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Influence Of Artificial Intelligence In Promoting Gender Equality And Diversity In Nigeria's Public Service: Addressing Algorithmic Bias And Charting Inclusive Governance Pathways

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Abstract
The public administration sector worldwide experienced a fast transformation because of artificial intelligence deployment, which brought improved operational efficiency and greater transparency and service delivery to government institutions. The advantages of AI systems produce rising concerns about algorithmic prejudice and the exclusion of women and other marginalized communities. The research analyzes how artificial intelligence systems affect public sector diversity and gender equality in Nigeria. The study employs a qualitative descriptive research design through content analysis and documentary, to analyze how technology interacts with governance systems and social inclusion mechanisms. The research demonstrates that AI technology creates new possibilities for inclusive governance, yet social inequalities persist because of existing gender-based structural barriers, discriminatory data patterns, and limited female participation in AI development teams. The research demands AI regulatory frameworks that must include gender awareness, algorithmic openness, and ethical governance systems to achieve equitable public sector digital transformation.

Keywords: *Artificial Intelligence, Algorithmic Bias, Gender Equality, Inclusive Governance, Public Service, Nigeria*

I. INTRODUCTION

The rapid development of artificial intelligence technology creates deep changes in how communities form and operate, and how people experience their social environments. The creation and deployment of AI systems requires an inclusive and equitable approach because public administration and employment services and service delivery depend more and more on these systems for decision-making. The analysis needs to focus on AI solutions that address development problems and generate new possibilities through gender-sensitive governance methods for African countries with long-standing historical and structural inequalities (Chinasa et al., 2023; Gwagwa et al., 2020).

Science, technology, and innovation continue to face major gender-based differences between men and women. The most severe difference between men and women shows up in artificial intelligence because algorithmic bias emerges when women and other underrepresented groups fail to participate in design programming and data science work (Bryson & Winfield, 2017; Ugwuozor & Egenti, 2024). AI models need large datasets that show actual social and cultural environments because any missing or skewed data leads predictive algorithms to duplicate and make discrimination patterns worse (Sharma et al., 2020).

The creation of AI systems needs to include various people who will train and test these models to minimize bias and create fair results (Chinasa et al., 2023). Studies show that algorithmic decision systems tend to make gender inequalities worse while affecting media coverage and public services and healthcare, education and employment, and financial sectors (Agba et al., 2023; Nakolisa, 2023). The automated recruiting algorithms that base their operations on historical job data from male candidates tend to give male applicants an advantage in the selection process. Predictive policing systems reveal gender-based social stereotypes that originate from cultural traditions and social assumptions about men and women.

AI systems face discrimination during their testing, benchmarking, development, and training processes. The assessment systems will continue to have unfairness because the performance evaluation benchmarks for AI systems do not include factors that handle gender and cultural differences (Bryson & Winfield, 2017). The structural problems show that algorithmic discrimination functions as a governance issue that requires institutional understanding and gender-sensitive policy creation and ethical oversight (Fukuyama, 2013; OECD, 2019).

The Nigerian public sector encounters two primary obstacles that hinder the implementation of artificial intelligence systems for improving public

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service delivery. Organizations should verify that their digital governance systems provide both operational efficiency and fair governance structures that defend against discrimination and advance gender equality. The research studies the effects of artificial intelligence implementation in Nigerian public institutions on gender and diversity outcomes because the technology has the potential to either maintain algorithmic discrimination or establish equitable governance frameworks.

Problem Statement

AI technology has the ability to boost public service delivery in Nigeria, yet it can make current institutional, social, and cultural inequalities worse. The training of algorithmic systems with biased data produces unintentional discrimination against women and minority groups during recruitment processes, public service delivery, and career advancement opportunities (Bryson & Winfield, 2017; Agba et al., 2023). AI systems operate without distinct ethical and gender-sensitive rules, which allows them to amplify present governance inequalities instead of reducing them.

Scope of the Study

The research studies public sector institutions in Nigeria through gender and diversity evaluation methods to understand how AI technology affects recruitment processes, human resource management, and digital service delivery. The study examines public administrative systems between 2019 and 2024 while Nigeria pursued digital transformation at an intense pace.

Justification of the Study

Artificial intelligence functions as a vital tool for public sector operations because it helps organizations make better decisions and design innovative solutions. The wrong implementation of technology creates new obstacles that worsen the existing inequality between different social groups. The implementation of AI technology in Nigeria's governance system reveals how emerging technologies impact both the advancement and suppression of discriminatory methods. The study advances technical governance and gender equity policy discussions by supporting Sustainable Development Goals, which promote equality and innovation. (Chinasa et al., 2023; Gwagwa et al., 2020).

II. LITERATURE REVIEW

2.1 Conceptual Review

Artificial Intelligence and Public Governance

Artificial intelligence (AI) represents computer systems that maintain cognitive abilities to solve problems, understand language, and perceive and reason (Bryson & Winfield, 2017). The use of artificial intelligence in governance involves deploying technological tools that improve decision-making processes, automate procedures, and boost public service efficiency. Artificial intelligence systems now transform government operations throughout the world through automated service delivery, data-based decision systems, and predictive analytical tools. According to the OECD (2021), governments use AI systems to enhance their bureaucratic operations and financial management and open their activities to public scrutiny. The Nigerian government applies artificial intelligence technology to execute three main tasks, which include hiring civil servants, collecting taxes, and boosting the political participation of citizens (Agba et al., 2023).

The implementation process encounters various obstacles because there are no proper policy guidelines, digital systems remain underdeveloped, and local professionals lack the required skills to build ethical AI systems (Olayinka, 2022). The obstacles restrict AI systems from achieving their full potential to transform governmental operations and provide better public service access.

AI for Inclusive and Equitable Governance

AI systems achieve inclusivity through their design when developers operate with positive intentions. AI analytics systems enable organizations to track diversity indicators through automated tools that produce better gender equality assessments and improved policy information based on group analysis (Gwagwa et al., 2020). The development of fair AI governance requires organizations to build systems that distribute information equally while backing disadvantaged groups and supporting their participation in decision-making activities.

South Africa and Rwanda have established national digital policies that include gender-sensitive AI frameworks as part of their strategy. Nigeria should adopt similar methods to protect international ethical standards during its digital governance transition while promoting female participation in AI development and policy creation.

AI in Public Service and Governance

Artificial intelligence integration into public services enables governments to run their operations more efficiently while delivering faster service delivery to their citizens. The process requires organizations to automate repetitive administrative

work and use data analytics for better decision-making and AI platforms to improve public services. Fukuyama (2013) explains governance through the combination of authority to create rules and the power to force compliance and maintain public services. The World Bank (2019) describes governance as the system through which governments manage their social and economic resources to achieve national development. The system establishes methods that enable lawmakers to create laws, and it lets citizens participate in the process while keeping public organizations under control.

The system of governance functions as an operational system that uses public will to achieve development and maintain environmental stability. The system of governance uses artificial intelligence to deliver public services and execute government operations, which maintain citizen welfare and national development. Organizations use artificial intelligence to make decisions and analyze data and automate routine tasks and improve public services, increase transparency, and fight corruption. Artificial intelligence enables the government to function better through data-based decision-making, which leads to improved governance across healthcare, education, security, infrastructure, and finance. Bingham and his team discovered that government employees hold positions that require them to create and work with tools that assist in carrying out state functions (Bingham et al., 2005). The explanation shows how human-made advancements interact with governmental systems to reveal which methods will help governments improve their service delivery for citizens.

Gender and Algorithmic Bias in AI Systems

Algorithmic bias emerges when automated systems generate repeated unfair results because of incorrect assumptions made during machine learning development and biased training data (Mehrabi et al., 2021). AI systems produce gender bias, which creates problems for both social systems and technological advancement. Studies show that AI models spread existing social inequalities from their training data because they copy the patterns that exist in these datasets (Crawford, 2021). The facial recognition systems make incorrect identifications of women and people of color, which results in discriminatory effects (Buolamwini & Gebru, 2018).

The underrepresentation of women in STEM and AI fields makes it harder for them to develop fair AI systems that serve all people in Nigeria (Chinasa et al., 2023). Public entities that use automated systems for credit assessment and employment decisions create systems that preserve current social inequalities. The solution requires three main requirements: creating gender-neutral AI regulations, building inclusive datasets, and implementing ethical auditing systems to achieve transparent and fair AI model performance.

The Intersection of Gender Bias and Algorithmic Bias

The world recognizes gender inequality and algorithmic bias as two linked problems that create operational challenges for AI systems and produce differential effects on community members. The sociotechnical perspective identifies three main factors that sustain gender biases in AI systems: societal elements, institutional structures, and design-related aspects (Dwork et al., 2012; Kamiran & Calders, 2012; Kilbertus et al., 2017). The system faces multiple problems, which include gender stereotypes, weak AI regulation, developer homogeneity, and biased datasets that repeat human discrimination.

The racial discrimination that exists within AI systems creates a major problem because it intensifies the existing gender-based discrimination. Research shows that algorithmic systems that predict political outcomes, sports results, job selections, and product recommendations create discrimination against Black women (Buolamwini & Gebru, 2018; Berk et al., 2018; Chouldechova, 2016). The study shows that bias emerges from deep-rooted system problems that exist in both data structures and design processes instead of being random technical faults (Kleinberg et al., 2017; Verma & Rubin, 2018).

The combination of technological solutions with socio-ethical frameworks that focus on intersectionality, inclusivity, and justice to combat these preconceptions. Kong's study from 2021 shows that women of color face discrimination because their experiences combine racial and gender-based oppression, which goes beyond the separate effects of race or gender. The system operates according to counterfactual fairness, which demands an evaluation of AI system performance based on prediction shifts that occur when sensitive attributes like gender or race undergo changes (Kusner et al., 2017; Nabi & Shpitser, 2018).

The majority of datasets contain male and Western and white data, which creates biased algorithms that produce inaccurate machine learning predictions (Galhotra et al., 2017; Zliobaite, 2015). The data collection process, together with human annotation procedures and existing cultural stereotypes, creates a system that produces results that show bias (Simoiu et al., 2017; Hardt et al.,

2016). AI system fairness requires two main strategies, which include technological "debiasing" and social environment examination for AI system development, deployment, and regulatory frameworks (Corbett-Davies et al., 2017).

Gender Bias and AI in the African Context

Institutional barriers, which include limited educational opportunities, poor digital competencies, and weak legal protection for women, create more challenges for African women to participate in AI development and deployment (Gwagwa et al., 2020). The development process fails to include the viewpoints and life stories of oppressed Africans because colonial AI systems continue to operate without considering local environmental aspects during technology development (Birhane, 2020). African women face multiple barriers, which include dangers to their personal data privacy and job losses that result from automated systems.

African nations have begun to take action, which shows through actual evidence. The African Union (2023) shows Nigeria established Responsible AI Governance Frameworks, and South Africa uses healthcare system oversight to prevent AI discrimination against women, yet Kenya works to train its language models for reducing gender bias. The African Union promotes women's involvement in STEM and AI governance through its Gender Equality and Women's Empowerment (GEWE) program, which spans all sectors of society. The initiatives show people understand better about gender-responsive AI policy, although they still face implementation, representation, and sustainability challenges. The creation of inclusive AI systems in Africa demands organizations to include diverse people throughout their entire structure, from management to regulatory frameworks, educational programs, and data management systems (Gwagwa et al., 2020). The system provides AI-based public service operations that deliver equal benefits to all genders while maintaining fairness and efficiency.

Potential Benefits of AI in Nigeria's Governance

Sharma et al. (2020) state that artificial intelligence will transform Nigerian government operations through better service delivery and improved transparency and operational efficiency. Research shows that artificial intelligence systems perform repetitive administrative work, remove bureaucratic barriers, and enhance decision-making through data analytics (Adebayo & Omotosho, 2021). The predictive capabilities of AI systems enable better resource distribution and emergency response management in education, health and agriculture, and security sectors (Onyango & Musa, 2022).

AI systems help governments achieve better transparency and accountability through their ability to identify fraudulent activities in tax and procurement operations (Eze & Okafor, 2023). The system operates as a tool for democratic progression because it assists electoral management through voter data control and misinformation detection (Obi & Adeniran, 2022). The surveillance technology and predictive policing systems demonstrate potential for reducing security threats, which include insurgency and abduction. The system encounters ethical problems because it does not treat everyone equally, while it also fails to protect user information (Afolabi, 2023).

AI specialists in Nigeria advise the country to establish gender-sensitive and diverse policies before starting any AI technology implementation because these measures will bring future advantages. Women who do not participate enough in AI and data science create governance systems that fail to protect the interests of marginalized communities (Chinasa et al., 2023). The Nigerian government can benefit from AI technology, but it needs to focus on accountability, equity, and inclusivity to achieve equal results for every citizen.

2.2 Theoretical Framework: Technology Acceptance Model (TAM)

Fred Davis created the Technology Acceptance Model (TAM) during the year 1989. The theory demonstrates that users select technology based on their evaluation of its value and its operational ease. The Nigerian public service sector operates with TAM to show how people use AI capabilities between government workers and citizens. According to Venkatesh and Bala (2008), people will adopt AI for work duties when they comprehend its benefits and find its operation user-friendly. The way people interact with technology depends on social standards, which produce distinct digital experiences for male and female users. Digital literacy training programs have stayed out of reach for women and marginalized groups because they lack the resources to understand AI technology and choose to stay away from it (Olanrewaju & Joshua, 2022). The research uses the Technology Acceptance Model (TAM) to analyze gender-based governance systems, which show organizations need technical readiness and social context understanding to create fair AI deployment systems (Ugwuozor & Egenti, 2024).

2.3 Empirical Review

According to the study by Ananyi and Nwosu (2023) titled "Artificial Intelligence and Economic Aspects of Nigerian Public Universities, the research examined the financial elements of Nigerian public universities that adopted artificial intelligence technology for their operational systems. The research study followed a descriptive design for its inquiry process. Nigeria operated two different university systems, which included 60 state institutions and 51 federal universities. The research findings demonstrate that artificial intelligence implementation produces financial benefits for public colleges throughout Nigeria.

The research conducted by Agba et al. (2023) investigates how artificial intelligence affects public management and governance systems across both developed and developing market economies. The study found multiple new opportunities between AI systems and public administrative work. The experts recommended that additional studies should take place, while specialists and experts who want to use AI for public administration and governance should get more support.

Nakolisa (2023) delivered essential information in his work "Artificial Intelligence and Public Service Delivery in Africa," which supports AI knowledge growth and practical application development across Africa. The research studied African nations' responses to fresh AI opportunities through the UNIDO 2022 government AI Readiness assessment.

The research titled "Assessment of Artificial Intelligence in Public Administration: Implication for Service Delivery in Lagos State Public Service" by Hassan et al. (2023). The research study evaluates digital age governance principles through technology acceptance model methods, which produce the study's analytical results. The report shows that Lagos has just started using artificial intelligence (AI) for its operations.

The literature review shows that AI systems lead to either supportive or obstructive inclusive governance based on their design structure and implementation methods. The Technology Acceptance Model (TAM) provides an understanding of user adoption behavior, yet the Nigerian governance system reveals how AI deployment affects both ethical standards and social effects through gender and diversity viewpoints. The present studies establish a basic theoretical framework, but they do not include actual data about AI and gender and public governance in Nigeria, which this research aims to investigate.

III. RESEARCH METHODOLOGY

The research study examined how gender equality and inclusive governance practices interact with artificial intelligence systems within Nigerian society through descriptive and exploratory research methods. The research method, which allowed for exploration, helped reveal deep knowledge about gender-related experiences together with their policy consequences, and the descriptive method revealed current AI adoption patterns in governance institutions. The researchers joined qualitative and quantitative data through their dual design method to achieve a complete understanding of AI technology effects on governance system inequalities (Creswell & Plano Clark, 2018).

Population of the Study

The research group consisted of people and organizations that work on developing and overseeing AI governance systems in Nigeria. The group contains members from the government who represent the Communications and Digital Economy ministries, the Innovation sector, data science, technology experts, AI governance scholars, and digital inclusion and gender equality civil society organizations. The researchers selected this particular group because its members brought together different stakeholders who possessed the necessary knowledge to study how artificial intelligence affects inclusive governance systems.

Sampling Technique and Sample Size

Participants were chosen through purposive sampling because they needed to have both knowledge and experience about gender inclusion and artificial intelligence. The sample consists of 50 participants that includes twenty parliamentarians, fifteen AI data specialists, and fifteen representatives from civil society organizations working for gender equality. A deliberate sample was selected to guarantee that participants possessed pertinent professional backgrounds, so contributing both qualitative depth and empirical accuracy to the findings (Etikan et al., 2016).

Sources of Data

The research collected data through primary and secondary sources. We obtained direct responses from participants by using semi-structured interviews together with standard questionnaire formats. The research interviews produced qualitative information about gender bias and policy frameworks and inclusivity, yet the surveys collected numerical data about AI governance implementation challenges, benefits, and public attitudes toward AI. The research team obtained secondary data about AI ethics and

gender equality and governance in developing regions through multiple sources, which included governmental documents, institutional reports, academic publications, and credible sources. The research findings received validation through the unification of theoretical analysis with empirical data.

Method of Data Collection

Data collection occurred through digital surveys and virtual interviews, which took place through email and video conferencing platforms, including Zoom and Google Meet. The method resolved operational difficulties while lowering costs and making services available to people throughout different parts of Nigeria. The research ethics board, which held authority, approved the study before researchers started gathering data. The participants received information about the research goals, together with the protection of their personal information.

Method of Data Analysis

The research used Statistical Package for the Social Sciences (SPSS) version 25 to analyze the quantitative survey data. The team applied descriptive statistical methods, which included frequency counts, percentage calculations, and mean distribution analyses. The tool helps people find patterns in public opinions about gender inclusion and artificial intelligence use in government operations. The researchers analyzed the interview data through thematic analysis. The process required the identification of ongoing patterns, essential concepts, and subject matter that related to algorithmic bias, inclusion rules, and ethical governance standards. The combination of quantitative and qualitative methods produced better validity and triangulation, which led to a deeper understanding of the research participants.

IV. RESULTS AND FINDINGS

This section presents the study's conclusions derived from the analysis of both quantitative and qualitative data. The research team collected data to determine how artificial intelligence (AI) systems could help improve gender equality and inclusion and governance performance in Nigeria. The study results appear in the following order according to the main themes that emerged from the research: (1) the current state of AI adoption in governance; (2) perceived benefits and opportunities; (3) challenges and barriers related to gender; and (4) policy implications for ethical and inclusive AI integration. The research findings originate from survey responses, which 50 individuals provided, who represent government officials, AI experts, and civil society members.

Demographic Characteristics of Respondents

The demographic information reveals the distribution of participants according to their gender and their professional experience level, and their work history. The survey received answers from 50 participants, who consisted of 40 percent women and 60 percent men. Thirty percent of the participants came from civil society and advocacy groups, while another thirty percent represented the government, and the remaining thirty percent consisted of AI and data experts. The majority (68%) had more than five years of professional experience in technology or governance-related fields, while 32% had one to five years of experience. The different perspectives from various regions obtained an authentic representation through this approach.

The demographic findings reveal that women face inadequate representation within AI-related governance fields, which matches the existing gender gap that appears in academic studies and policy discussions about AI (Berk et al., 2018; Galhotra et al., 2017). The respondents viewed this as a major obstacle that prevents people from joining technology-based governance systems.

Current State of AI Adoption in Nigeria's Governance

The survey results demonstrate that Nigeria has not progressed beyond its initial phase of implementing AI technology for public governance systems. Over half of the respondents, at 56% reported that government agencies started AI pilot programs that focus on identity management, data analytics, and digital services that include e-governance platforms. 44% of respondents expressed their belief that governmental bodies have not achieved sufficient collaboration between ministries and agencies and that AI adoption remains inadequate.

Interview data showed that structural and financial barriers and human resource limitations prevent AI technology deployment, although experts agree on its revolutionary potential. The respondents identified the absence of standardized AI policy frameworks as their main obstacle. A government official stated that various departments operate AI tools, yet no unified policy or ethical framework exists to guarantee equal access for women and minority groups.

The systems direct their attention toward technological development instead of addressing

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social challenges. The findings match the study results from Chouldechova (2016), who demonstrated that algorithmic systems without ethical structures continue to sustain current social inequalities.

Perceived Benefits and Opportunities of AI in Governance

The survey results showed that 88% of respondents believed AI technology would improve government efficiency and transparency. The survey results showed that 76% of participants believed AI technology would improve public service delivery and decrease bureaucratic waiting times. Most respondents (84%) supported the idea that AI systems would enhance decision-making accuracy by analyzing data.

The research showed that AI systems help automate repetitive administrative work, which enables staff members to concentrate on more essential tasks. The survey participants highlighted the main benefits, which included education improvements, better taxation systems, and public health services. AI demonstrates potential to assist evidence-based policy development and resource allocation, according to Sharma et al. (2020), who support this view through their research on healthcare analytics for disease detection and public health management.

The interview process showed AI systems track gender equity metrics to improve gender inclusion by monitoring policy outcomes, educational settings, and workplace conditions. Organizations that represent civil society maintain that AI databases can detect gender disparities while enhancing the effectiveness of gender mainstreaming initiatives. According to one participant, artificial intelligence demonstrates social inequality patterns that human systems fail to detect. The tool functions as a system to promote fairness and honesty when people use it properly. According to Hardt et al. (2016), developers who build algorithms with fairness as their main goal will create machine learning systems that produce fair results through equal opportunity. This insight aligns with their discourse on the subject.

Challenges and Gender-Related Barriers in AI Governance

Multiple barriers exist that prevent AI adoption despite the numerous available opportunities. The survey results indicate that 72% of participants identified dataset and computing system bias as the most severe issue. The main challenges stem from digital infrastructure problems, which affect 68% of respondents and inadequate AI specialist numbers at 64% and weak regulatory oversight at 60%. Human society faces a major obstacle because technological systems continue to reproduce existing gender-based inequalities in representation. The problem emerges from two primary causes, which include female underrepresentation in STEM fields and cultural stereotypes and biased AI training data.

People expressed major concern that computer systems, which operate predictive policing, credit assessment, and employment selection, would keep gender bias active. The research results align with the findings of Kusner et al. (2017) and Kleinberg et al. (2017), who demonstrated that AI algorithms preserve systemic inequality unless fairness operates as an intrinsic system element.

Respondents raised issues about "AI colonialism", which Kilbertus et al. (2017) describe as Western technology implementation in African areas without any cultural or environmental modifications. The evaluation system produces unfair outcomes, which create more harm to groups who face existing discrimination, including African women. During an interview, a female professional in AI stated, "AI tools developed in the US and Europe mirror the values and data structures which represent the social realities of these regions." The system operates in Nigeria with discriminatory methods that fail to understand Nigerian cultural and social structures.

The findings support the claim made by Kong (2019) and intersectionality scholars who state that AI discrimination against women stems from their racial and cultural identity.

Policy and Ethical Implications

The participants emphasized the requirement for legal systems that support gender equality and ethical artificial intelligence systems. Eighty percent of survey participants agree that Nigeria should establish particular guidelines within its national AI strategy to promote gender equality. Thematic analysis identified three fundamental policy requirements as essential:

i. **Inclusive Policy Development** – The development of AI policies needs to begin with the inclusion of women and underrepresented groups because this method produces policies that include everyone.
ii. **AI Ethics and Accountability Mechanisms** – The government needs to establish national regulations that create auditing systems for assessing data

transparency, together with fairness benchmarks.

iii. **Education and Capacity Building** – The program focuses on boosting female involvement in AI leadership positions, educational programs, and training initiatives.

The respondents selected South Africa and Kenya as examples of proper AI governance because these countries established laws that require language model training and healthcare system fairness assessments (Zafar et al., 2017). The public sector, together with the corporate and academic sectors, needs to join forces, according to 78% of participants, to create more diversity in AI research and applications.

V. SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The research shows artificial intelligence (AI) will improve Nigerian governance through ethical development and gender-aware policies and participatory frameworks. AI technology enables service improvements, better decision-making, and transparency in organizations. The tools become dangerous when they fail to solve three main problems, which include gender inequality, dataset bias, and insufficient adaptation to local situations.

Nigeria requires a national AI framework to achieve equal government access through responsible AI systems, which will focus on both inclusion and equity and sociocultural adaptability. The digital age will bring higher government institution credibility, which will build social trust and motivate people to join democratic processes.

From the study undertaking, it is understood how algorithmic discrimination interacts with gender equality initiatives and AI systems operating within Nigeria's public sector. The discussion demonstrates that AI holds great potential to boost government efficiency, transparency, and creativity, but improper implementation of AI systems would worsen existing social inequalities. The main argument states that algorithmic systems function outside of neutral operation. The technology systems duplicate existing institutional biases, which stem from the data and cultural structures that developers used during their creation process (Buolamwini & Gebru, 2018). AI systems trained on biased data will create worse gender gaps in Nigeria because men and women continue to have different roles in decision-making, work, and education access.

The survey showed that most Nigerian AI policies operate at a basic level because they lack proper frameworks for integrating gender considerations. The absence of clear ethical standards, together with non-biased evaluation systems, creates a higher chance for algorithmic discrimination to occur. Studies from multiple countries show that surveillance systems together with credit scoring algorithms and hiring tools produce unintentional discrimination against women and minority groups (Gwagwa et al., 2020).

The public sector of Nigeria shows readiness for digital transformation, yet faces obstacles because of missing data, weak institutional capabilities, and discriminatory technology purchasing rules that affect women. The study reveals that organizations need to have diverse technology environments for inclusive governance instead of merely allowing people to participate in decision-making processes. Data science, AI research, and policymaking continue to show low participation of women (UNESCO, 2022). The government agencies fail to consider the various viewpoints that citizens hold when they create and use AI technologies. Their scarcity is the reason behind this.AI governance requires a fundamental shift in existing methods to achieve gender equality within leadership roles and digital education and training access.

The research shows that Nigeria's federal government has no adequate system to create algorithmic transparency and accountability frameworks. The results become invisible because datasets and algorithms do not receive their regular examination. The Nigerian case study mirrors worldwide AI governance research by proving that AI systems need basic structures that allow human monitoring, fairness evaluation, and straightforward decision-making processes (Adebayo, 2022). The implementation of public service reforms requires organizations to follow ethical AI guidelines that establish fair systems, transparent operations, and explainability and accountability mechanisms.

Conclusion

The report states that artificial intelligence will become a vital instrument for public sector progress in diversity and gender equality throughout Nigeria when organizations implement it correctly. The system will intensify social disparities together with institutional prejudices whenever nobody intervenes to stop it. The regulatory system needs to exist because artificial intelligence serves two functions as a development tool and as a source of discriminatory practices. Nigeria needs to focus on inclusive governance projects that understand AI operates as a socio-political system that includes institutional norms, data ethics, and human values, as

well as technological aspects. The Nigerian public sector will achieve better responsiveness and equity, and representation through gender inclusion at every stage of AI adoption, which starts with policy development and continues through implementation and monitoring. The development of artificial intelligence should focus on creating systems that fight against existing social inequalities instead of maintaining them.

Recommendations

Develop Gender-Sensitive AI Policies: The Nigerian government should create AI governance rules which will address diversity and gender issues explicitly. Every AI project in public sector organizations needs to undergo gender impact assessment according to this requirement.

Establish an Ethical AI Oversight Body: The government needs to create a system that will track AI systems while making sure they follow moral guidelines that include accountability, transparency, and fairness. The organization needs representation from corporate entities, educational institutions, and gender protection groups.

Promote Capacity Building and Digital Inclusion: The program needs to offer training programs that will help women enter data science and AI research and policy-making roles. Universities, together with public society and government agencies, create opportunities for women and other underrepresented groups to get training and mentoring and scholarship support.

Enhance Algorithmic Transparency: The government requires its AI systems to receive regular audits, which help identify and address any existing biases. Public access to government data should exist because it enables citizens to understand how algorithms generate their decisions.

Foster Multi-Stakeholder Collaboration: The creation of AI systems that enable universal accessibility requires lawmakers to join forces with engineers, civic society members, and gender specialists. Public-private partnerships need to be supported because they create innovative solutions that support both inclusive values and moral standards.

Integrate AI Ethics into Public Service Training: The public employee training program needs to include three essential areas, which are ethics, diversity, and digital governance. The program will teach people to make smart technological decisions while showing them how artificial intelligence affects social structures.

Support Research and Data Equity: The government needs to support ethical AI research through increased funding while backing projects that collect gender-specific data for better policy development. Universities, together with think tanks, need financial backing to study how gender equality interacts with governance structures and artificial intelligence systems.

REFERENCES

[1]. Adebayo, T. (2022). Artificial intelligence and digital governance in Nigeria: Efficiency and equity concerns. *Journal of African Public Administration, 5*(2), 33–48.

[2]. African Union. (2023). *Gender Equality and Women's Empowerment Strategy (GEWE)*. Addis Ababa: AU Commission.

[3]. Agba, M. S., Agba, G. E. M., & Obeten, A. W. (2023). Artificial intelligence and public management and governance in developed and developing market economies. *Journal of Public Administration, Policy and Governance Research, 1*(2), 1–14.

[4]. Amaresh, P. (2020). *Artificial intelligence: A new driving horse in international relations and diplomacy.*

[5]. Ananyi, S. O., & Nwosu, L. K. (2023). Artificial intelligence and economic aspects of Nigerian public universities.

[6]. Berk, R., Heidari, H., Jabbari, S., Kearns, M., & Roth, A. (2018). Fairness in criminal justice risk assessments: The state of the art. *Sociological Methods & Research*, 47(1), 1–42.

[7]. Birhane, A. (2020). Algorithmic colonization of Africa. *SCRIPTed*, 17(2), 389–409.

[8]. Buolamwini, J., & Gebru, T. (2018). Gender shades: Intersectional accuracy disparities in commercial gender classification. *Proceedings of Machine Learning Research*, 81, 1–15.

[9]. Bingham, L. B., Nabatchi, T., & O'Leary, R. (2005). The new governance: Practices and processes for stakeholder and citizen participation in the work of government. *Public Administration Review, 65*(5), 547–558.

[10]. Bryson, J., & Winfield, A. (2017). Standardizing ethical design for artificial intelligence and autonomous systems. *Computer, 50*(5), 116–119.* https://doi.org/10.1109/MC.2017.154

[11]. Chinasa, T. O., Aruleba, K., & Obaido, G. (2023). Responsible AI in Africa—Challenges and opportunities. In D. O. Eke, K. Wakunuma, & S. Akintoye (Eds.), *Responsible AI in Africa: Social and Cultural*

Studies of Robots and AI (pp. 45–67). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-08215-3_3

[12]. Chinasa, E., Okafor, N., & Omole, O. (2023). Artificial intelligence, ethics, and inclusion in Africa's digital transformation. *AI & Society*, 38(4), 1121–1133.

[13]. Chouldechova, A. (2016). Fair prediction with disparate impact: A study of bias in recidivism prediction instruments. *Big Data*, 5(2), 153–163.

[14]. Corbett-Davies, S., Pierson, E., Feller, A., Goel, S., & Huq, A. (2017). Algorithmic decision making and the cost of fairness. *Proceedings of the 23rd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 797–806.

[15]. Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Sage Publications.

[16]. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003.

[17]. Dwork, C., Hardt, M., Pitassi, T., Reingold, O., & Zemel, R. (2012). Fairness through awareness. *Proceedings of the 3rd Innovations in Theoretical Computer Science Conference*, 214–226.

[18]. Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics, 5*(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

[19]. Frankenfield, J. (2022). *Artificial intelligence: What it is and how it is used.* Investopedia. https://www.investopedia.com/terms/a/artificial-intelligence-ai.asp

[20]. Fukuyama, F. (2013). What is governance? *Governance, 26*(3), 347–368. https://doi.org/10.1111/gove.12035

[21]. Galhotra, S., Brun, Y., & Meliou, A. (2017). Fairness testing: Testing software for discrimination. *Proceedings of the 2017 11th Joint Meeting on Foundations of Software Engineering*, 498–510.

[22]. Gwagwa, A., Kazim, E., & Leslie, D. (2020). *Artificial intelligence and inclusion in Africa: Opportunities, challenges, and policy pathways*. Ada Lovelace Institute.

[23]. Gwagwa, A., Kraemer-Mbula, E., Rizk, N., Rutenberg, I., & De Beer, J. (2020). Artificial intelligence (AI) deployments in Africa: Benefits, challenges and policy dimensions. *The African Journal of Information and Communication, 26*, 1–28.

[24]. Hassan, K. I., Olufemi, F. J., & Oladimeji, A. (2023). Assessment of artificial intelligence in public administration: Implications for service delivery in Lagos State public service. *Journal of Management Research.*

[25]. Hardt, M., Price, E., & Srebro, N. (2016). Equality of opportunity in supervised learning. *Advances in Neural Information Processing Systems*, 29, 3315–3323.

[26]. Kamiran, F., & Calders, T. (2012). Data preprocessing techniques for classification without discrimination. *Knowledge and Information Systems*, 33(1), 1–33.

[27]. Kilbertus, N., Rojas-Carulla, M., Parascandolo, G., Hardt, M., Janzing, D., & Schölkopf, B. (2017). Avoiding discrimination through causal reasoning. *Advances in Neural Information Processing Systems*, 30, 656–666.

[28]. Kleinberg, J. M., Mullainathan, S., & Raghavan, M. (2017). Inherent trade-offs in the fair determination of risk scores. *Proceedings of the 8th Innovations in Theoretical Computer Science Conference*, 43–55.

[29]. Kong, S. (2021). *Intersectionality and algorithmic discrimination: Beyond gender and race in AI ethics*. Journal of Digital Society Studies, 12(3), 90–105.

[30]. Kusner, M. J., Loftus, J. R., Russell, C., & Silva, R. (2017). Counterfactual fairness. *Advances in Neural Information Processing Systems*, 30, 4069–4079.

[31]. McCarthy, J., Minsky, M. L., Rochester, N., & Shannon, C. E. (2006). A proposal for the Dartmouth summer research project on artificial intelligence, August 31, 1955. *AI Magazine, 27*(4), 12–12.

[32]. Nakolisa, D. (2023). Artificial intelligence and public service delivery in Africa. *Journal of Medicine, Engineering, Environmental and Physical Sciences, 1*(2).

[33]. Nabi, R., & Shpitser, I. (2018). Fair inference on outcomes. *Proceedings of the Association for the Advancement of Artificial Intelligence (AAAI)*, 1–9.

[34]. Obi, U. V., Ole, N. C., & Uzoigwe, S. (n.d.). Artificial intelligence (AI) systems use in Nigeria: Charting the course for AI policy development. Lexology. https://www.lexology.com/library/detail.aspx?g=600a8ee0-5b28-44da-8415-0e07c7f333fe

[35]. Organisation for Economic Co-operation and Development (OECD). (2019).

Recommendation of the Council on Artificial Intelligence. https://legalinstruments.oecd.org/en/instruments/oecd-legal-0449

[36]. Putri, A. M., Syamsu, S., & Triono, A. (2024). Policy to replace electronic card into population digital in South Lampung Regency. *Journal of Governance and Accountability Studies, 4*(1), 19–29.

[37]. Sharma, G. D., Yadav, A., & Chopra, R. (2020). Artificial intelligence and effective governance: A review, critique and research agenda. *Sustainable Futures, 2,* 100004.

[38]. Simoiu, C., Corbett-Davies, S., & Goel, S. (2017). The problem of infra-marginality in outcome tests for discrimination. *The Annals of Applied Statistics*, 11(3), 1193–1216.

[39]. Ugwuozor, F. O., & Egenti, M. C. (2024). Artificial intelligence and the future of work: Recent graduates' perspective. *Creative Artist: A Journal of Theatre and Media Studies, 18*(1), 1–19.

[40]. UNESCO. (2022). *The missing link: Women in AI and data science in Africa*. Paris: UNESCO Publishing.

[41]. Uzor, O. A., Emenike, E., & Nwosu, C. C. (2023). Information and communication technology and human resources management in the Nigeria university system (2010–2021). *International Journal of Academic Management Science Research, 7*(11), 13–19.

[42]. Verma, S., & Rubin, J. (2018). Fairness definitions explained. *IEEE/ACM International Workshop on Software Fairness (FairWare)*, 1–7.

[43]. World Economic Forum (2023). *Global gender gap report 2023*. Geneva: World Economic Forum.

[44]. Yulianita, A., Subardin, S., & Zulfikri, Z. (2024). Government size and digital inequality in Indonesia. *Journal of Governance and Accountability Studies, 4*(1), 31–41.

[45]. Zliobaite, I. (2015). On the relation between accuracy and fairness in binary classification. *Computing Research Repository (CoRR)*, abs/1505.05723.