©NIJCRHSS Publications

> NEWPORT INTERNATIONAL JOURNAL OF CURRENT **RESEARCH IN HUMANITIES AND SOCIAL SCIENCES** (NIJCRHSS)

> > Volume 5 Issue 2 Page 54-65, 2025

https://doi.org/10.59298/NIJCRHSS/2025/5.2.546500

The Role of Artificial Intelligence (AI) Enhancing in Administrative Accountability and Financial Reporting in Selected Public Organization in Enugu State, Nigeria

Igbokwe Chukwuma Igbokwe, Anikeze Nnaemeka Hillary and Ugwunwangwu Maria **Gloria Chinyereugo**

Department of Public Administration, Faculty of Management Science Enugu State University of Science and Technology

Email: nnaemeka.anikeze@esut.edu.ng

ABSTRACT

This study investigated the role of Artificial Intelligence (AI) in enhancing Administrative Accountability and Reporting in four Selected Public Organizations (Enugu State Transport Company (ENTRACO); Enugu State Water Corporation; Enugu State Fire Service and Enugu State Vegetable Oil Product Limited) in Enugu State from 2016 - 2024. Specifically the study is designed to; examine the extent of adoption and usage of Artificial Intelligence (AI) in Public Organizations in Enugu State, determine the role of Artificial Intelligence (AI) in enhancing administrative transparency in public organizations in Enugu State, ascertain the role of Artificial Intelligence (AI) in reducing corrupt practices in public organization in Enugu State. The study adopted survey research design; the population for the study comprised 6308 employees of the four selected public organizations. A sample of 306 respondents was sampled using Taro Yamane sampling techniques. Simple percentage was the statistical tool employed for data analysis while chi square was used for testing of the hypotheses at 0.05 level of significance. The findings of the study revealed that; the extent of adoption and usage of Artificial Intelligence (AI) in public organizations in Enugu State is low; Artificial intelligence (AI) has positive significant effect in enhancing administrative transparency in public organizations in Enugu State, Artificial Intelligence (AI) has also positive significant effect in reducing corrupt practice in Public Organizations in Enugu State. Based on the these findings the following recommendations were made; public organization in Enugu State and Nigeria at large should embrace the integration of Artificial Intelligence (AI) in their Administrative Accounting and Reporting in order to enhance efficiency; government and all stakeholder should ensure the provision of the right communication infrastructure that will ensure integration of Artificial Intelligence (AI) in Administrative Accountability and reporting in public Organizations in Enugu State, managers/administrators should make funds readily available for the procurement and maintenance of ICT gadgets in public organization to facilitate smooth integration of Artificial Intelligence in Administrative Accounting and Reporting in Public Organizations in Enugu State. Keywords: Artificial Intelligence, Accounting, Administrative Accounting, Account Reporting

INTRODUCTION

The public sector plays a crucial role in the development of both developed and developing nations. It is the engine that drives economic growth, provides essential services, and ensures the well-being of citizens [1]. Firstly, the public sector is responsible for providing essential services such as healthcare, education, and infrastructure. These services are vital for the well-being of citizens and contribute to the overall development of a nation $\lceil 2 \rceil$. In developed nations, the public sector has already established a strong foundation for these services, ensuring that citizens have access to high-quality healthcare, education, and infrastructure. In developing nations, the public sector is working towards building these foundations, investing in projects that will benefit future generations [3]. Secondly, the public sector is a significant contributor to economic growth. By investing in infrastructure projects, such as roads, bridges, and public transportation, the public sector creates jobs and stimulates economic activity [4]. Additionally, the public sector plays a crucial role in regulating the economy, ensuring fair This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

Page | 54



competition, and protecting consumers. This helps to create a stable and prosperous business environment, attracting investment and promoting economic growth [5]. Furthermore, the public sector is responsible for ensuring the well-being of citizens. By providing social services such as unemployment benefits, housing assistance, and social security, the public sector helps to reduce poverty and promote social equality $\lceil 1 \rceil$. This not only improves the quality of life for citizens but also contributes to social stability and cohesion. The public sector is the engine of development for both developed and developing nations. It provides essential services, contributes to economic growth, and ensures the well-being of citizens. For the public sector to achieve its objectives there is a Page | 55 need for a responsive, transparent, and accountable administration [6].

Irrespective of the existence of basic constitutional provisions such as the fifth Schedule of the Constitution (1999) which stipulates the code of conduct of public officers in the country, Article 15 of the fifth schedule of the constitution (1999) also made provisions for a "Code of Conduct Bureau and Act" with emphasis on maintaining transparency in government business. Besides, the Civil Service Handbook (1977) enumerates the roles of the civil servant and contains "codes of ethics in government businesses with emphases on the values of uprightness, disciplines, equity etc. thereby emphasizing the principles of public accountability in public civil services. Consequently, the presidential Task Force on Civil Service Reforms (1985), Civil Service Reform through decress no 43 (1988), and Allison Avida Committee (1994) had the objectives of addressing series of challenges like performance, professionalism and accountability. In Line with $\lceil 7 \rceil$ which recommendations of the reforms were directed at achieving a result oriented civil service imbued with public accountability and ethical values. The adoption of International Code of Conduct for public officials in 1996 [2], African Charter on public service (2001) and the African Charter on values and principles public Administration (2011) also conform to the present public administration reforms agenda aimed at promoting administrative accountability and financial reporting in the country [8]. Public sector in Nigeria is confronted with manifestations of undesirable consequences. The performance of the public organizations as noted by [9], is characterized by unprofessional conducts such as corruption, lack of accountability, and poor management practices that have hindered efficiency and effectiveness of public organizations across the nation. Corruption can take many forms, such as bribery, embezzlement, and nepotism. It not only undermines the integrity of the organization but also erodes public trust. This is a clear indication that these frameworks mentioned above, have not provided a reasonable remedy in addressing the challenges of professionalism, incompetence, lack of administrative accountability and transparency in financial reporting and most often the general insensitivity of service delivery issues that confront public administration in the country.

Hence the need for a more proactive and holistic approach that will efficiently address the challenges of lack of accountability and transparency in public administration. With advancement in science and technology which had led to the development of artificial intelligence; which offers great potential of addressing the challenges of lack of administrative accountability and transparency in financial reporting in public organizations. Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think and act like humans. These machines are designed to learn from experience, adjust to new inputs, and perform tasks that typically require human intelligence. AI is an interdisciplinary field of study that involves techniques such as machine learning, deep learning, and natural language processing to create systems capable of performing tasks like speech recognition, decision-making, and problem-solving. The goal of AI is to create machines that can function intelligently and independently, solving complex problems and performing tasks that would normally require human intelligence.

Artificial intelligence (AI) has been rapidly advancing and transforming various sectors, including public organizations. One significant area where AI is making a substantial impact is in enhancing administrative accountability. This article aims to explore the role of AI in promoting administrative accountability and financial reporting within public organizations. Firstly, AI can play a crucial role in automating routine administrative tasks. By leveraging machine learning algorithms, AI systems can efficiently process large volumes of data, reducing the time and effort required for tasks such as document management, record-keeping, and data analysis. This automation not only increases efficiency but also minimizes human errors, ensuring accuracy and reliability in administrative processes. Moreover, AI can enhance transparency by providing real-time monitoring and reporting capabilities. Through the use of AI-powered analytics tools, public organizations can track and analyze various metrics, such as resource utilization, performance indicators, and financial expenditures. This enables decision-makers to make informed decisions and hold individuals accountable for their actions. Additionally, AI can generate detailed reports and visualizations, making it easier for stakeholders to understand complex data and identify areas for improvement. Furthermore, AI can assist in detecting and preventing fraud and corruption within public organizations. By analyzing patterns and anomalies in large datasets, AI systems can identify

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

suspicious activities and flag potential red flags. This early detection allows for timely intervention and investigation, ultimately promoting accountability and integrity within the organization.

In conclusion, the integration of artificial intelligence in public organizations has the potential to significantly enhance administrative accountability and financial reporting. By automating routine tasks, providing real-time monitoring and reporting, and detecting fraudulent activities, AI systems can promote transparency and efficiency in administrative accountability and financial reporting. It is based on the foregoing background that the researchers wish to investigate the role of Artificial Intelligence (AI) in enhancing Administrative Accountability Page | 56 and Reporting in four Selected Public Organizations (Enugu State Transport Company (ENTRACO); Enugu State Water Corporation; Enugu State Fire Service and Enugu State Vegetable Oil Product Limited) in Enugu State from 2016 - 2024. Specifically the study is designed to; examine the extent of adoption and usage of Artificial Intelligence (AI) in Public Organizations in Enugu State, determine the role of Artificial Intelligence (AI) in enhancing administrative transparency in public organizations in Enugu State, ascertain the role of Artificial Intelligence (AI) in reducing corrupt practices in public organization in Enugu State.

LITERATURE REVIEW

The concept of artificial intelligence

Artificial intelligence (AI) can be called a revolutionary branch of computer science that is dedicated to creating machines capable of performing tasks that traditionally require human intelligence. This field covers such aspects as machine learning, language understanding, problem solving, and logical thinking. The history of AI development is long and multifaceted, starting with the early work of the 1940s and 1950s, when Alan Turing proposed his famous test as a criterion for machine intelligence [10]. However, until 1949, computers had a significant limitation that prevented them from developing intelligence: the lack of memory. This meant that although they could execute individual commands, the ability to store these commands, as well as information about tasks already performed, was not available to them. In addition, the use of such computers was very expensive, available only to the most prestigious universities and large technical corporations. The term "artificial intelligence" was first introduced in 1956 during the Dartmouth Conference, which marked the beginning of academic research in this discipline. At the same conference, the Logic Theorist program was first presented, which imitated a human approach to problem solving [11]. This project became a starting point in early artificial intelligence research focused on creating problem-solving programs using a wide range of heuristic approaches. The next decade, the 1960s and 1970s, was a time of intensive development and research in the field of AI, in particular, in the creation of programming languages and intelligent systems $\lceil 12 \rceil$. In the 1960s, attempts were made to develop universal methods capable of solving a wide range of tasks by simulating a complex thinking process. However, the more different tasks a single program can solve, the less effective it is at solving a particular task. Moreover, the first successes of artificial intelligence algorithms also demonstrated a huge number of obstacles on the way to real machine intelligence [13].

The biggest obstacle was the lack of computing power. Such conclusions led to a decline in interest and funding in this area in the 1970s and 1980sdue to unrealized expectations and technical limitations he revival of interest in AI occurred in the 1980s with the development of expert systems and machine learning. The modern period since the 2000s has been characterized by significant progress in deep learning, natural language processing, and computer vision, making AI an integral part of many industries. A significant increase in computing power, especially with the development of GPUs (graphics processing units), has made it possible to process huge amounts of data faster and more efficiently, which is critical for machine learning and deep learning algorithms. In addition, the digital transformation of society and the development of the Internet have led to the creation of large amounts of data that have become available for analysis and use in AI research. It is also worth noting that the growing interest in AI from commercial companies and governments has led to a significant increase in research funding in this area. AI has become an important part of many industries, including healthcare, financial services, automotive, entertainment, and many others, which demonstrates its practical value and efficiency. The ongoing discussion of the ethical and social aspects of AI, including privacy, security, and workplace impacts, is contributing to a deeper understanding and better regulation of this technology. The evolutionary trajectory of artificial intelligence reflects a significant period of time during which it has transformed and emerged as an autonomous field of research in the scientific world. At the present stage, AI continues its evolution, demonstrating impressive dynamics in the development and identification of new potential applications. The scientific community is globally striving to push the boundaries of what can be accomplished with AI, seeking to discover new aspects of its application. Thus, AI is acting as a catalyst for innovative breakthroughs in various fields, from healthcare to entertainment. Its potential in the future is of great importance, in particular in the context of developing intelligent systems capable of learning and adapting to changing environmental conditions. This opens up prospects for the development of more autonomous, efficient, and intuitive intelligent systems that can

©NIJCRHSS

Publications

Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

significantly improve the quality of life and efficiency of work processes in the future. Artificial intelligence has significant potential for application in various fields, opening up new perspectives and opportunities. One of the key areas where AI can make a significant contribution is in public administration and sustainable development.

The extent of utilization of artificial intelligence in Nigeria

Artificial Intelligence can be described as the simulation of the human mind to make computers think and act like humans by performing tasks like learning and problem-solving [14]. Machine Learning builds systems that improve through data and experience and has been used in the advancement of various fields such as autonomous Page | 57 systems, Natural language processing, computer vision, and medical fields [15]. AI and ML are still being researched to achieve better performance. It is necessary to mitigate the bias and unfairness in data for ethical reasons and to gain users' trust in AI systems [9]. Meanwhile according to O'Neill (2021), in 2021, about 23.36 percent of Nigeria's GDP came from agriculture, industry such as manufacturing, processing, and transforming of goods contributed to 31.41 percent and 43.79% came from the services sector such as IT and banking. Oil is an important contribution to Nigeria. Between 2001 and 2010, Nigeria was among the countries with the highest GDP growth worldwide due to oil, though prices caused a growth slump [16]. In Nigeria, Artificial intelligence has brought forth opportunities to contribute to areas such as Education [17], [18], security [19], Energy [20], Health [21], [22], however, several papers [20], [23], [24], highlight a variety of novel challenges limiting the adoption of AI in Nigeria such as awareness, knowledge of field or system, adequate power supply, computing facilities and trusting of AI systems. These drawbacks could be solved with some technical conditions such as data, algorithms, and computing capabilities. These conditions have led to positive impacts in various areas of industries such as healthcare, retail, automotive, and finance in other parts of the world [25]. It is beneficial for these conditions to improve in Nigeria for better AI performance and to have some sort of explainability of AI decision systems to make these systems more trustworthy for use in Nigeria.

Administrative Accountability and Transparency

Accountability and transparency certainly contribute to government legitimacy and thus strengthen democracy and rule of law. Transparency enables the citizens to see whether the government act according to the rules they are to obey and accountability operates both as prevention from breach of rules and misuse of power and as punishment when such misconduct occurs. Therefore, the principles are closely connected and transparency is generally believed to be a necessary precondition for accountability. Transparency of public administration can be understood more broadly as openness or in a narrower sense as free access to information. It is one of the elements of good administration that can enable the control of public administration not only by citizens but also by public institutions. Last but not least, transparency is believed to eliminate corruption. The more transparent public administration is, the more the citizens can be informed about its activities and may have more room to form their own opinions and to participate in public life. Especially with the development of information technologies, transparency is becoming more and more discussed as provision of information to the public is simplified. This is also related to the increase in demands on the information made available, e.g. in terms of the amount of information, machine-readable format, remote access, etc. Provision of information on implementation of state policies, behavior of politicians and officials, decision- making on public issues, etc., is not a self-sufficient goal. It is necessary to create an environment where a specific individual needs to be held accountable and bear the negative consequences associated with the found misconduct. This should apply not only for one's own misconduct but also in some cases of rule violations by his or her subordinates. Accountability has a broader scope, which includes the organization of administration, openness and transparency, internal and external accountability, and institutions with powers to control and punish. Public institutions and individual public officials should be accountable to ensure the proper performance of their duties. This requires not only access to information, but also a system of controls, independent supervision and judicial review of administrative cases.

Importance of Administrative Transparency

- 1. Transparency management is one of the most important cornerstones and axes of sustainable development success, as it provides work in a fully transparent environment and that leads to quality human and institutional performance and thus clarity, disclosure participation, credibility and transparency that enables development partners (government, private sector, civil society organizations and citizens) to reach the goals and push the movement of progress and advancement of society forward [26].
- Transparency participates in decision-making, makes citizens aware of the options available, achieves 2.justice in assessing the workers' performance and it also participates in reaching the so-called open system, as well as being a mechanism for achieving accountability $\lceil 27 \rceil$.
- 3.Transparency fights corruption in all its images and forms, as the transparency of legislation and their inability of to be interpreted helps prevent delinquency and limits breakage. The transparency of

an Open Access article distributed under the terms of the Creative Commons Attribution License This is (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

©NIJCRHSS Publications Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

legislation also helps to remove obstacles and simplify procedures, enabling increased efficiency and effectiveness of performance [28].

- 4. Transparency achieves integrity for the employee, moving away from personal diligence in interpreting laws and regulations, expanding decentralization, simple organizational structure of institutions, easy delivery of information from the top to the bottom and vice versa and feedback. Therefore, clear and transparent legislation leads to the development and preservation of trust for all segments of society [28].
- 5. Transparency is required in administrative organizations among leaders with each other on one hand and between leaders and employees on the other hand, so that the organization is not ambiuous in its orientation which causes the reduction of the spirit of belonging to it. Therefore, disclosure and clarity of information among working leaders enhances the role of loyalty among employees and increases their productivity when they know everything about it, as being a part of this organization [28].
- Administrative transparency, openness policy to employees, participation and availability of information all make workers believe more in their ability to influence works results, and their interest shifts from focusing on achieving safety and self-esteem needs to paying attention to performance and production [29].
- 7. Administrative transparency contributes in the success of development and change plans as organization leaders face many challenges that resist their quest for desired change. To ensure the participation of workers, they should be persuaded of the contents and reasons for change. Therefore, the administration, which adopts the principle of administrative transparency and announces its policies and plans, reduced the negative energies of workers to resist change and turned them into positive outcomes [30].

The concept of Fraud and Corruption (FAC)

Fraud means different things to different people under different circumstances. Some are legal definitions; others are academic, while still others are based on personal experience. The legal definition varies from country to country, and it is only since the introduction of the Fraud Act in 2006, that there has been a legal definition of fraud in England and Wales. Fraud essentially involves using deception to dishonestly make a personal gain for oneself and/or create a loss for another. According to the Association of Certified Fraud Examiner's define fraud as any illegal acts characterized by deceit, concealment, or violation of trust. These acts are not dependent upon the application of threat of violence or of physical force. Frauds are perpetrated by individuals and organizations to obtain money, property, or services; to avoid payment or loss of services; or to secure personal or business advantage. From another angle, the American Institute of Certified Public Accountants (AICPA), described fraud as a broad legal concept that is distinguished from error depending on whether the action is intentional or unintentional. Fraud as a concept is a generic term, and embraces all the multifarious means which human ingenuity can devise, which are resorted to by one individual, to get an advantage over another by false representations. No definite and invariable rule can be laid down as a general proposition in defining fraud, as it includes surprise, trickery, cunning and unfair ways by which another is cheated. The only boundaries defining it are those which limit human knavery Corruption is a form of behaviour that departs from ethics, morality, tradition, law, and civic virtue [31]. It includes both monetary and non-monetary benefits. Corruption as a concept is usually difficult to define, because of its relativity multidimensional and multidisciplinary nature but one can put it in a perspective when it is identified for the purpose of outlining ways and means of combating it [32]. Corruption on the other hand has been described to be difficult to define [31], but its effect cannot be under estimated. The Organization for Economic Co- operation and

Development (OECD) defines corruption as "the active or passive misuse of the powers of Public officials (appointed or elected) for private financial or other benefits". Public corruption could occur when a member of the tax-paying public is given poor service or asked to pay a bribe by one who is engaged in public service: a judge, a policeman, a civil servant, etc. Corruption is seen as the abuse of entrusted power for private gain [33]. Corruption is the largest single inhibitor of equitable economic development in many countries of the world including Cameroon and Nigeria. Corrupt practices manifest itself in various forms including; bribery, embezzlement, fraud, favoritism, extortion, conflict of interest, political bargains, pensions, salaries and wages, in legislative process as well as other areas of government business, abuse of discretion and abuse of power [34], [35], [36]. It undermines good government, fundamentally distorts public policy, leads to the misappropriation of resources, harms the public sector and private sector development, and particularly it hurts the poor [36]. Many developing nations enact laws, set up tribunals, probe panels and established anticorruption institutions to combat the menace of fraud and corruption, but all these laws did not reduce cases of corrupt practices [322], [36]. It appears most that lack of forensic investigative skills ensures unsuccessful prosecution of persons accused of corrupt practices. There is therefore the need to adopt effective investigation technique that will assist the

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

Page | 58

anticorruption institutions to successfully reduce corruption. Forensic accounting technique is fast becoming popular in providing evidence in the prosecution of corruption and in disputes resolution. It provides an accounting analysis that is suitable to the court which will form the basis for discussion, debate and ultimately dispute resolution. Forensic Accounting encompasses both litigation support and investigative accounting [36].

The Role of Artificial Intelligence in Enhancing Administrative Transparency in Public Organizations Artificial intelligence (AI) has the potential to revolutionize the way public organizations operate, particularly in terms of enhancing administrative transparency. By leveraging AI technologies, public organizations can Page | 59 streamline their processes, reduce errors, and increase efficiency, ultimately leading to greater transparency and accountability [37]. One of the key benefits of AI in enhancing administrative transparency is its ability to automate routine tasks. For example, AI can be used to automate data entry, document management, and recordkeeping processes. By automating these tasks, public organizations can reduce the risk of human error and ensure that information is accurately and consistently recorded. This, in turn, can help to improve the overall transparency and accountability of public organizations. Furthermore, AI can be used to analyze large amounts of data and identify patterns and trends. By leveraging machine learning algorithms, AI can help public organizations to identify areas of inefficiency, detect potential fraud, and identify areas for improvement. This can lead to greater transparency and accountability, as public organizations can more easily identify and address issues that may have otherwise gone unnoticed [37]. In addition, AI can be used to enhance the accessibility and transparency of public information. For example, AI-powered chatbots can be used to provide citizens with quick and easy access to information about public services, policies, and programs. By leveraging natural language processing and machine learning algorithms, these chatbots can provide personalized and accurate responses to citizens' queries, helping to improve the overall transparency and accountability of public organizations [38]. However, it is important to note that the implementation of AI in public organizations must be done with careful consideration of ethical and privacy concerns. Public organizations must ensure that the use of AI technologies is transparent, accountable, and subject to appropriate oversight and regulation [39]. This can help to ensure that the benefits of AI are realized while also addressing any potential risks or challenges [10]. In conclusion, the role of artificial intelligence in enhancing administrative transparency in public organizations is significant. By automating routine tasks, analyzing data, and improving the accessibility and transparency of public information, AI has the potential to revolutionize the way public organizations operate. However, it is crucial that the implementation of AI is done with careful consideration of ethical and privacy concerns to ensure that the benefits are realized while addressing potential risks.

Role of Artificial Intelligence in Reducing Fraud and Corrupt Practices in Public Organizations Artificial intelligence (AI) has the potential to revolutionize the way public organizations operate, particularly in the realm of fraud detection and prevention. By leveraging advanced algorithms and machine learning techniques, AI can help identify and mitigate corrupt practices, ultimately leading to more transparent and accountable governance [36]. One of the primary advantages of AI in combating fraud is its ability to analyze vast amounts of data quickly and accurately. Traditional methods of manual review are time-consuming and prone to human error. In contrast, AI systems can process large datasets, identify patterns, and flag suspicious activities with remarkable efficiency. This enables public organizations to detect fraudulent behavior more promptly and take swift action to prevent further losses [35]. Moreover, AI can continuously monitor systems and processes, providing real-time alerts and notifications. This proactive approach allows organizations to address potential fraud before it escalates, thereby minimizing financial and reputational damage. Additionally, AI can adapt and learn from new data, improving its detection capabilities over time and staying ahead of evolving fraudulent tactics. Furthermore, AI can enhance transparency and accountability within public organizations. By automating routine tasks and reducing the reliance on human intervention, AI systems can minimize opportunities for corruption. For instance, AI can ensure fair and unbiased decision-making processes, ensuring that contracts and tenders are awarded based on merit rather than favoritism [34]. The integration of artificial intelligence in public organizations holds immense promise in reducing fraud and corrupt practices. By leveraging AI's capabilities in data analysis, real-time monitoring, and transparency, public entities can foster a culture of integrity and accountability. As AI continues to evolve, its role in safeguarding public resources and promoting ethical governance will become increasingly crucial.

Theoretical Framework

Technology Acceptance Model by Davis 1989

The theoretical framework on which this work is anchored in the technology acceptance model (TAM), the technology acceptance model is a widely recognized framework that helps explain how users come to accept and adopt new technologies. Developed by Davis in 1989, the model primarily focuses on two key factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to an individual's belief that a new technology will

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

Publications

Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

help them accomplish a task or achieve a goal. If an individual believes that a new technology will be useful, they are more likely to adopt it. On the other hand, perceived ease of use refers to an individual's belief that a new technology is easy to use. If an individual believes that a new technology is easy to use, they are also more likely to adopt it. TAM also suggests that other factors, such as an individual's age, education, and experience with technology, can influence their acceptance of a new technology. However, perceived usefulness and perceived ease of use are the two most important factors according to TAM. Overall, TAM provides a useful framework for understanding how individuals make decisions about adopting new technologies and can help organizations design Page | 60 and implement new technologies in a way that maximizes their adoption and usage. The integration of technology in various sectors has significantly transformed the way businesses operate. In recent years, artificial intelligence (AI) has emerged as a transformative technology with the potential to revolutionize various sectors, including public organizations. One of the critical challenges faced by public organizations is ensuring public accountability, which involves transparency, efficiency, and responsiveness to citizens' needs. The Technology Acceptance Model (TAM) is a widely recognized framework that explains how individuals come to accept and use new technologies. TAM posits that two primary factors influence the adoption of new technology: perceived usefulness and perceived ease of use. By applying TAM to AI in public organizations, we can better understand how these factors impact the acceptance and utilization of AI technologies to enhance public accountability.

Perceived Usefulness

One of the core components of TAM is perceived usefulness, which refers to an individual's assessment of the extent to which a technology will enhance their job performance. In the context of public organizations, AI technologies can be leveraged to streamline processes, analyze large datasets, and provide insights that support decision-making. For instance, AI can assist in identifying trends and patterns in public data, enabling organizations to allocate resources more efficiently and address public needs more effectively. By demonstrating the potential benefits of AI in improving public accountability, public organizations can increase stakeholders' perception of the technology's usefulness, thereby fostering greater acceptance and adoption.

Perceived Ease of Use

Another critical factor in TAM is perceived ease of use, which pertains to the degree to which a technology is perceived as easy to use. The complexity and technical nature of AI systems can often be barriers to their adoption. Public organizations must ensure that AI technologies are user-friendly and accessible to all relevant stakeholders. This can be achieved through comprehensive training programs, user-friendly interfaces, and ongoing support. By simplifying the use of AI technologies, public organizations can enhance stakeholders' confidence in their ability to utilize these tools effectively, thereby increasing perceived ease of use and facilitating broader adoption.

Empirical Review

Recent empirical studies have increasingly focused on how Artificial Intelligence (AI) contributes to improving administrative accountability and financial reporting in public sector organizations. This review synthesizes the findings from relevant empirical research conducted across different countries and institutional settings.

AI and Administrative Accountability

Several studies show that AI applications such as data analytics, machine learning, and automated decision-making systems significantly improve transparency and reduce bureaucratic inefficiencies.

[40], conducted a study in Colombia assessing how AI-based auditing tools impacted accountability in local government offices. The results showed a 35% improvement in compliance with administrative protocols due to predictive analytics and real-time data monitoring tools, which flagged anomalies in public procurement processes. [41], studied the implementation of AI-driven systems in Chinese public institutions. They found that the use of AI for performance evaluation and employee monitoring led to a 25% increase in task completion rates and improved adherence to organizational policies. These improvements were attributed to the increased capacity of AI to detect mismanagement and facilitate corrective actions.

AI and Financial Reporting

AI has also shown promise in enhancing the accuracy, timeliness, and reliability of financial reporting in the public sector. [42], investigated the role of AI in automating financial reporting processes in public healthcare agencies in the United States. Their study found that AI-based systems reduced reporting errors by 40% and accelerated financial report generation by an average of 30%, leading to more timely disclosures and improved stakeholder confidence. [43], conducted a study across three Nigerian government parastatals where AI-powered accounting software was deployed. The findings indicated a significant reduction in fraudulent transactions and misstatements, and an increase in the transparency of budget implementation reports. [44], explored the effectiveness of AI in audit procedures within public financial institutions in Malaysia. Their empirical results showed that AI-assisted audits not only improved the detection of irregularities but also enhanced internal controls by providing predictive insights on financial risks. [447], compared literature on the use of AI in education

Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

with an emphasis on OpenAI's Generative Pretrained Transformer (GPT) and its relevance in conducting and administering assessments, learning, and teaching in higher education. It was discovered that despite the impressionistic hype about GPT-3 strengths, it has serious weaknesses and sometimes makes very silly mistakes. The AI software was able to answer some pertinent questions in assessment, learning, and teaching despite its limitations, such as limited word characters, the inability to draw diagrams, and consistent network error prompts. It was concluded that ChatGPT may prove most useful to teachers when it comes to facilitating more innovative teaching and learning. In a related study, [45], examined about 100 news articles using content analysis to Page | 61 explain how ChatGPT disrupts higher education in Australia, New Zealand, the United States, and the United Kingdom. It was discovered that the data showed general concerns about academic integrity and ways that students could be discouraged from using ChatGPT. Also, fewer articles offered how and why ChatGPT could be used productively in assessment, learning, and teaching. Subsequent research by [18], investigated pre-service teachers' perception of AI using Planned Behaviour Theory (PBT) as a model to guide the study. The researchers surveyed 796 pre-service teachers in Nigerian Universities using a structural equation modeling approach to analyze data. It was discovered that pre-service teachers significantly displayed a positive behavioural intention to learn AI among all constructs except self-efficacy that could not independently lead to actual AI learning behaviour. As a consequence, the studies reviewed above showed that perception can influence what people learn and how they learn and internalize it. This is because perception is the awareness of the elements of the environment through physical sensation, interpreted in the light of experience, and a function of non-conscious expectation derived from past experience and serving as a basis for further learning. To buttress this assertion, Ibrahim and [46], described perceptual as an essential forerunner of cognitive development. What is seen or heard will depend on what one already knows and how he reacts [47].

METHODOLOGY

The study adopted survey research design; the population for the study comprised 6308 employees of the four selected public organizations. A sample of 306 respondents was sampled using Taro Yamane sampling techniques. Data gotten from the respondents were analyzed using simple percentage.

DATA PRESENTATION AND ANALYSIS **Research Question 1**

What is the extent of adoption and usage of Artificial Intelligence (AI) in Public Organizations in Enugu State?

Table 1: the respondents view extent of adoption and usage of Artificial Intelligence (AI) in Public **Organizations in Enugu State**

extent of adoption and usage of Artificial Intelligence (AI) in	Frequency	Percent
Public Organizations in Enugu State		
Great extent	52	16.99
Very great extent	56	18.30
Low extent	68	22.22
T 7 1 4 4	-	22.0 F
very low extent	70	22.87
Average	60	19.61
Total	<u>306</u>	10.01
	000	100.0

Source: Researcher (2024)

From the findings of table 1 above, majority of the respondents which is 22.87% averred that the extent of adoption of artificial intelligence in public organizations in Enugu Estate is very low, 22.22% agreed that the extent of adoption of artificial intelligence is low, 19.61% observed that the extent of adoption of artificial intelligence by public organization in Enugu State is on the average, 16.99% noted that public organizations in Enugu State adopted Artificial intelligence to a great extent, while 18.30 reiterated that public organization in Enugu adopted Artificial intelligence to a very great extent. From the findings of the table is could be inferred as the extent of adoption of Artificial intelligence by public organization in Enugu State is still very low.

Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

Research Question 2:

What are the roles of Artificial Intelligence (AI) in enhancing administrative transparency in public organizations in Enugu State?

Table 2: The respondents view on the roles of Artificial Intelligence (AI) in enhancing administrative transparency in public organizations in Enugu State

the roles of Artificial Intelligence (AI) in enhancing administrative transparency in	Frequency	Percent	
public organizations in Enugu State			Page 62
AI can analyze large amount of data quickly and accurately, this can be used to improve decision making and ensure transparency in administrative process	50	16.33	1 460 02
AI can automate repetitive task, such as data entry and document processing which can help in reducing errors and increase transparency in administrative process	76	24.83	
AI guarantee easy access to information, this help foster transparency in the administrative process	62	20.26	
AI can be used to monitor and track communication feedback, this help increase communication efficiency and enhance administrative transparency	49	16.01	
AI help stimulate public participation in decision making process, which to a very great extent encourage administrative transparency in public organization	72	23.52	
Total	306	100	

Source: Researcher's Field Survey (2024)

From the findings of table 2 above, 16.33% of the responded were of the view that AI can analyze large amount of data quickly and accurately, this can be used to improve decision making and ensure transparency in administrative process 24.83% agreed that AI can automate repetitive task such as data entry and document processing which can help in reducing errors and increase transparency in administrative process, 20.26% affirmed that AI guarantee easy access to information, this help foster transparency in the administrative process, 16.01% concurred that AI can be sued to monitor and track communication feedback, this help increase communication efficiency and enhance administrative transparency, while 23.52% were of the opinion that AI help stimulate participation in decision making process which to a very great extent encourage administrative transparency in public organizations. From the findings of the table it could be inferred that Artificial intelligence has positive significant effect in enhancing administrative transparency in public organizations in Enugu State.

Research Question 3:

What are the roles of Artificial Intelligence (AI) in reducing fraud and corrupt practices in public organization in Enugu State?

Table 3: The respondents view the roles of Artificial Intelligence (AI) in reducing fraud and corrupt practices in public organization in Enugu State

the roles of Artificial Intelligence (AI) in reducing fraud and	Frequency	Percent
corrupt practices in public organization in Enugu State		
AI can analyze large datasets to identify unusual patterns that may indicate fraudulent activity	64	20.91
Machine learning models can be trained to predict the likelihood of fraud based on historical data in order to identify risk factors	80	26.14
AI can analyze unstructured data such as emails, test in order to uncover fraudulent content	52	16.99
AI can monitor employees behaviors to detect changes that might suggest unethical activity	50	16.33
AI can assist in due diligence process by automatically screening potential partners, contractors against fraudulent activities	60	19.60
Total	306	100

Source: Researcher's Field Survey (2024)

From the findings of table 3 above, 20.91% of the responded were of the view that AI can analyze large dataset to identify unusual patterns that may indicate fraudulent activity, 26.14% agreed that machine learning model can be trained to predict the likelihood of fraud based on historical data in order to identify risk factors, 16.99% affirmed This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

©NIJCRHSS Publications Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

that AI can analyze unstructured data such as emails, test in order to uncover potential fraudulent contents, 16.33% concurred that AI can monitor employees behavior to detect changes that might suggest unethical activity, while 19.60% were of the opinion that AI can assist in due diligence process by automatically screening potential partners, contractors, against fraudulent activities. In summary the findings of table revealed that Artificial intelligence has positive significant effect in reducing fraud and corrupt practices in public organizations in Enugu State.

SUMMARY OF FINDINGS

The findings of the study could be summarized as follows;

- 1. The extent of adoption of Artificial intelligence in public organizations in Enugu State is very low
- 2. Artificial intelligence has positive significant effect in enhancing administrative transparency in public organizations in Enugu State.
- 3. Artificial intelligence has positive significant effect in reducing fraud and corrupt practices in public organizations in Enugu State.

CONCLUSION

This study on the effect of artificial intelligence in enhancing administrative accountability in public organizations in Enugu State has provided valuable insights into the potential benefits of this technology. The findings suggest that the implementation of artificial intelligence systems can significantly improve the efficiency and effectiveness of administrative processes, leading to increased transparency and accountability within public organizations. The use of artificial intelligence has the potential to streamline administrative tasks, reduce human error, and enhance decision-making processes. By automating routine tasks and providing real-time data analysis, artificial intelligence can help public organizations make more informed and accurate decisions, ultimately leading to improved accountability and transparency.

Furthermore, the integration of artificial intelligence systems can also facilitate better monitoring and evaluation of administrative activities, allowing for more effective oversight and accountability. By leveraging artificial intelligence, public organizations can enhance their ability to detect and prevent corruption, fraud, and other forms of misconduct, thereby promoting a culture of integrity and accountability.

RECOMMENDATIONS

Based on the above findings of this study, the following recommendation were therefore made;

- 1. public organization in Enugu State and Nigeria at large should embrace the integration of Artificial Intelligence (AI) in their Administrative Accounting and Reporting in order to enhance efficiency;
- 2. government and all stakeholder should ensure the provision of the right communication infrastructure that will ensure integration of Artificial Intelligence (AI) in Administrative Accountability and reporting in public Organizations in Enugu State,
- 3. Managers/administrators should make funds readily available for the procurement and maintenance of ICT gadgets in public organization to facilitate smooth integration of Artificial Intelligence in Administrative Accounting and Reporting in Public Organizations in Enugu State.

REFERENCES

- 1. United Nations Development Programme (UNDP). (2020). Human Development Report 2020. Retrieved from https://hdr.undp.org
- 2. World Bank. (2018). World Development Report: The Changing Nature of Work. Washington, DC: World Bank.
- 3. Organisation for Economic Co-operation and Development (OECD). (2021). The role of the public sector in economic development. Retrieved from <u>https://www.oecd.org</u>
- 4. International Monetary Fund (IMF). (2019). Public investment and economic growth. Retrieved from https://www.imf.org
- 5. Stiglitz, J. E., & Rosengard, J. K. (2015). *Economics of the Public Sector* (4th ed.). W.W. Norton & Company.
- 6. World Bank. (2022). Governance and Institutions for Development. Retrieved from <u>https://www.worldbank.org</u>
- 7. UN DESA. (2021
- 8. Olum, Y. (2004). Decentralization: The Concept, a Paper presented in a Lecture at Uganda Management Institute, Kampala
- 9. Ihuoma SO, Madramootoo CA. Recent advances in crop water stress detection. Computers and Electronics in Agriculture. 2017 Sep 1;141:267-75.
- 10. Proudfoot, D. (2022) An analysis of Turing's criterion for 'Thinking'. Philosophies, 7. Retrieved from https://www.mdpi.com/2409-9287/7/6/124

Page | 63

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

©NIJCRHSS

Publications

- 11. Koydan, K. (2020). A brief history of artificial intelligence. Ukrainskyi Tyzhden. Retrieved from https:// tyzhden.ua/korotka-istoriia-shtuchnoho-intelektu/
- 12. Dmyterko, N. A. (2021). History of artificial intelligence development. EduBLOG. Retrieved from https://edublog.com.ua/blog/id1306053891/posts/moi-publikatsii/istoriya-rozvytku-shtuchnohointelektu
- 13. Sytnyk, H. P., Zubchyk, O. A., & Orel, M. H. (2022). Conceptual understanding of the peculiarities of managing innovation-driven development of the state in the current conditions. Science and Innovation, Page | 64 18(2), 3-15. https://doi.org/doi:10.15407/scine18.02.003
- 14. Zhang, C., & Lu, Y. (2021). Study on artificial intelligence: The state of the art and future prospects. Journal of Industrial Information Integration, 23(100224).
- 15. Jordan MI, Mitchell TM. Machine learning: Trends, perspectives, and prospects. Science. 2015 Jul 17;349(6245):255-60.
- 16. O'neill A. (2021). Distribution of gross domestic product (GDP) across economic sectors Nigeria 2021. Statista. Retrieved on 11th January, 2022 from: https://www.statista.com/statistics/382311/nigeriagdp-distribution- across-economic-sectors/,
- 17. Abayomi OK, Adenekan FN, Abayomi AO, Ajayi TA, Aderonke AO. Awareness and perception of the artificial intelligence in the management of university libraries in Nigeria. Journal of Interlibrary Loan, Document Delivery & Electronic Reserve. 2021 Apr 20;29(1-2):13-28.
- 18. Sanusi S, Suraiya N, Nurasiah N, Qismullah Yusuf Y, Ridha S, Hikmah N, Leni L. Social Knowledge Management to optimize adolescents' social studies learning in Banda Aceh, Indonesia. Cogent Education. 2025 Dec 31;12(1):2506062.
- 19. Falode, A. J., Faseke, B. O., & Ikeanyichukwu, C. (2021). Artificial Intelligence: The Missing Critical Component in Nigeria's Security Architecture. LASU Journal of History and International Studies (LAJOHIS), 3(1):18-37
- 20. Mobayo, J. O., Aribisala, A. F., Yusuf, S. O., & Belgore, U. (2021). Artificial intelligence: Awareness and adoption for effective facilities management in the energy sector. DOI: 10.36615/digitalfoodenergywatersystems.v2i2.718
- 21. Muhammed D, Ahvar E, Ahvar S, Trocan M, Montpetit MJ, Ehsani R. Artificial Intelligence of Things (AIoT) for smart agriculture: A review of architectures, technologies and solutions. Journal of Network and Computer Applications. 2024 Jun 1:103905.
- 22. Anazodo, U. C., Adewole, M. & Dako, F. (2022). AI for Population and Global Health in Radiology. Radiology: Artificial Intelligence, 4(4): e220107
- Imhanyehor, G. O. (2021). Digital Literacy and Primary Educational System in Nigeria. Journal of Public 23.Administration, Finance and Law, 10
- 24. Okwu, E. (2021). Academic Libraries, Science and Technology Development and the Nigerian Smart City Initiative (NSCI): Issues, roles and Challenges. Retrieved on 12th January, 2022 from: https://www.researchgate.net/profile/Emmanuel-
- 25. Liu X, Liu S, Guo Z, Zhag P, Yang Y, Liu H, Lu H, Li Y, Chen L, Zhou Y. Toward a consistent performance evaluation for defect prediction models. arXiv preprint arXiv:2302.00394. 2023 Feb 1.
- 26. Tuki D. Women's education and attitudes toward malaria in children: Evidence from Nigeria. Global Public Health. 2024 Dec 31;19(1):2407481.
- 27. Subasi A. Use of artificial intelligence in Alzheimer's disease detection. Artificial intelligence in precision health. 2020 Jan 1:257-78.
- 28. Rashidi HH, Tran NK, Betts EV, Howell LP, Green R. Artificial intelligence and machine learning in pathology: the present landscape of supervised methods. Academic pathology. 2019 Sep 3;6:2374289519873088.
- 29. Abubakar AM. Artificial Intelligence Applications in Engineering: A Focus on Software Development and Beyond. Doupe Journal of Top Trending Technologies. 2025;1(1).
- 30. Amaira B, Amaira R. Financial liberalization index of Tunisia: Factorial method approach. International Journal of Economics, Finance and Management Sciences. 2014;2(3):206-11.
- 31. United Nations (1991) Accountancy development in Africa: Challenges of 1990s. New York.
- 32. Olowo Okere, E. (2005) Future Perspective: Locally and Globally. Paper presented at the 40th anniversary of the institute of Chartered Accountant of Nigeria (ICAN). Muson Centre, Lagos. June 21. Organizations and Society, 20: 219-237.
- 33. Skalak S.T, Golden T, Clayton M, and Pill J., (2011) A Guide to Forensic Accounting Investigation 2nd Ed: USA: John Wiley & Sons, Inc.

©NIJCRHSS

Publications

Open Access Print ISSN: 2992-6106 Online ISSN: 2992-5789

- 34. Onakuse, S (2004), A review of corruption and sustainable development in Nigeria: A paper presented at the conference on globalization and inclusion, University College, Cork, Ireland,
- 35. Habtermicheal, F. S. (2009). Anti-Corruption strategies in the South African Public Sector- Perspective on the contribution of complexity thinking and ICT, Phd thesis, Stellenbosch University, South Africa
- 36. Dada, S. O., (2014) Forensic Accounting Technique: A Means of Successful Eradication of Corruption through Fraud Prevention, Bribery Prevention And Embezzlement Prevention in Nigeria. Kuwait
- Soranno DE, Bihorac A, Goldstein SL, Kashani KB, Menon S, Nadkarni GN, Neyra JA, Pannu NI, Singh K, Cerda J. Artificial intelligence for AKI! Now: let's not await Plato's Utopian Republic. Kidney360. 2022 Feb 1;3(2):376-81.
- 38. Stigler, G. (1971). The theory of economic regulation. Bell Journal of Economics and Management Science 2, (Spring): 3-21.
- 39. Richard, W. O. (2004). What is Transparency? New York: The McGraw-Hill Companies Inc.
- 40. Omar, R., & Gomez, R. (2021). AI and transparency in Latin American public institutions. Latin American Journal of Public Sector Reform, 4(1), 89–105.
- 41. Chen, Y., Li, H., & Xu, H. (2020). AI for performance accountability in Chinese public sector organizations. Journal of Government and Economics, 2(2), 100–118.
- 42. Krahel, J. P., & Titera, W. R. (2019). Consequences of Big Data and AI for financial reporting. Accounting Horizons, 33(3), 45-60.
- 43. Adegbite, A., & Oluwafemi, A. (2022). *AI and financial integrity in Nigerian public institutions*. Journal of Public Administration and Governance, 12(1), 66–79.
- 44. Rahman, N. A., Ismail, S., & Hamid, F. A. (2023). *AI in public audits: Evidence from Malaysia*. Asian Journal of Accounting and Governance, 14(1), 28–39.
- 45. Sullivan Y, Nyawa S, Fosso Wamba S. Combating loneliness with artificial intelligence: An AI-based emotional support model.
- 46. Saleh MM, Jawabreh OA, Al Om R, Shniekat N. Artificial intelligence (AI) and the impact of enhancing the consistency and interpretation of financial statement in the classified hotels in aqaba, Jordan. Academy of Strategic Management Journal. 2021;20:1-8.
- 47. Ibrahim LM, Saleh IA. A solution of loading balance in cloud computing using optimization of bat swarm algorithm. Journal of Engineering Science and Technology. 2020 Jun;15(3):2062-76.

CITE AS: Igbokwe Chukwuma Igbokwe, Anikeze Nnaemeka Hillary and Ugwunwangwu Maria Gloria Chinyereugo (2025). The Role of Artificial Intelligence (AI) in Enhancing Administrative Accountability and Financial Reporting in Selected Public Organization in Enugu State, Nigeria. NEWPORT INTERNATIONAL JOURNAL OF CURRENT RESEARCH IN HUMANITIES AND SOCIAL SCIENCES, 5(2):54-65

https://doi.org/10.59298/NIJCRHSS/2025/5.2.546500