "artificial" activity during a financial accounting process, and it is also more likely that artificial accounting fraud will be avoided (Kureljusic & Karger, 2023; Li et al., 2020). The productivity of the accounting field can be enhanced through the implementation of AI technology. The manual handling of intricate data in accounting tasks often consumes a significant amount of accountants' time (Thakker & Jappee, 2023).

When it comes to manual accounting, accountants make sure that all financial transactions are accurately and completely recorded by carefully recording them. Maintaining accurate financial records requires the classification of revenues and expenses, account reconciliation, and debit and credit recording, all of which are involved in this process.

Accounting tasks also include a great deal of complexity. The compilation of financial statements, which includes modifying journal entries, balancing balance sheets, and generating income statements, is the responsibility of accountants. Each of these activities demands a high level of precision and a thorough understanding of accounting principles (Zhang et al., 2023). In addition, compiling and analyzing financial data is necessary to generate statistical summaries and reports that aid in decision-making. This means analyzing the data thoroughly in order to determine key performance indicators, assess trends, and compute various financial ratios.

The conventional accounting duties stated above are laborious and repetitious. Here's where artificial intelligence can have a really revolutionary impact. AI technologies, including machine learning and automation, can handle the routine and repetitive aspects of accounting tasks with

speed and precision (Zhang et al., 2023). By automating these routine processes, AI reduces the potential for errors and frees accountants from the drudgery of manual data entry and repetitive tasks (Peng et al., 2023).

As a result, they have more time and mental energy to devote to higher-value pursuits. Accounting professionals may focus more of their time on data analysis, strategic planning, and giving stakeholders insightful information when AI handles the repetitive, time-consuming duties. AI enables accountants to make greater strategic contributions to their companies by utilizing their knowledge to promote better decision-making, better financial management, and increased business performance. The real transformational power of AI in the accounting industry rests in this shift in emphasis from routine chores to strategic and value-added activities.

Management Accounting

Management accounting centres around supplying management with data on operational business indicators, specifically related to labour and product costs (Zhang et al., 2023).

Performance reports show how actual results differ from expectations, and budgets are often used to quantify decisions made during operational planning. The integration of AI technology presents a distinct advantage for management accountants who possess the skills to interpret and derive valuable insights from data (Bose et al., 2023). With the help of AI, management accountants can utilise sophisticated analytical tools and techniques to significantly improve their evaluation of corporate performance (Appelbaum et al., 2017). AI enables more in-depth and real-time insights into a company's financial health and operational effectiveness, which can help managers make better decisions. AI is capable of processing massive volumes of financial and operational data at incredible speeds. Furthermore, management accountants may focus their time on more strategic and value-added tasks by using AI to automate repetitive and monotonous tasks like data input and

reconciliation. By leveraging AI, management accountants can play a pivotal role in assisting businesses in making data-driven decisions, optimising financial processes, and achieving overall business success (Bose et al., 2023). However, the importance of human judgement in decision-making should be attached as a helping tool rather than as a replacement for human decision-making (Vărzaru, 2022).

Auditing

An auditor is a professional who conducts an independent examination of financial statements to ensure their accuracy and compliance with relevant laws and regulations (Manap et al.,2023). There are two main types of auditors: internal auditors and external auditors. They protect businesses from fraud, point out discrepancies in accounting practices, and sometimes act as consultants to help businesses figure out how to make operations run more smoothly. Auditors work in many duplications are handling words and images, analyzing figures, carrying out automatic operations, and carrying out actual tasks. AI can be used, for instance, to compute, evaluate, and spot trends or abnormalities in financial data that could point to serious inaccuracies or misstatements in financial accounts. Additionally, among the routine and repetitive tasks in the auditing process that AI can automate are data entry, data validation, and basic compliance checks. This automation can boost productivity and reduce the likelihood of human mistakes. As for the auditors, they need to interpret and validate AI-generated results (Aitkazivov, 2023).

The various levels of intelligence are categorised as self-aware intelligence, repetitive task automation, context awareness and learning, and human support. For the self-aware intelligence, AI systems to some degree has self-awareness and can adapt to changing

circumstances (Zhang et al., 2023).

While AI true self-awareness is not yet achieved, AI systems can be designed to make some adaptive decisions. Besides, none of the artificial intelligence applications have yet reached the level of mindful insight. However, a significant portion of the tasks associated with bookkeeping and reviewing can be completed using the other three levels of knowledge. Therefore, auditors still have to play a critical role in interpreting and validating the results generated by AI systems to avoid biases of AI systems when using them in their work (Landers & Behrend, 2023).

2.4 Empirical Reviews

According to AI-Jaber (2020), who investigated how artificial intelligence affected the effectiveness of accounting systems in Jordanian banks and used a descriptive approach to present the results, there is artificial intelligence that has been applied to improve accounting efficiency and has become a system in Jordanian banks.

He also advised increasing the use of AIs. (Osmania, 2019) carried out research on the fundamental ideas of AI, using an inductive approach to reach the major conclusion that AI is the intelligence that humans have developed in machines or computers and is regarded as a qualitative leap in the rights of theoretical and practical sciences. The study recommended the applications of AI in commercial organizations in transferring the intelligence of the human brain to computer systems. Furthermore, (Bozerb, 2019) examined the actual implementation of AI in the Indian banking industry. The study used an inductive approach and concluded that the use of AI in terms of increasing employee satisfaction and loyalty, reducing costs and eliminating human error and advised banks to take a proactive approach.

Additionally, according to a study by (Simon, 2018), he opined that accountants will prefer automation for daily operations than being replaced because tasks that require cash thinking are more difficult to automate as accountants expect technology to make the accountant repetitive

tasks. Accounting organizations' business models will alter in the future, and accountants who are not prepared for automation run the danger of losing their jobs to it.

Moreover (Raqiq, 2015) shed light on how institutions are using AI to manage their operations, and it used the deductive method to prove that artificial intelligence aids decision-making by assisting employees and making difficult tasks easier to complete.

He plays part in the institution' s operations and management, and the study recommends that these apps be used, that they be updated on a regular basis, and that specific monies be set aside for them. In addition, the 2012 study by Othman and Jamil examined the viability of using artificial intelligence techniques to regulate the calibre of internal audits in Jordanian joint-stock companies. The use of artificial intelligence techniques within the internal audit quality review has been shown to have a positive impact on professional due diligence, management of internal audit activities, risk assessment, planning and execution of Review processes, and

recommended attention and Focus have had a positive impact on product quality analysis using the descriptive analytical approach.

Davenport & Ronanki (2018), in their Harvard Business Review story, suggests that organizations should focus on AI in terms of business capabilities rather than technological skills. In general, AI can help businesses meet three key objectives: automating business processes, getting insight through data analysis, and connecting with consumers and workers.

Chukwuani & Egiyi (2020) examined the impact of artificial intelligence on the accounting industry. In doing so they showed the level of advancement taking place in the accounting industry in automating the accounting process. Finally, they outlined the accountants place in the modern automation and how the accountants of the 21st century can adapt to the widespread automation in the industry.

Back in the 1990s O' Leary (1995) conducted a study showing the types of researches undertaken in the then contemporary scenario relating to AI in Accounting, Finance and Management. He found out that Accounting, Finance and Management had respectively 29.63%, 28.40% and 20.99% of studies being conducted relating to the use of AI, published in the International Journal of Intelligent Systems in Accounting, Finance and Management (IJISAFM).

There, multiple agents, neural networks, knowledge-based system applications, case-based learning, machine learning, constraint logic programming etc. were the mostly looked into issues. Huang (2018) looked into the application of AI in taxation. In order to present the case, the author listed evidences of empirical applications of AI in taxation in China. In Meservy et al. (1992), some of the earlier works on Expert Systems (ES) at the Brigham Young University have been highlighted. These include—use of PLANMAN for personal financial planning, EDP-XPERT for assisting computer audit specialists (CASs) in making judgment about control in advanced digital environment and ARISC for simulating auditor' s evaluation of internal controls.

Chukwudi et al. (2018), through survey-based descriptive research, presented the impact of AI on accounting functions. In this study, it was seen that the application of artificial intelligence positively influenced the performance of the accounting functions of accounting firms in South East Nigeria. In a study conducted on the Malaysian organizations using various AI-based accounting software, Lee & Tajudeen (2020) found out that AI-adoption is not exclusive to the large organizations. They also observed that organizations were using AI-based accounting software to store invoice-images and automate the information capturing process altogether. Luan et al. (2020) talked about the challenges and directions of AI technology and big data in education research, policy-making and industry. These include Accounting and Audit education, policy and industry. Their argument is that in reaction to the innovations and dilemmas brought forth by the

AI and big data revolution, academia, policy-makers and professionals from variety of disciplines must engage in effectual collaboration to fully actualize the potential of the AI and big data advancements. They also pointed out that there are several overlapping spheres of interest shared by the research, policy-making and industrial community. These shared interests demand collaborative approach but the major impediment to that is the lack of vision on the part of these groups and also lack of necessary knowledge and skills.

Baldwin et al. (2006) in their study pointed out the fact that in the early 2000s, the then Audit Environment was becoming more and more complex due to the emergence of myriads of rules followed by high-profile audit failures. In order to ensure quality audit and assurance services the audit profession was under intense pressure. In that regard the authors solicited and encouraged interdisciplinary collaboration between Accounting and AI experts that would result in a cornucopia of fruitful research and development instead of mere theory and prototype development works mostly found in the existing literature.

The authors of this study, through review of relevant literature, presented that there had been a number of attempts in developing AI based systems to support auditing and assurance tasks. While some of those attempts rendered fruitful, most were largely scattered and at the theoretical level of development.

Kokina & Davenport (2017) categorized the types of AI application into four groups and also the level of intelligence achieved so far in the technology into another four groups. The applications are—analyzing numbers, digesting words and images, performing digital tasks and performing physical tasks. For the levels of intelligence, the categories are—human support, repetitive task automation, context awareness & learning and self-aware intelligence. None of the AI applications

have yet achieved the self-aware intelligence level but using the other three levels of intelligence many of the accounting & auditing tasks can be performed.

Baldwin et al. (2006) outlined through review of literature, the following auditing tasks that could use the application of AI: Analytical review procedures (neural network), classification (genetic algorithm), materiality assessment (fuzzy expert system), internal control evaluation (expert system, fuzzy model), risk assessment (neural network, fuzzy neural network, expert system), going concern decisions (expert system, neural network, hybrid system, fuzzy clustering, statistical models), bankruptcy prediction (neural network, hybrid system that involves genetic programming and rough set theory, non-linear models, classification trees) and aggregating audit evidence (belief functions and probability).

Makridakis (2017) investigated the extant and forthcoming AI advancements and the capability of machines to attain real intelligence. The study highlighted major views and scenarios of how AI may revolutionize human life. Among the various ways that AI may transform human milieu, the metamorphosis of the discipline and profession of accounting & auditing is a very important one.

2.5 Review of Theory

Some Theories on Artificial intelligence in relation to accounting are theories that explains the relationship between AI and accounting, highlighting its impact. Some of these theories include the Agency theory, Contingency theory, Human capital theory, Socio-Technical Systems Theory, Technology acceptance model theory as they are discussed below.

2.5.1 Agency Theory

Agency theory, rooted in economic principles, examines the relationship between principals (owners or shareholders) and agents (managers or employees), highlighting the inherent conflicts that may arise when an agent's interests diverge from those of the principal. In the context of the

accounting profession, the advent of Artificial Intelligence (AI) introduces transformative changes that can potentially realign these dynamics, as well as bring about new challenges. This essay explores the implications of AI on agency relationships in accounting, considering its potential benefits and risks.

It examines the enhancements in Accountability and Transparency

One significant of AI in the field of accounting is its capacity to enhance accountability and transparency in financial reporting. Traditional accounting practices often involve human discretion, which can lead to errors or biases in judgment. AI, equipped with advanced algorithms and data analytical capabilities, can minimize such distortions by providing precise and objective insights. For instance, AI can automate the reconciliation of accounts, analyze large datasets for auditing purposes, and ensure compliance with regulatory requirements.

From an agency theory perspective, enhanced transparency reduces information asymmetry between agents (accountants) and principals (shareholders). By utilizing AI for accurate and real-time reporting, accounting professionals can deliver more reliable insights into financial performance, fostering trust with stakeholders. This alignment of interests mitigates agency problems, as stakeholders can more confidently assess and monitor the performance of management, thereby reducing the likelihood of opportunistic behaviour.

AI technologies, such as machine learning, natural language processing, and robotic process automation, streamline accounting processes by automating repetitive tasks. This operational efficiency translates to reduced costs for firms, allowing resources to be allocated more effectively. As companies save on labour costs, the potential increase in profitability offers a favourable outcome for principals.

However, this raises issues as well regarding job displacement among accountants. As routine automation of tasks, the role of accountants is expected to evolve toward more strategic functions, focusing on advisory services rather than transactional processing. This change may introduce new agency dynamics, where accountants must adapt to new expectations while navigating job security concerns. The shift towards higher-level skills could create an agency gap if principals do not recognize and reward the transition in responsibility and expertise.

While AI presents numerous advantages, its deployment in accounting raises ethical considerations and risk management concerns. The reliance on AI for critical decision-making processes can inadvertently lead to ethical dilemmas. For example, AI systems make predictions based on historical data, which may perpetuate existing biases if not properly trained. If these systems are applied unethically, the agent may prioritize algorithmic efficiency over ethical considerations, undermining the trust of the principal.

Incorporating AI into accounting practices necessitates a careful evaluation of risk management strategies. Agency theory emphasizes the alignment of incentives and interests, which means organizational leaders must design governance structures that ensure ethical AI usage. Training programs should be implemented for accountants to understand AI tools, their limitations, and how to leverage them responsibly. Also, the future role of Accountants, AI's incorporation into accounting is not merely a matter of replacing human roles but rather transforming them. As AI handles routine tasks, accountants can focus on higher-level decision-making, providing valuable insights derived from data analysis, and advising clients on financial strategies. The shift requires accountants to become more technically proficient and understand the underlying AI mechanisms while maintaining their fiduciary responsibilities.

This evolution may reshape agency relationships in accounting, as the roles of accountant' s transition from mere service providers to strategic partners who can guide principals through complex financial landscapes. As agents become more engaged in value-added activities, the potential for collaboration with principals increases, fostering a more cohesive relationship.

The impact of artificial intelligence on the accounting profession presents opportunities and challenges that can significantly influence agency relationships. By enhancing transparency, increasing operational efficiency, and requiring ethical considerations, AI reshapes the dynamics between principals and agents. As accountants adapt to these changes, they must navigate the evolving expectations and responsibilities while leveraging AI's capabilities to provide increased value. Ultimately, fostering a collaborative and ethical approach toward AI integration will be essential for aligning the interests of all parties involved and driving the profession forward.

2.5.2 Contingency Theory

Contingency theory posits that organizations must align their strategies and structures to the specific circumstances they face, including environmental factors, technology, and market dynamics. In examining artificial intelligence's (AI) effects on the accounting industry, this theory provides a valuable framework for understanding how firms can effectively integrate AI technologies into their operations.

First, the adoption of AI in accounting is contingent on the specific needs and characteristics of an organization. For instance, larger firms with substantial resources may adopt sophisticated AI systems for functions like predictive analytics, risk assessment, and financial forecasting. These technologies can leverage vast amounts of data to provide insights that enhance decision-making

and operational efficiency. In contrast, smaller firms might prioritize simpler AI applications, such as automating routine bookkeeping tasks, which offer immediate cost savings and efficiency without the need for extensive investment.

Furthermore, the internal structure and culture of accounting firms also play a crucial role in AI implementation. Organizations with a culture that encourages innovation and adaptability are more likely to embrace AI technologies. For instance, firms that prioritize continuous learning and training for employees can facilitate smoother transitions to AI-enhanced processes, where human accountants work alongside AI systems rather than being replaced by them. This relationship exemplifies a contingency approach, as successful adaptation depends on aligning technological change with human resources and capabilities.

External environmental factors, including regulatory frameworks and market competition, also shape the AI landscape within accounting. Firms operating in heavily regulated environments must navigate legal implications of AI use, influencing their approach to technology integration. Additionally, the competitive dynamics of the accounting market compel firms to innovate continually. Early adoption of AI can provide a competitive edge, while late adopters risk falling behind as clients increasingly seek firms that can leverage technology for enhanced service delivery.

In summary, applying contingency theory to the impact of AI in the accounting profession underscores the importance of tailoring strategies to organizational characteristics, culture, and external market forces. By aligning AI adoption with these contingencies, accounting firms can position themselves to harness technology effectively, driving efficiency, innovation, and improved client service in an evolving landscape.

2.5.3 Human Capital Theory

Human Capital Theory (HCT) posits that individual capabilities and skills contribute to economic productivity, emphasizing the value of investing in education, training, and professional development. In the context of the accounting profession, the impact of Artificial Intelligence (AI) can be analyzed through this lens, as it fundamentally alters the dynamics of labour and skill requirements.

It examines the workforce evolution and skillset transformation. AI's integration into accounting automates several traditional activities like financial analysis, invoice processing, and data entry. This shift necessitates a re-evaluation of the human capital within the profession. Accountants are transitioning from purely transactional roles to positions that require analytical skills, strategic thinking, and the ability to interpret AI-generated insights. HCT suggests that as AI assumes routine tasks, accountants must invest in their skills and education to remain competitive. This evolving skillset includes proficiency in advanced data analytics, understanding machine learning algorithms, and leveraging AI tools for enhanced decision-making. Speaking on Investment in talent development, AI's effects on the accounting profession highlights the necessity of firms and educational institutions to invest in human capital. Organizations must foster a culture of ongoing education and career advancement, providing training programs that equip accountants with the necessary skills to work alongside AI technologies. For instance, embracing online courses and certification programs specialized in AI and data analytics can effectively bridge the skill gap, enabling accountants to utilize these technologies to provide added value to their clients. In reshaping job profiles as AI takes over mundane tasks, the roles of accountants are becoming more strategic. Human Capital Theory suggests that professionals should view their careers as a journey of continuous growth. Accordingly, accountants need to embrace lifelong learning and adaptability

to leverage AI for higher-level tasks, such as advising clients on financial strategies, risk management, and compliance. This transition not only enhances the value of individual accountants but also promotes greater efficiency and innovation within accounting firms.

In conclusion, the application of Human Capital Theory to the impact of AI on the accounting profession underscores the importance of continuous investment in skills and education. As AI reshapes the landscape, accountants must adopt a proactive approach in developing their capabilities to align with emerging technologies.

This shift offers the potential for enhanced productivity, improved decision-making, and a more strategic role in financial management, ultimately reinforcing the critical value of human capital in the age of AI.

2.5.4 Socio-Technical Systems Theory

Socio-Technical Systems (STS) theory emphasizes the interrelationship between people (social systems) and technology (technical systems) within an organization. In the context of the accounting profession, Artificial Intelligence (AI) integration serves as a profound example of this interplay, as it leads to transformative changes that affect both the technical processes of accounting and the roles, responsibilities, and interactions of accounting professionals.

The introduction of artificial intelligence (AI) tools like machine learning algorithms and automation of robotic processes, has markedly improved the technical efficiency of accounting tasks. These technologies is able to automate repetitive processes, like entering data, transaction processing, and compliance checks, streamlining workflows and reducing manual errors. By minimizing the time and resources spent on routine activities, AI enables accountants to focus on more complex tasks like strategic planning, data analysis, and advisory services. This shift not

only enhances productivity but also improves the velocity and accuracy of financial reporting. With the rise of AI in accounting, significant social adaptations are necessary.

Accountants must adapt to new roles that require higher-level analytical and strategic thinking skills. As routine tasks become automated, the traditional roles of accountants evolve from data processors to business advisors, necessitating continuous learning and professional development. This transition is critical, as it encourages a culture of adaptability within accounting firms and promotes an environment where individuals are motivated to enhance their skill sets.

Moreover, the collaborative dynamic within teams is reshaped as AI tools encourage data-driven decision-making. Accountants, IT personnel, and management must work together to understand and leverage AI capabilities effectively. Strong communication and collaboration become essential to harness the full potential of AI while ensuring ethical considerations and compliance standards are upheld.

STS theory highlights the importance of achieving a balance between the technical and social elements of an organization. When implementing AI in accounting, firms must not only focus on the technological capabilities but also consider the social implications, such as employee morale, job satisfaction, and the potential for job displacement. Management must actively engage with staff, addressing concerns about automation and fostering a positive attitude towards AI integration by providing training and development opportunities.

In conclusion, the integration of Artificial Intelligence in the accounting profession, viewed through the lens of Socio-Technical Systems theory, illustrates the critical interplay between technological advancements and social dynamics. By enhancing technical efficiency while addressing the social adaptations required in the workforce, accounting firms can create a harmonious environment that facilitates innovation and growth. This balanced approach ensures

that AI serves not merely as a tool for efficiency but also as a catalyst for evolving accounting professionals' duties and responsibilities, ultimately driving the profession forward in a rapidly changing landscape.

2.5.5 Technology Acceptance Model Theory

The Technology Acceptance Model (TAM) is a widely recognized framework used to understand user acceptance of technology. It posits that perceived ease of use and perceived usefulness significantly influence individuals' decision to adopt new technologies. When applied to the impact of Artificial Intelligence (AI) in the accounting profession, TAM can provide insightful perspectives on how accounting professionals view and integrate AI tools in their practices.

In the context of AI in accounting, perceived usefulness refers to the extent to which accounting professionals believe that employing AI technologies can enhance their performance and improve the outcomes of their work tasks. For instance, AI can automate mundane tasks such as data entry, invoice processing, and transaction reconciliation. When accountants recognize that AI tools can lead to enhanced effectiveness, enhanced precision, and quicker decision-making, their perception of the usefulness of these technologies rises.

Moreover, AI can assist in complex data analysis by processing large volumes of data more swiftly than humans, thereby providing deeper insights that can inform strategic business decisions. If accountants believe that AI can contribute positively to their job performance, they are more likely to embrace it.

Conversely, perceived ease of use encompasses the degree to which accounting professionals feel that AI technologies are user-friendly and uncomplicated. If AI tools are perceived as easy to learn and integrate into existing accounting practices, accountants are more likely to accept and use them. Training programs, intuitive user interfaces, and ongoing support can enhance this perception. For

example, if an AI-driven software simplifies report generation or financial forecasting without requiring extensive training, accountants may be more inclined to utilize it in their workflows. Significantly, external factors such as organizational support, availability of resources, and societal perceptions of technology can also influence perceived ease of use and perceived usefulness. Organizations that actively promote a culture of innovation and invest in AI education are likely to witness a higher rate of acceptance among their accounting staff.

In conclusion, the Technology Acceptance Model offers a robust structure for comprehension of the impact of artificial intelligence in the accounting profession. By addressing both perceived utility and perceived usability, accounting companies can facilitate the adoption of AI technologies, ultimately transforming and enhancing the efficiency and effectiveness of their operations. Thus, leveraging TAM not only aids in understanding the barriers to AI adoption but also highlights strategies to promote acceptance and integration within the accounting field.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology used to look at how artificial intelligence is affecting the accounting industry. It includes the study population, sample size and strategy, data source, operationalisation of variables, research design, and methods and techniques for data collecting and analysis.

3.2 Research Design

The selection of the study design is justified in this section. The impact of artificial intelligence on the accounting profession will be examined using a mixed-methods research methodology according to the nature of the study. To give a thorough understanding of how AI is affecting accounting, this study will combine qualitative and quantitative approaches. To gain a comprehensive knowledge, this methodology combines qualitative and quantitative research techniques.

A survey research approach was utilised to examine the degree of adoption and associated benefits of artificial intelligence on the accounting profession. This facilitates data collecting in order to generate objective data from the study's sample and make population-level generalisations. **3.3 Population of Study**

The study's population consists of penultimate, final year students and educators employed by the accounting department of the University of Benin. A total of 50 respondents were selected from the population. The reason for choosing University of Benin is it's proximity to the researcher.

3.4 Sampling Techniques and Sample Size

Sampling techniques specify how a sample is selected from a particular population; in many circumstances, a selection approach is the only way to fill the gaps in our quantitative data on important events, as there are several items that are required exclusively for research.

Convenience sampling was used in the study to choose the necessary sample from the target population. In convenience sampling technique, participants are selected based on their convenient availability and proximity to the researcher. It is utilized because it allows the researcher to use respondents who are easily accessible to them. The best market research instruments on the market can be used with convenience sampling.

The samples in this study are 300 level students and final year accounting students of the University of Benin.

3.5 Types and Sources of Data

The source of data used for the study is the primary source. The questionnaire as a primary source was used as a tool to gather information. This is because there are a variety of tools available to researchers for use in data collection. The justification for using the primary source of data is due to the following: it is affordable, time-efficient, and simple to assess impartially. Additionally, gathering information from a sizable section of a group can be done really quickly.

3.6 Instruments for Data Collection

In compliance with the study's design and the previously selected research methodology (survey), the researcher will employ the study's questionnaire and interview guide. A questionnaire must be filled out by respondents. This is important since the information gathered may be readily questioned in an effort to improve the instrument's validity.

In a similar vein, both structured and open-ended questions would be included in the questionnaire's design, as this is necessary to produce a consistent and objective response and because using a questionnaire to collect data is thought to be a quicker and easier way to obtain feedback. The questionnaire would be structured to include five (6) distinct sections: a section on demographics, a section on artificial intelligence education and learning, a section on artificial intelligence potential benefit, a section on artificial intelligence technology replacing human, a section on artificial intelligence potential risk and challenges, and a section on artificial intelligence effectiveness.

The study tool was designed with the use of five points modified Likert scale: "Strongly Agree" (SA), "Agree" (A), "Neutral" (N), "Disagree" (D), and "Strongly Disagree" (SD). The style was mainly used in the sections on artificial intelligence education and learning, artificial intelligence potential benefit, artificial intelligence technology replacing human, artificial intelligence potential risk and challenges, and artificial intelligence effectiveness. The respondents were then asked to indicate how much they agreed with the assertions in the tool

3.7 Model Specification and Method of Data Analysis

In this study, both descriptive and inferential statistics were employed. A summary of the respondent's biographical information was obtained using descriptive statistics, and statistical techniques were applied to analyse artificial intelligence and the accounting field as well as to test hypotheses. Inferential statistics were used to test the study's hypothesis at 0.05 level of significance. With the use of multiple regression analysis, hypotheses were tested. Through the use of this model, researchers hope to shed more light on how much artificial intelligence affects the accounting industry. The model is described as;

$$AP = \beta_0 + \beta_1 AIEL + \beta_2 AIPB + \beta_3 AITRH + \beta_4 AIRC + \beta_5 AIE + \varepsilon$$

Where;
AP= Accounting Profession

AIEL= Artificial Intelligence Education and Learning

AIPB= Artificial Intelligence Potential Benefits

AITRH= Artificial Intelligence Technology Replacing Human

AIRC= Artificial Intelligence Risk and Challenges

AIE= Artificial Intelligence Effectiveness

β_1, β_2, β_3, β_4, and β_5= Regression Coefficients

ε = Error term

3.8 Operationalization of Variables

This table provides a comprehensive breakdown of how the independent variable, Artificial intelligence, and its various components are operationalized, as well as the dependent variable, accounting profession.

Table 3.1: Operationalization of Variables.

Variable	Notation	Type	Measurement Scale	Statement
Age			Four-Point Scale	Q1
Sex			Two-Point Categorical Scale	Q2
Education Level			Three-Point Scale	Q3
Accounting Profession	AP	Dependent	Five-Point Scale	Q4
Artificial Intelligence Education and Learning	AIEL	Independent	Five-Point Likert Scale	Q5-Q7

Artificial Intelligence Potential Benefit	AIPB	Independent	Five-Point Likert Scale	Q8-Q9
Artificial Intelligence Technology	AITRH	Independent	Five-Point Likert Scale	Q10-Q11
Replacing Human				
Artificial Intelligence Risk and Challenges	AIRC	Independent	Five-Point Likert Scale	Q12-Q13
Artificial Intelligence Effectiveness	AIE	Independent	Five-Point Likert Scale	Q14-Q15

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter elaborates the systematic presentation and analysis of data obtained from the questionnaire. It begins by analyzing the demographic variables which includes respondent' s age, gender and education. Thereafter, the study carried out Regression Analysis, ANOVA, Linear Regression Analysis, Correlations matrix. In all, 50 questionnaires were administered to the respondent, out of which 50 were entered and returned. This gave a response rate of 100%. The response and percentage of respondents are as follows:

4.2 Analysis of Respondents and Responses, Section A:

4.2.1 Age of Respondents

AGE	RESPONSES	PERCENTAGE
<20	8	16.0%
20-30	39	78.0%
31-40	3	6.0%
40 and above	8	16.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

According to the above table, 78.0% of the respondents are between the ages of 20-30 while 16.0% of them are within the ages below 20 and 40 years and more and remaining 6.0% are within the age of 31- 40.

Table 4.2.2 Sex of Respondents

SEX	RESPONSES	PERCENTAGE
Male	16	32.0%
Female	34	68.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The above table shows that 68.0% of respondents are females while the remaining 32.0% are males.

Table 4.2.3 Education

EDUCATION	RESPONSES	PERCENTAGE
300 Level	14	28.0%
400 Level	31	62.0%
Educator	5	10.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The analysis above shows that 62.0% of the respondents are in 400 Level, and 28.0% are in 300 Level while the remaining 10% are Educators.

SECTION B: Accounting Profession

QUESTION 1

Artificial Intelligence will play an increasing important role in the accounting profession

Table 4.2.4

OPTIONS	TOTAL	PERCENTAGE
Strongly Agree	32	64.0%
Agree	15	30.0%
Neutral	3	6.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table above reveals that 64.0% of the respondents strongly agreed that artificial intelligence will play an increasing important role in the accounting profession. 30.0% of the respondents agreed while 6.0% were neutral.

QUESTION 2

Understanding artificial intelligence is crucial for my future career in accounting

Table 4.2.5

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	24	48.0%
Agree	24	48.0%
Neutral	2	4.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table above reveals that 48.0% of the respondents strongly agreed and agreed that the understanding artificial intelligence is crucial for my future career in accounting, 4.0% of respondents were neutral.

QUESTION 3

Attending workshops and seminars on artificial intelligence has improved my knowledge and skills in the application of artificial intelligence in accounting

Table 4.2.6

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	19	38.0%
Agree	22	44.0%
Neutral	7	14.0%
Disagree	1	2.0%
Strongly Disagree	1	2.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table above reveals that 44.0% of the respondents agreed that artificial intelligence will play an increasing important role in the accounting profession. 38.0% of the respondents strongly agreed, 2.0% of the respondents strongly disagreed and disagreed while 14.0% of the respondents were neutral.

QUESTION 4

I am confident using artificial intelligence tools and software in accounting tasks

Table 4.2.7

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	13	26.0%
Agree	20	40.0%
Neutral	14	28.0%
Disagree	3	6.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The above table reveals that 40.0% of the respondents agreed they are confident using artificial intelligence tools and software in accounting tasks, 28.0% of the respondents were neutral, 26.0% strongly agreed while 6.0% disagreed.

QUESTION 5

The use of artificial intelligence can significantly reduce the time spent on routine accounting tasks

Table 4.2.8

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	23	46.0%
Agree	27	54.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table above shows that 54.0% of the respondents agreed that the use of artificial intelligence can significantly reduce the time spent on routine accounting tasks. 46.0% of the respondents strongly agreed.

QUESTION 6

Artificial Intelligence can help in identifying and preventing fraudulent activities in accounting

Table 4.2.9

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	21	42.0%
Agree	21	42.0%
Neutral	6	12.0%
Disagree	2	4.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table revealed that 42.0% of the respondents strongly agreed and agreed that artificial intelligence can help in identifying and preventing fraudulent activities in accounting, 12.0% of the respondents were neutral while 4.0% of the respondents disagreed.

QUESTION 7

Artificial Intelligence can perform accounting tasks more efficiently than human accountants

Table 4.2.10

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	8	16.0%
Agree	19	38.0%
Neutral	14	28.0%
Disagree	7	14.0%
Strongly Disagree	2	4.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table revealed that 38.0% of the respondents agreed Artificial Intelligence can perform accounting tasks more efficiently than human accountants, 28.0% of the respondents were neutral, 16.0% of the respondents strongly agreed, 14.0% of the respondent disagreed while 4.0% respondent strongly disagreed.

QUESTION 8

Artificial Intelligence has the potential to fully replace human accountants in the future

Table 4.2.11

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	9	18.0%
Agree	12	24.0%
Neutral	7	14.0%
Disagree	17	34.0%
Strongly Disagree	17	34.0%
TOTAL	**50**	**100%**

Source: Field survey. 2024

The table revealed that 34.0% of the respondents strongly disagreed and also 34.0% of respondents disagreed that artificial intelligence has potential to fully replace human accountants in the future, 24.0% of the respondents agreed, 18.0% of the respondents strongly agreed while 14.0% of respondents were neutral.

QUESTION 9

Artificial Intelligence could lead to job displacement in the accounting profession

Table 4.2.12

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	13	26.0%
Agree	26	52.0%
Neutral	4	8.0%

Disagree	6	12.0%
Strongly Disagree	1	2.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table revealed that 52.0% of the respondents agreed that artificial intelligence could lead to job displacement in the accounting profession. 26.0% of the respondents strongly agreed, 12.0% of the respondents disagreed, while 2.0% strongly disagreed.

QUESTION 10

Artificial Intelligence poses a risk to data privacy and security in the accounting firms

Table 4.2.13

OPTIONS	**TOTAL**	**PERCENTAGE**
Strongly Agree	13	26.0%
Agree	19	38.0%
Neutral	10	20.0%
Disagree	6	12.0%
Strongly Disagree	2	4.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table revealed that 38.0% of the respondents agreed that the use of artificial intelligence poses a risk to data privacy and security in the accounting firms. 26.0% of the respondents strongly agreed, 20.0% of the respondents were neutral, 12.0% of the respondents disagreed while 4.0% of the respondents strongly disagreed.

QUESTION 11

The use of artificial intelligence reduces human error in accounting profession

Table 4.2.14

OPTIONS	TOTAL	PERCENTAGE
Strongly Agree	12	24.0%
Agree	29	58.0%
Neutral	4	8.0%
Disagree	5	10.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table revealed that 58.0% of the respondents agreed that the use of artificial intelligence reduces human error in accounting profession. 24.0% of the respondents strongly agreed, 8.0% of the respondents were neutral while 10.0% of the respondents disagreed.

QUESTION 12

Artificial Intelligence can handle complex accounting tasks as effectively as human accountants

Table 4.2.15

OPTIONS	TOTAL	PERCENTAGE
Strongly Agree	15	30.0%
Agree	22	44.0%
Neutral	6	12.0%
Disagree	7	14.0%
TOTAL	**50**	**100%**

Source: Field survey, 2024

The table revealed that 44.0% of the respondents agreed that artificial intelligence can handle complex accounting tasks as effectively as human accountants. 30.0% of the respondents strongly agreed, 12.0% of the respondents were neutral while 14.0% of the respondents disagreed.

4.3 Test of Hypothesis

The researcher's hypotheses from chapter one were tested in this section so that conclusions and opinions could be made. The researcher will use the ANOVA statistical technique with a significance level of 5%.

Hypothesis 1

HO_1: There is no significant relationship between the impact of artificial intelligence education and training and the accounting profession. To empirically test this hypothesis, a correlation analysis was done. The result of the analysis is presented in Table 4.3.1

CORRELATIONS

		Artificial Intelligence will play an increasing important role in the accounting profession	Understanding artificial intelligence is crucial for my future career in accounting
Artificial Intelligence will play an increasing important role in the accounting profession	Pearson Correlation	1	.420**
	Sig. (2-tailed)		.002
	N	50	50
Understanding artificial intelligence is crucial for my future career in accounting	Pearson Correlation	.420**	1
	Sig. (2-tailed)	.002	
	N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient in table 4.3.1 shows that there exists a positive correlation (.420**) between the two variables two variables and $p<0.002$ level of significance. Therefore, we reject the null hypothesis that there is no significant relationship between the impact of artificial intelligence education and training and the accounting profession and accept the alternate

hypothesis that there is significant relationship between the impact of artificial intelligence education and training and the accounting profession.

Therefore, from the above we have been able to examine there exist a positive relationship between artificial intelligence education and training and the accounting profession.

Hypothesis 2

HO_2: There is no significant relationship between artificial intelligence potential benefits and accounting profession.

A regression analysis was conducted in order to test this hypothesis empirically. The result of the analysis is presented in Table 4.3.2

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.889	2	1.944	6.395	.003[b]
	Residual	14.291	47	.304		
	Total	18.180	49			
a. Dependent Variable: Artificial Intelligence will play an increasing important role in the accounting profession						
b. Predictors: (Constant), Artificial Intelligence can help in identifying and preventing fraudulent activities in accounting, The use of artificial intelligence can significantly decrease time spent on routine accounting tasks						

The ANOVA table above shows lesser p value ($p=0.003<0.05$). This implies that the model is statistically significant to predict the dependent variable. That is to say artificial intelligence potential benefits can significantly predict accounting profession.

Hypothesis 3

HO_3: There is no significant relationship between artificial intelligence technology and accounting profession.

A regression analysis was conducted in order to test this hypothesis empirically. The result of the analysis is presented in Table 4.3.3

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.878	2	.939	2.707	.077[b]
	Residual	16.302	47	.347		
	Total	18.180	49			
a. Dependent Variable: Artificial Intelligence will play an increasing important role in the accounting profession						
b. Predictors: (Constant), Artificial Intelligence has the potential to fully replace human accountants in the future, Artificial intelligence can perform accounting tasks more efficiently than human accountants						

The ANOVA table above shows greater p value (p=0.077<0.05). This implies that the model is statistically not significant to predict the dependent variable. That is to say artificial intelligence technology cannot significantly predict accounting profession based on the data collected.

Hypothesis 4

HO_4: There is no significant relationship between artificial intelligence potential risk and challenges and the accounting profession.

A regression analysis was conducted in order to test this hypothesis empirically. The result of the analysis is presented in Table 4.3.4

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.997	2	1.499	4.640	.014[b]
	Residual	15.183	47	.323		
	Total	18.180	49			
a. Dependent Variable: Artificial Intelligence will play an increasing important role in the accounting profession						
b. Predictors: (Constant), Artificial Intelligence poses a risk to data privacy and security in the accounting firms, Artificial Intelligence could lead to job displacement in the accounting profession						

The ANOVA table above shows lesser p value (p=0.014<0.05). This implies that the model is statistically significant to predict the dependent variable indicating that perceptions of artificial

intelligence potential risk and challenges can significantly influence views on artificial intelligence role in the accounting profession.

Hypothesis 5

HO_5: There is no significant relationship between artificial intelligence effectiveness and accounting profession.

To empirically test this hypothesis, a correlation analysis was done. The result of the analysis is presented in Table 4.3.5

CORRELATIONS			
		The use of artificial intelligence reduces human error in accounting profession	Artificial Intelligence can handle complex accounting tasks as effectively as human accountants
The use of artificial intelligence reduces human error in accounting profession	Pearson Correlation	1	.331*
	Sig. (2-tailed)		.019
	N	50	50
Artificial Intelligence can handle complex accounting tasks as effectively as human accountants	Pearson Correlation	.331*	1
	Sig. (2-tailed)	.019	
	N	50	50
*. Correlation is significant at the 0.05 level (2-tailed).			

The Pearson correlation coefficient in table 4.3.5 shows that there exists a positive correlation (.331**) between the two variables two variables and $p<0.019$ level of significance. Therefore, we reject the null hypothesis that there is no significant relationship between artificial intelligence effectiveness and accounting profession and accept the alternate hypothesis that there is significant relationship between artificial intelligence effectiveness and accounting profession.

Therefore, from the above we have been able to examine there exist a positive relationship between artificial intelligence effectiveness and the accounting profession.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Based on the analysis of the data collected in Chapter 4, this chapter offers a summary, conclusion, and recommendations. It also makes recommendations for additional research. The study looks at how artificial intelligence is affecting the accounting industry. In order to empirically understand and forecast the impact of artificial intelligence on the accounting profession, the study created a convenience sampling technique.

This chapter offers a summary, a conclusion, and suggestions based on the facts gathered in Chapter 4. Additionally, it offers suggestions for more study. The study looks at how artificial intelligence is affecting the accounting industry. The study used a convenience sampling technique to predict and experimentally explain the effects of artificial intelligence on the accounting profession.

5.2 Summary of Findings

The data analysis led to the following conclusions.

From the Ho1, it is evident that there is significant relationship between artificial intelligence education and training and the accounting profession.

From the Ho2, it is clear that artificial intelligence has had a positive effect on the accounting profession; as a result, accountants' productivity and efficiency have increased since implementing AI. As a result, accountants have adjusted to this new way of working.

From the Ho3, it is found that artificial intelligence technology has the potential to fully replace human accountants in the future, that is artificial intelligence can perform accounting tasks more efficiently than human accountants.

From the Ho4, it is found that artificial intelligence poses a risk to data privacy and security in the accounting firms, artificial intelligence could lead to job displacement in the accounting profession. Even though there are many benefits to the accounting profession from implementing artificial intelligence, we cannot ignore the inherent risk and job insecurity that come with it.

From the Ho5, it is found that there is a significant relationship between artificial intelligence effectiveness on the accounting profession.

5.3 Conclusion

The study has concentrated on the accounting and artificial intelligence fields. After analysing the responses from the participants, it was discovered that the use of artificial intelligence by the accounting department students at the University of Benin in Edo State, Nigeria, has improved the work, productivity, and efficiency of accountants.

5.4 Recommendations

The accounting industry has benefited from artificial intelligence, according to analysis that was done, the conclusions drawn, and the review of pertinent literature. Organization should attempt to incorporate artificial intelligence into their management programs to prepare accountants for work in the modern workplace, despite the risks, difficulties, and privacy issues as well as job insecurity. In order to learn more about how in this context of digitalization the role of accountants has evolved, future research should focus on primary research using surveys and in-depth interviews.

Furthermore, a comparison of the practices of the accounting profession in various fields and firms may offer some insights into institutional and cultural factors that impact the adoption of AI.

A few recommendations are made by the study.

First, the study suggests that firms implement stronger artificial intelligence procedures in order to enhance the quality of their financial reporting and, consequently, their overall worth. The study also suggests that other businesses look to use the components in this study if they want to raise the caliber of their accounting profession. These include aiming to grow and have a sizable asset base, utilizing artificial intelligence technology to enhance the quality of their financial reporting. This study needs to be replicated for quoted and unquoted firms. This will be important for purposes of policy recommendations for companies in Nigeria.

The study also suggests the need for more studies in this area to focus on the artificial intelligence practices in organizations. This will help in understanding why some firms are better at the quality of accounting services than others and therefore inform those that can't plan better on what issues they can work on to improve their accounting profession.

The study also recommends that additional research be conducted to investigate the ways in which artificial intelligence affects the accounting profession using a different methodology.

This study has to be repeated for firms that are quoted and those that are not. When it comes to policy proposals for Nigerian businesses, this will be important. Additionally, the report suggests that more research be conducted in this area, focussing on artificial intelligence techniques in businesses. This will help people understand why some organisations offer higher-quality accounting services, which will help individuals who can't plan more successfully understand what they can do to improve their accounting profession. The study also suggests that more research be done using a different technique to look into how artificial intelligence impacts the accounting industry. Primary and secondary data would be sufficient to produce more thorough study findings, and they can be more reliable than relying solely on one source.

Additionally, more observations must be made during studies. Since more data points will yield better and more trustworthy results than fifty respondents, this can be accomplished with a larger sample size that includes more than 100 respondents.

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