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Artificial intelligence (AI) and financial sector regulation: implications for accountants in Nigeria economy

Bashir M. Ogungbangbe [a]*, Kalu, Alexanda O.U. [a]

Abstract

Although artificial intelligence (AI) has grown in popularity throughout the world as a vital tool for financial statement audits, auditor adoption and use of AI tools in Nigeria is still in its infancy. The fast advancement of science, technology, and the economy has ushered in the age of artificial intelligence, which has had a profound impact on every facet of daily life. Is there a general concern about the situation of accountants facing elimination? This article will examine how artificial intelligence will affect accounting staff and how to prevent accounting fraud. Since machines cannot make decisions, this technology won't result in widespread unemployment. Instead, it will have a positive impact on the quality of accounting information. The article's conclusion will highlight the need for accounting staff to develop their seven areas of expertise and become fully qualified personnel in the context of artificial intelligence. According to the study's findings, auditors will be able to anticipate trends in the future and make better decisions that are aimed at enhancing audit procedures with the help of AI. The study suggested increasing the use of image recognition to help with object classification, investing in machine learning tools by Nigerian audit firms, and providing accountants and audit staff with ongoing training on data mining techniques to improve audit practice.

Keywords: Financial technology, Data mining, Artificial intelligence, Image recognition, Machine learning.

Author Affiliation: [a]Department of Marketing, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.
Corresponding Author: Bashir M. Ogungbangbe. Department of Marketing, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.
Email: macy4marc@gmail.com

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1. INTRODUCTION

The automation of the 21st century is upon us, and one of the sectors leading the charge in this regard is accounting practice. Given the rapidly changing nature of our world, which is increasingly centered around technology, it is appropriate to think about the implications of producing different kinds of life from evolving technological advancements. Artificial intelligence (AI) is one such disruptive technology that is transforming how the world works. The entire accounting lifecycle is changed by artificial intelligence, not just the financial management division of a company. As a result, software now handles the entire accounting process, including the recording, manipulation, and interpretation of transactional data, reducing the need for human transaction entry (Francis, 2013). Artificial intelligence (AI) has been used in the accounting industry for over 25 years, primarily in the fields of financial reporting and auditing (Greenman, 2017).

Due to cost savings and operational efficiencies, artificial intelligence (AI) is gradually changing the way financial institutions operate and is predicted to eventually take over core functions (Dilek, 2015). Artificial intelligence (AI) has advanced significantly in recent years, particularly in relation to the accounting industry, which has shifted its emphasis from manual data entry with paper and pencil to computerized data entry with software. Accounting firms should exercise caution when it comes to monitoring the costs and updates associated with intelligent systems in order to minimize risk and uncertainty, even though the implementation of AI may boost organizational efficiency (Gotthardt et al., 2019). Nonetheless, it appears that different nations and even businesses within the same nation have different adoption processes for AI at the moment. (Gotthardt et al., 2019; Nickerson, 2019). This raises some doubts about the usefulness of this technology and allows companies to have concerns about whether adopting AI is worth it or not (Nickerson, 2019).

Artificial intelligence, as defined by the Financial Stability Board (FSB, 2017), is merely the use of computational tools to accomplish tasks that have historically required human sophistication.

The goal of artificial intelligence, a computer science experimental field, is to build an intelligent machine capable of carrying out a variety of tasks with its intelligence. According to Dilek, Çakır, and Aydın (2015), artificial intelligence (AI) has remarkable features like computational intelligence, neural networks, intelligent agents, and artificial intelligence. These features have made AI a vital component of the technology sector, handling the grunt work for many of the most difficult computer science problems. Artificial intelligence's fundamental approach has always been to identify tasks that are progressively more complex for humans to perform and demonstrate how computers can accomplish them using brute force or in humanoid ways. According to a study by Lombardo (2017), a computer's technological power comes from its intelligence, adaptability, connectivity, and complexity rather than from its energy trust.

The application of artificial intelligence has expanded the focus of accountants beyond the limited information provided by financial statements, to taking advantage of textual data from social networks, video recordings, captured imagery, sensor data examples (GPS locational data, RFID data), and combines the extracted features with accounting and financial information. The various functions of artificial intelligence allow accountants to automate several tasks such as reviewing source documents (for example bank checks, deposit slips, and sales invoices), processing paperwork, analyzing conference calls, emails, press releases, and news, and extracting metadata from them, all of which could be additional supporting evidence used to supplement traditional financial attributes. These features support the comprehensive task of financial statement analysis. In the process of analyzing financial reports, the machine recognizes every account and its balance, automatically connects these figures to the relevant supporting documentation, and makes it possible for accountants to spot any irregularities (Issa, 2016).

As computer and artificial intelligence are infused into all other technologies and has changed the method of doing business report showed that most entities from large corporations down to small and medium-scale enterprises (SMEs) are aided by technology. The Financial Stability Board (FSB, 2017), report indicated that both public and private sector institutions use artificial intelligence technologies for regulatory compliance, surveillance, data quality assessment, and fraud detection. The accounting systems and operations moved out of the arena of paper journals and ledgers into computer-based formats with the advents of computers which has powered artificial intelligence in applying the methods of self-management, self-tuning, self-configuration, self-diagnosis, and self-healing to achieve optimum result in accounting operations.

Accounting systems have undergone a complete transformation thanks to the advancement of accounting software and the more recent development of artificial intelligence. Research has shown that the effectiveness of accounting operations has been impacted by computers, the internet, software, expert systems, and, more recently, advances in artificial intelligence. In particular, these effects include better external and internal reporting, decreased use of paper, increased flexibility and efficiency, and enhanced data-based systems (Ballada, 2011). Improved data-based systems are also another benefit of using computers and expert systems in accounting (Francis, 2013). Murungi and Kayimba (2010) found that when businesses don't use software or expert systems, it's almost a given that financial data isn't accurate. This is because using computer technologies gives businesses a competitive edge over their competitors.

1.2 Statement of the problem

The latest advancements in artificial intelligence have given rise to robots that perform accounting software tasks and enhanced expert systems. As a result, the emergence of new technology has had a significant impact on how businesses function and have changed the business environment. Reports indicate that these technological advancements have a tendency to interfere with the work of licensed accountants. According to Yudkowsky (2008), people jumping to the conclusion that they understand artificial intelligence too soon poses the biggest risk. Artificial intelligence (AI) is now used in almost every facet of accounting operations, which has professionals worried about the potential long-term value of human accountants in the overall operations of a company. A 2015 study from the University of Oxford found that when machines take over data analytics and number crunching, accountants have a 95% chance of losing their jobs (Griffin, 2016). However, as noted by (Greenman, 2017), this same report found that while some jobs are created, others are eliminated as technology advances. More precisely, research from the Association of Chartered Certified Accountants (ACCA 2013) demonstrates that the challenges of gradually de-skilling accountants are brought on by smart systems, bots, and artificial intelligence tools.

More artificial intelligence research has highlighted how technological advancements could lead to a revaluation of new skills and a reexamination of what constitutes "work." If we aren't careful, there could be a rise in social unrest and increased income inequality as well as mass unemployment. Dai and Vasarhelyi (2016) projected that by 2025, increasing automation and technological advancement would replace humans in the workforce. This study endeavors to explore the relationship between artificial intelligence

and accounting practices in Nigeria, drawing from the aforementioned experiences.

1.3 Objective of the study

The objective of the study is to examine artificial intelligence and financial sector regulation in the Nigeria economy. The specific objectives are;

To ascertain the effect of artificial intelligence systems on the performance of financial sector regulations using commercial banks as emphasis.

To identify the impact of Artificial Intelligence on the financial sector regulation.

1.4 Research question

This study will be guided by the following research questions

Is there any effect of artificial intelligence on the financial sector regulation in the Nigeria economy?

Is there any relationship between artificial intelligence and the financial sector regulation?

ARTIFICIAL INTELLIGENCE AND ACCOUNTING PRACTICES IN NIGERIA.

Artificial Intelligence is systems that are programmed to think and work as human intelligence does things better than humans through the experimental aspect of computer science involved in programming an intelligent machine that can operate on various tasks by using its intelligence (Dongre, Pandey, & Gupta, 2020). In the same light, Ezeribe, (2019) viewed Artificial Intelligence as a method of making a computer, a computer-controlled robot, or software think intelligently like the human mind. Odoh, et al (2018) also described artificial intelligence as a program that has the ability of software to carry out activities which only the human brain is expected to carry out. These activities include the capacity for knowledge and the ability to acquire it. It also comprises the ability to judge, understand relationships and produce original thoughts. In another perspective, Artificial intelligence is the ability of a computer system to be able to observe and learn from its experiences and simulate human intelligence in decision-making (Ezeribe, 2019).

Artificial intelligence recognized as software programs that attempts to copy human experts' behaviour and expertise and then store human knowledge and experience and transform it into commands it uses to solve accounting problems and perform some accounting tasks (StanchevaTodorova, 2018). He also noted that Artificial intelligence aims to make an intelligent machine that can react in ways similar to humans. It also comprises the ability to judge, understand relationships, and produce original thoughts. AI is rapidly changing how the financial organization operated functions and increased operational efficiency level with the minimum efforts (Odoh et al., 2018).

The difference between artificial intelligence and other developing technologies is its ability to understand its environment and perform tasks that normally require human intelligence in only a relatively short time (PWC, 2019). In essence, Artificial intelligence is similar to the simulation of the human brain's thinking and information processes, the human thinking simulation can be carried out in two ways. The First is the structural simulation can imitate.

ACCOUNTING PROFESSION

In the need to make prudent use of scarce resources, gather wealth and produce high quality of goods and services in a competitive economy, birthed the need for accounting profession. In simple terms, accounting profession is seen as a profession that is responsible collecting, classifying, and recording, summarizing, analyzing and interpreting of information to users of financial statement. Accounting profession provides qualitative financial information about economic entities that is intended to be useful in economic decisions. This information allows users to make reasoned choices among alternative uses of scarce resources in the conduct of business and economic activities. Professional Accountants are people who trained as accountants and also obtained an additional training from the recognized professional accounting bodies. These professional accounting bodies award them recognition and licensed them to execute accounting and financial services to the public.

The accounting bodies monitor and supervise them frequently to ensure strict adherence to the principles of best practice and ethical considerations. According to Ronny & Yuanyuan (2013) the skills required by an accountant are Language skills, computer skills, interpersonal skills, leadership skills, analytical skills, multi-task skills, due diligence skills, and training skills. The same light, several knowledges required by accounting profession include are accounting, auditing, taxation, accounting software, business law, human resource management, retail/consignment business, operation & supply chain, project management, and strategic management. Ronny & Yuanyuan (2013) identified the process of accounting as the preparation of financial reports starting from documents till financial statements. He indicated three aspects of accounting process including Designing, preparing, and handling accounting process.

Artificial Intelligence and Credit Risk Management for Financial Regulation Innovation

Extension of credit is quite a challenging task for bankers. If a bank lends money to insolvent customers, it can get into difficulties. If a borrower loses a stable income, this leads to default. According to statistics, in 2020, credit card delinquencies in the U.S. rose by 1.4% within six months (Kumar, 2021). AI powered systems

can appraise customer credit histories more accurately to avoid this level of default. Mobile banking apps track financial transactions and analyze user data. This helps banks anticipate the risks associated with issuing loans, such as customer insolvency or the threat of fraud (Kumar, 2021). Credit risk is the possibility a lender will default on a loan extended by a bank or financial institution. The use of artificial intelligence (AI) in credit risk management enables banks to predict the probability of a counterparty defaulting by leveraging on both traditional and alternative data sources. The probability insights provide a basis for banks to decide whether to avoid extending a loan or extend the loan with mitigations such as higher interest rates or collateral (Amplifi, 2021). Credit risk modeling is the means by which banks use data models to predict credit risks.

The models when queried indicate the probability of a borrower defaulting and the corresponding impact of the default on the lender's finances. On credit decision, AI offers a quicker, more precise evaluation at lower costs of a prospective borrower and reflects a broader range of variables leading to a better-informed, data-backed decision. AI's credit scoring is based on more complicated and advanced rules opposed to traditional loan scoring schemes. It enables lenders to differentiate between high-default risk candidates and those who are worthy of credit but lacks a credit record history. Objectivity is a further advantage of the AI system. Contrary to a person, a machine is unlikely to be partial. Digital banks and loan-issuing apps use machine-learning algorithms to analyze credit status with optional information (e.g. smartphone data) to check loan eligibility and to offer customized options (Bachinskiy 2019).

Artificial Intelligence and for Financial Innovation

Based on past interactions, AI develops a better understanding of customers and their behavior. This enables banks to customize financial products and services by adding personalized features and intuitive interactions to deliver meaningful customer engagement and build strong relationships with its customer. As part of this post financial crisis response, robo-advisors and chatbots are emerging across the financial services sector, helping consumers choose investments, banking products and insurance policies. A “bot” is a software application created to automate certain tasks using AI technology (Future Today Institute, 2017). A robo-advisor is an algorithm based digital platform that offers automated financial advice or investment management services. The term “robo-advisor” was essentially unheard-of a decade ago, but it is now relatively commonplace in the financial landscape.

However, the term is misleading and doesn't involve robots at all. Instead, robo-advisors are algorithms built to calibrate a financial portfolio to the user's goals and risk tolerance. Chatbots and robo-advisors powered by natural language processing (NLP) and machine learning (ML) algorithms have become powerful tools with which to provide a personalised, conversational and natural experience to users in different domains. Chatbots and robo-advisors have gained significant appeal with millennial consumers who do not need a physical advisor to feel comfortable investing, and who are less able to validate the fees paid to human advisors. Banks are also engaging chatbots to improve their self-service interfaces. Chatbots and conversational interfaces are a rapidly expanding area of venture investment and customer service budget. Such chatbots have had to be built with robust natural language processing engines as well as reams of finance-specific customer interactions. Natural language processing is making it increasingly difficult for bank customers to tell whether they are talking to an AI interface or a human. Japan's three megabanks are using AI and robotics to streamline customer questions. For example, the Mizuho Group has a robot that helps answer asset management questions and compiles documents (Huang, Lehavy, Zang & Zheng, 2018).

Concept of Financial Innovation Financial innovation is the process of creating new financial products, services, or processes (Chen, 2021). Financial innovation has come via advances in financial instruments, technology, and payment systems. Digital technology has helped to transform the financial services industry, changing how we save, borrow, invest, and pay for goods.While large banks continue to invest in mobile banking, FinTech companies, like Stripe, help small businesses conduct online payments, and investment broker Robinhood seeks to democratize investing and finance. These innovations have increased the number of financial providers available to consumers, borrowers, and businesses (Chen, 2021). Financial innovation is the act of creating new financial instruments as well as new financial technologies, institutions, and markets. Recent financial innovations include hedge funds, private Personalized Banking Experience But chatbots are not the only personalized experience in finance. Many institutions leverage the vast amounts of data they have to analyze the consumers' spending behavior and provide tailored financial advice which can help them achieve their goals. Such services can include tips on how to reduce monthly expenses or perhaps visualizing them for the customer in a simple and userfriendly way, for example, the three places in which you spent the most this month. The institutions can also let you know that some recurring transfers will take place soon and you do not have enough funds on your account. All of those are just the tip of

the iceberg of what modern financial companies can provide for their customers (Eryk, 2020).

2.2 THEORETICAL FRAMEWORK

2.2.1 AGENCY THEORY

This study is anchored on agency theory because of it fitness in explaining decision making process in a formal settings. The agency theory has its beginning in economic theory. This was made by Alchian & Demsetz (1972) and further developed by Jensen and Meckling (1976). In the agency theory, the principal (owners and shareholders) makes the decision-making power to the agent (directors, managers and management) who may pursue interests that may not necessarily be in favor of the principal but may in fact hurt the principal through information asymmetry (Ogoun, 2020). The agency theory deals with entrusting products to the agent who in turn is required to produce a statement in qualitative and quantitative way and are expected to be in alignment with the interest of the owners of a business and managers of a business and managers in order for the set objectives of the organization to be achieved. Basic agency paradigm was made in the economics literature during 1960s and 1970s in order to determine the optimal value of the risk- sharing among different individuals (Jensen & Meckling, 1976). However, gradually the agency theory domain was extended to the management area for determining the cooperation between various individuals with different objectives in the firm, and goal congruency attainment (Kwafo, 2019).

In 1980s, agency theory was also appeared extensively in the auditing and accounting realms to determine the optimal-incentive contracting among different people and suitable accounting control mechanisms establishment for monitoring of their behaviors and actions (Gotthardt, et al., 2020). It is this last function of the agency theory that will be emphasized in this study. In its primitive form, agency theory relates to situations in which one individual (called the agent) is engaged by another person (called the principal) to perform on his/her behalf based upon a designated compensation schedule. Since both persons are assumed to be utility maximizer, and motivated by pecuniary and non-pecuniary items, incentive problems may come up, particularly under the condition of uncertainty and informational asymmetry (Longinus, 2018). That is, the objective function of the principal and the agent may be incompatible, and therefore, the agent may take acts which will be different from the principal's benefits.

EMPIRICAL REVIEW

The effect of AI on jobs and future work was investigated by Bruun and Duka (2018). According to the findings, AI has already replaced human jobs in sectors that were formerly deemed impossible to automate. Chukwudi et al. (2018) studied the level of change AI has had on accounting practices. The study used survey research methodology and was specifically focused on accounting firms in the southeast. A descriptive study of 185 accountants was conducted using a standardized questionnaire. The outcome revealed that AI would significantly affect how accounting operations are carried out in South-East Nigerian enterprises.

Greenman (2017) investigated the effect of AI on the accounting discipline. According to the findings, there is software that automates tax processes, bookkeeping, accounting, and auditing activities. The necessity for AI as an auditing and accounting system supplement was conceptualized by Issa et al. (2013). This study posed a series of research questions in the hopes of uncovering Al's role in the modern audit environment. AI might potentially replace auditors in a variety of automated jobs, according to the report. An outline of AI and its capabilities was offered by Singh et al. (2013). The study revealed that extensive continuing research suggests that humans and machines will mix in the near future to form cybernetic entities highly capable and dominant with sophisticated technologies, a concept known as transhumanism.

Kumari et al. (2013), arguing for a true comprehension of native language and the use of cloud computing, looked into cloud computing and intelligent computing and found out that incorporating AI into cloud-based code will boost efficiency while also introducing intelligent computing language into the software, allowing machines to make judgments independently and in real time.

2. Methodology of the Study

2.1. Research Design, Data Collection, and Analysis in Qualitative Research Approach within Finance

The qualitative research approach within finance offers a nuanced understanding of financial phenomena, emphasizing the depth and complexity of financial behaviors and systems. Kaczynski, Salmona, and Smith (2014) advocate for the integration of qualitative methods in finance research, arguing that such approaches allow for a more comprehensive exploration of the reasoning behind financial decisions and behaviors. This perspective is crucial in uncovering the subtleties of financial markets and the individuals operating within them, providing insights that quantitative methods alone may not reveal. Burton (2007) discusses the renaissance of qualitative research in finance, highlighting its ability to generate novel and important empirical insights. By focusing on the pedigree of qualitative analyses, Burton underscores the value of qualitative research in complementing traditional quantitative approaches.

This dual approach enables a fuller understanding of financial phenomena, from individual decision-making processes to market dynamics. The qualitative research approach within finance is essential for a holistic understanding of financial systems and behaviors (Kalu, Unachukwu & Oti, 2019). The methodological flexibility it offers allows researchers to explore financial phenomena from multiple angles, contributing to a more nuanced and comprehensive body of knowledge. As the financial landscape continues to evolve, the importance of qualitative research in finance will undoubtedly grow, offering valuable insights that inform both theory and practice.

3. Results of the Study

3.1. Measuring Enhancements in Reporting Timeliness and Accuracy

The processing, analysis, and reporting of financial data have undergone a substantial change as a result of the incorporation of artificial intelligence (AI) in financial reporting. A growing corpus of research that measures the enhancements in reporting timeliness and accuracy—two crucial components of the financial sector's efficiency and dependability—underlines this shift. A convincing case study on the Financial Regulatory Authority's implementation of Integrated Reporting is presented by Sitawati et al. (2022), who point out a significant improvement in data quality in a number of areas, including completeness, accuracy, currency, and timeliness. Their results show a significant improvement to 80.89% in the timeliness dimension, highlighting the critical role that artificial intelligence (AI) and digital frameworks play in accelerating the pace of financial reporting (Sitawati et al., 2022). Lestari, Putri, and Devi (2021) provide additional evidence supporting the benefits of XBRL adoption, especially in the banking industry. According to their research, the implementation of XBRL enhances data accuracy and reliability, which leads to better decision-making in addition to improving the timeliness of financial reporting. Beyond just speed and efficiency, this data suggests that AI and digital reporting tools have wider potential to improve the quality of financial reporting (Lestari, Putri, and Devi, 2021). The combined results of these studies show a noteworthy trend toward increased timeliness and accuracy in financial reporting, which is being fueled by the use of AI and related technologies. The transition to digital reporting frameworks and the integration of AI tools in data processing and analysis are central to this evolution. These advancements not only facilitate faster and more accurate financial reports but also enhance the overall quality of financial data, contributing to more informed decision-making and policy formulation.

A wider movement towards more dependable, efficient, and transparent financial processes is reflected in the quantifiable gains in financial reporting timeliness and accuracy (Oyeniyi, Ugochukwu & Mhlongo, 2024). Artificial intelligence (AI) has the potential to significantly improve these aspects as it develops and becomes more integrated into financial reporting practices. The field's continuing research and case studies offer useful benchmarks and insights for businesses looking to use artificial intelligence (AI) to enhance their financial reporting systems.

The transition to AI-enhanced financial reporting also necessitates a cultural shift within organizations. Stakeholders at all levels must be willing to embrace new technologies and adapt to the changes they bring. This includes investing in training and development to equip financial professionals with the skills needed to effectively use AI tools. Additionally, organizations must foster an environment of innovation and continuous improvement, where the potential of AI can be explored and realized to its fullest extent. The integration of AI into financial reporting offers significant opportunities to enhance the quality, accuracy, and timeliness of financial information. However, achieving these advantages necessitates giving governance, ethical, and technological aspects considerable thought. AI will surely play a bigger part in influencing financial reporting in the future as the financial landscape changes, opening up new opportunities for study and investigation in this exciting area.

3.2. Evaluating AI's Impact on the Depth and Insight of Analysis

Artificial intelligence (AI) has revolutionized financial reporting by improving analytical depth and insight into financial data while also streamlining processes. In their investigation of technology users' awareness and preparedness for AI services, Flavián et al. (2021) find that adoption of AI in analytical services depends critically on a decrease in insecurity and a rise in technological optimism. By using automation and sophisticated data processing techniques to provide deeper insights and more accurate analyses, this study highlights the significance of artificial intelligence (AI) in changing the financial services industry. More details on the revolutionary potential of AI in hiring are provided by Albassam (2023), who also provides a perspective on the wider applications of AI in data analysis and strategic decision-making. Artificial intelligence (AI) is being used in recruitment strategies, such as resume screening and predictive analytics. This is similar to how AI is being used in financial reporting, where it can sort through large datasets, find patterns, and make predictions more accurately and efficiently than human analysts could. This comparison highlights AI's ability to improve analytical depth and offer insights that are vital for financial decision-making at the strategic level.

The critical analysis by de Villiers, Dimes, and

Molinari (2023) on AI's impact on sustainability reporting provides a nuanced view of how AI can contribute to more insightful and meaningful financial disclosures. The study highlights the dual-edged nature of AI in generating and processing text for sustainability reports, where the technology offers significant benefits in terms of analytical depth and reporting efficiency but also poses challenges such as the risk of facilitating greenwashing. This analysis points to the need for a balanced approach in leveraging AI for financial reporting, where the technology's capabilities are harnessed to enhance insight while being mindful of its limitations and potential pitfalls (Oyeniyi, Ugochukwu & Mhlongo, 2024).

Leitner-Hanetseder and Lehner (2022) delve into the implications of AI and Big Data in the context of International Financial Reporting Standards (IFRS), arguing that current regulations fall short in capturing the value AI brings to financial reporting. Their proposed framework for AI-powered information and Big Data reporting aims to bridge this gap, suggesting that recognizing and reporting the value of AI in financial statements could significantly enhance the decision usefulness of these documents. This proposition highlights AI's role in adding analytical depth to financial reporting, not just through the processing and analysis of data but also by contributing to a more accurate and meaningful valuation of companies' strategic resources.

As financial institutions continue to navigate the complexities of integrating AI into their reporting practices, the insights from these studies offer valuable guidance. They not only highlight AI's transformative potential but also underscore the need for a strategic approach that balances technological innovation with ethical and regulatory considerations. In doing so, they pave the way for a future in which AI-enhanced financial reporting becomes a cornerstone of strategic decision-making and corporate transparency.

The impact of financial technologies, such as artificial intelligence (AI), on the digital transformation of accounting, audit, and financial reporting is covered by Shengelia et al. (2022).

They emphasize how FinTech has impacted almost every facet of the financial services sector by utilizing big data analytics, cloud computing, artificial intelligence, and machine learning. In addition to giving accountants more strategic responsibilities, the creation of XBRL-based structured digital financial reports, blockchain trading, and the accounting of novel digital assets like cryptocurrencies have assisted auditing in reducing risk. AI offers tremendous potential to transform financial reporting and accounting procedures, but it also brings with it difficulties that call for careful thought and calculated management. The future of financial reporting lies in leveraging AI technologies to enhance the quality and efficiency of financial data analysis while addressing the ethical and regulatory challenges associated with its adoption.

3.3. Analyzing AI's Contribution to Reducing Bias and Reporting Errors

Artificial intelligence (AI) has shown encouraging results in reducing biases and errors across a range of industries, especially in areas like financial reporting that demand high standards of objectivity and accuracy. According to Brown et al. (2023), artificial intelligence (AI) has the potential to improve clinical decision-making by lowering cognitive biases. They draw comparisons with financial reporting, where AI may be able to lessen biases that are inherent in human judgment.

This viewpoint is essential to comprehending how AI, by methodically evaluating data without the biases that could influence human auditors, can improve the objectivity and dependability of financial reports. Cabrera et al. (2021) present a novel method for detecting and fixing AI mistakes using crowdsourced failure reports. Even though this approach was investigated in the context of AI development, it provides insightful information for financial reporting. Financial institutions could improve accuracy and lessen biases in financial reports by using collective intelligence to detect and fix mistakes in AI-driven financial analysis. This could be done by applying similar principles. Barassi and Patra (2022) delve into the ethical considerations surrounding AI errors, particularly in health, highlighting the importance of addressing biases in AI algorithms.

This concern is equally relevant in financial reporting, where biased algorithms could lead to skewed analyses. Their research underscores the need for continuous scrutiny and refinement of AI tools to ensure they serve their intended purpose without perpetuating existing biases or introducing new ones. Dratsch et al. (2023) examine the phenomenon of automation bias in mammography readings, revealing how reliance on AI suggestions can influence human decision-making. This study's findings are pertinent to financial reporting, where the risk of over-reliance on AI could lead to oversight of anomalies that AI may not accurately interpret. It emphasizes the importance of maintaining a critical balance between human expertise and AI assistance to ensure the highest standards of accuracy and integrity in financial reports. The collective insights from these studies underscore the transformative potential of AI in enhancing the accuracy and fairness of financial reporting. By automating data analysis, AI can reduce the likelihood of human error and cognitive biases that might affect financial statements. However, the research also highlights the critical need for oversight and continuous improvement of AI systems to address and mitigate any inherent biases or errors that

these systems might possess. Moreover, the concept of crowdsourced failure reports introduced by Cabrera et al. (2021) suggests a novel approach to enhancing AI's reliability in financial reporting. By engaging a broader community in identifying and addressing AI errors, financial institutions can harness collective expertise to refine AI algorithms, ensuring they are both accurate and unbiased. The ethical considerations raised by Barassi and Patra (2022) remind us of the responsibility to critically evaluate AI tools for bias and fairness. As financial reporting significantly impacts economic decisions and perceptions, ensuring AIdriven processes are transparent and equitable is paramount. While AI offers substantial benefits in reducing errors and biases in financial reporting, the studies reviewed highlight the importance of a cautious and informed approach to its integration. Balancing AI's capabilities with human oversight, continuously refining AI algorithms to address biases, and embracing innovative methodologies for error detection are essential steps toward leveraging AI's full potential in financial reporting.

CHALLENGES OF INTEGRATING AI IN FINANCIAL REPORTING

The integration of Artificial Intelligence (AI) into financial reporting has been met with both enthusiasm and skepticism. While AI offers unprecedented opportunities for enhancing the accuracy, efficiency, and comprehensiveness of financial reports, it also introduces a range of potential drawbacks that merit careful consideration. Odonkor et al. (2024) provide a comprehensive review of how AI is transforming traditional accounting practices, underscoring the dual nature of this technological evolution. The authors highlight the significant benefits of AI, such as automating routine tasks and enabling predictive analytics, while also acknowledging the challenges, including the need for skilled personnel, data privacy concerns, and the substantial costs associated with AI integration. El Hajj and Hammoud (2023) delve into the adoption and impact of AI and machine learning (ML) in financial markets, revealing a landscape marked by rapid technological adoption alongside emerging challenges. Their study underscores the importance of addressing data privacy concerns, regulatory compliance, and ethical considerations as financial institutions navigate the complexities of AI and ML integration. These challenges are not unique to the financial markets but are indicative of broader issues that permeate all aspects of AI in financial reporting. Atadoga et al. (2024) focus on the US banking sector, illustrating how AI technologies have revolutionized banking operations by improving operational efficiencies and enhancing customer service. However, the review also brings to light the ethical issues, data privacy concerns, and the need for workforce upskilling as significant challenges accompanying AI's adoption. These findings echo the broader concerns within financial reporting, where the accuracy and integrity of financial information are paramount. Oyeniyi, Ugochukwu & Mhlongo (2024), while concentrating on the field of ophthalmology, provide valuable insights into the general challenges of AI adoption, such as security and privacy concerns, poor generalizability, and trust issues. These challenges are analogous to those faced in financial reporting, where the reliability and transparency of AI-generated reports are critical for stakeholder trust. While AI holds the promise to revolutionize financial reporting, it is imperative to navigate the associated challenges with caution and foresight. By addressing the technical, ethical, and regulatory concerns, the financial industry can harness the full potential of AI to enhance the quality and reliability of financial reports, thereby fostering greater transparency and trust in the financial system.

CONCLUSION

The integration of Artificial Intelligence (AI) into financial reporting represents a paradigm shift from traditional reporting methods, offering a new lens through which financial performance and health can be assessed. Traditional financial reporting, characterized by its manual processes and reliance on historical data, has long been the cornerstone of financial analysis and decision-making. However, the advent of AI and machine learning technologies has ushered in a new era of financial analytics, marked by enhanced accuracy, efficiency, and predictive capabilities. Giles and Adams (2015) & Kalu, Nto and Nwadighioha (2017) highlight the importance of capturing public opinion on emerging technologies and methodologies, suggesting that the perception and acceptance of AI-enhanced reporting methods are crucial to their adoption and effectiveness. This perspective is particularly relevant when comparing AI-enhanced reporting to traditional methods, as stakeholder trust and confidence in financial reports are paramount. The transition from traditional to AI-enhanced reporting methods is not merely a technical upgrade but also a cultural shift that requires careful consideration of public and stakeholder opinions. Despite these challenges, the potential benefits of AI-enhanced reporting for financial analysis and decision-making are undeniable. AI technologies can provide deeper insights into financial performance, risk assessment, and value creation, enabling more informed and strategic decision-making. As Giles and Adams (2015) suggest, capturing and addressing public and stakeholder opinions on these new reporting methods is essential for their successful implementation and acceptance.

The strategic implementation of AI in financial institutions offers significant opportunities to transform financial services. However, achieving these benefits requires careful planning, ethical consideration, and regulatory compliance. By addressing the challenges associated with AI implementation and leveraging the potential of AI technologies, financial institutions can navigate the digital transformation of the financial services industry, enhancing their operations and delivering superior value to their customers.

The future of AI in financial reporting is bright, with significant opportunities for enhancing the accuracy, efficiency, and accessibility of financial information. As financial institutions continue to embrace AI and related technologies, we can expect to see a transformation in how financial data is analyzed, reported, and used for decision-making. However, navigating the challenges associated with AI integration will be crucial to ensuring that this future is realized in a responsible and sustainable manner.

RECOMMENDATIONS

Our recommendations, distilled from the essence of our findings, advocate for a harmonious fusion of AI technologies with existing financial reporting frameworks. This entails the standardization of AI systems, the cultivation of AI literacy among financial professionals, and the establishment of a collaborative ecosystem that fosters innovation while safeguarding against potential pitfalls. In conclusion, this study not only sheds light on the transformative impact of AI on financial reporting but also charts a course for future exploration and integration. It stands as a testament to the potential of AI to revolutionize financial reporting, urging stakeholders to navigate this new frontier with foresight, diligence, and an unwavering commitment to excellence

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