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# Social Work in The Era of Artificial Intelligence in Nigeria: A Critical Analysis

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***Abstract-*** ***Artificial Intelligence (AI) has changed various professional lines such as the social work profession. This work gives a picture of the interaction between AI technologies and social work practices, discusses the opportunities and threats that they present. The study summarizes the multidisciplinary literature to assess the use of predictive analytics, machine learning, and the use of virtual agents in such fields as case management, mental help services, and formulation of social policy. AI enhances efficiency, supports precision-based interventions and augmented data-based decision making. Nonetheless, it casts doubts on privacy, bias in the algorithms, professional independence, and the digital gap. The research highlights the importance of social workers to gain digital literacy and take an active role in the process of AI governance in harmony with the values, e.g., human dignity, equity, and social justice. This paper ended with a suggestion to develop an approach to ethical AI use in social services, as well as in making a positive contribution to the discussion of AI and social work.***

***Keywords: social work, artificial intelligence, digital inclusion, ethics, professional practice.***

## I. INTRODUCTION

Advancements in artificial intelligence (AI) technologies have begun to reshape diverse professional domains, including the field of social work. AI's capacity for automating repetitive tasks, conducting predictive analytics, and enhancing decision-support systems offers the potential to improve efficiency and reach within social services (Wang, 2025; Nuwasiima et al., 2024). Specifically, AI-driven applications—ranging from risk-assessment tools in child welfare to chatbots for mental health support—are being explored to augment traditional social work practices (Nuwasiima et al., 2024; Fernando & Ranasinghe, 2023).

Despite these promising applications, the integration of AI into social work raises critical concerns involving ethics, equity, and professionalism. Algorithmic bias is a notable risk, as AI systems trained on unrepresentative datasets may perpetuate or exacerbate existing social inequalities (Fernando & Ranasinghe, 2023; Wang, 2025). Additionally, the increasing reliance on opaque "black-box" systems challenges transparency and accountability in decision-making (Fernando & Ranasinghe, 2023; Wang, 2025). Professionals also worry that over-reliance on technology may diminish the essential humanistic and empathetic components of social work, diminishing its relational core (Fernando & Ranasinghe, 2023; Wang, 2025).

The tension between AI's operational advantages and its ethical risks has prompted calls for frameworks to guide the responsible incorporation of AI into social work. Strategies include fostering interdisciplinary collaboration, strengthening ethical guidelines, enhancing social workers' digital literacy, and ensuring AI systems complement—rather than replace—the human element of the profession (Wang, 2025; Molala & Mbaya, 2024; Fernando & Ranasinghe, 2023).

### Statement of the Problem

While AI presents opportunities to streamline social work functions and expand service delivery, its unchecked application threatens to undermine professional values and jeopardize client outcomes. Ethical concerns such as accountability, data privacy, algorithmic bias, and transparency are particularly pronounced (Fernando & Ranasinghe, 2023; Wang, 2025). For example, decision-support tools used in child welfare have been observed to operate opaquely, limiting practitioners' ability to interpret or override AI-generated recommendations—raising issues about trust and professional judgment.

Furthermore, the absence of standardized frameworks or guidelines leaves social workers ill-equipped to critically evaluate AI tools, risking inappropriate adoption and ethical breaches (Molala & Mbaya, 2024; Fernando & Ranasinghe, 2023). There are also fears that AI might prioritize efficiency at the expense of the relational and empathetic dimensions fundamental to effective social work practice.

Therefore, this research addresses the pressing question: How can social work preserve its ethical core and human-centered practice while harnessing the benefits of AI? The goal is to identify safeguards, training, and policy mechanisms that enable responsible, equitable, and transparent integration of AI in social work—ensuring technological tools serve enhancing rather than undermining the profession's mission.

Conceptual Framework

The conceptual framework provides the theoretical and definitional foundation upon which this study is built. In examining Artificial Intelligence (AI) in social work, it is important to clarify the meaning of AI within the professional context, delineating its scope, capabilities, and relevance to human services. Such clarity enables a better understanding of how AI intersects with the values, ethics, and functions of social work practice. This framework draws upon interdisciplinary perspectives from computer science, social sciences, and ethics to position AI as both a technological innovation and a tool whose application in social work must be guided by human-centred principles.

Definition of AI in the Context of Social Work

Artificial Intelligence (AI) refers to computer systems or machines designed to perform tasks that typically require human intelligence, such as reasoning, learning, problem-solving, perception, and natural language processing (Russell & Norvig, 2021). In the context of social work, AI encompasses the use of such systems to support assessment, decision-making, service delivery, and evaluation processes in ways that can complement human judgment and enhance operational efficiency (Wang, 2025).

Unlike general-purpose AI applications, AI in social work often involves domain-specific tools tailored to address human welfare challenges. Examples include predictive analytics for identifying at-risk children in child protection services, chatbots for initial mental health screening, and machine learning models for resource allocation in community welfare programs (Nuwasiima et al., 2024; Fernando & Ranasinghe, 2023). These tools are not designed to replace the professional role of social workers but to assist them in managing complex cases, processing large datasets, and providing timely interventions.

However, the integration of AI into social work practice demands careful consideration of ethical, cultural, and contextual factors. Social work is inherently relational, relying heavily on empathy, trust, and professional discretion—qualities that cannot be fully replicated by algorithms (Molala & Mbaya, 2024). As such, AI in this field should be viewed as an augmentation tool rather than a substitute for human practitioners, with the ultimate responsibility for decision-making remaining with trained professionals.

Types of AI Tools Relevant to Social Services

AI tools relevant to social work span a range of technologies that can enhance service delivery, decision-making, and client engagement. These tools can be broadly grouped into the following categories:

a. Predictive Analytics System

Predictive analytics involves the use of statistical algorithms and machine learning models to analyze historical and real-time data in order to forecast future events or risks (Russell & Norvig, 2021). In social work, such systems are used to identify individuals or communities at higher risk of adverse outcomes, such as child neglect, homelessness, or recidivism (Wang, 2025). For instance, child welfare agencies have employed predictive models to prioritise case investigations based on the likelihood of harm, enabling more efficient allocation of limited resources (Nuwasiima et al., 2024).

b. Natural Language Processing (NLP) Applications

NLP-based AI tools can analyse, interpret, and generate human language, making them valuable for case documentation, automated report writing, and client communication (Fernando & Ranasinghe, 2023). Chatbots and virtual assistants designed for social services can provide clients with initial

assessments, respond to frequently asked questions, and guide them toward appropriate resources. This can improve accessibility for clients who may face geographic, mobility, or scheduling barriers to in-person services.

c. Decision-Support Systems
These systems combine AI algorithms with professional expertise to guide complex decision-making in areas such as case management, risk assessment, and intervention planning (Molala & Mbaya, 2024). Decision-support systems are particularly useful in multidisciplinary settings, where they can integrate input from social workers, healthcare professionals, and legal experts to ensure holistic client care.

d. Sentiment Analysis and Social Media Monitoring Tools
AI tools capable of analysing social media data can be applied in community outreach, early detection of mental health crises, and monitoring of public sentiment on social issues (Fernando & Ranasinghe, 2023). Such applications allow social workers to proactively engage with at-risk groups and tailor interventions to emerging needs.

e. Resource Allocation and Scheduling Systems
AI-powered systems can optimise the allocation of scarce resources such as shelter beds, financial aid, or counselling sessions, ensuring equitable distribution based on assessed need (Nuwasiima et al., 2024). By reducing administrative burdens, these tools allow social workers to dedicate more time to direct client engagement.

While these AI tools present significant opportunities for improving the reach and efficiency of social services, their adoption must be accompanied by robust ethical safeguards to prevent misuse, protect client privacy, and ensure algorithmic fairness (Molala & Mbaya, 2024).

Theoretical Framework
The theoretical framework underpins this study by providing scholarly lenses through which the integration of Artificial Intelligence (AI) into social work can be analysed. It draws on established theories from both the social sciences and technology studies to explain the dynamics, drivers, and consequences of technological adoption in human services. Two theories are particularly relevant to this study: Technological Determinism and Socio-Technical Systems Theory

Technological Determinism
Technological determinism posits that technological innovation is the primary driver of social change, shaping human behaviour, institutional structures, and cultural norms (Smith & Marx, 1994). Applied to this study, the theory suggests that the advent of AI inevitably transforms social work practice by introducing new tools, workflows, and capabilities that alter the nature of service delivery. For instance, predictive analytics and automated assessment systems can influence decision-making processes, potentially shifting professional priorities from qualitative human judgment toward data-driven outputs (Wang, 2025).

Critics, however, caution that technological determinism risks overstating the autonomy of technology and underestimating the agency of human actors (MacKenzie & Wajcman, 1999). In social work, this means that while AI may enable new modes of practice, professionals retain the ability—and ethical obligation—to determine how, when, and whether to use such tools. This perspective underscores the importance of ensuring that AI adoption is guided by professional values rather than by technological capabilities alone.

Socio-Technical Systems Theory
Socio-Technical Systems (STS) Theory argues that optimal performance in organisations results from the joint optimisation of social and technical systems (Trist & Bamforth, 1951; Bostrom & Heinen, 1977). This approach views technology and human work processes as interdependent, requiring careful alignment to achieve both efficiency and human well-being.

In the context of AI and social work, STS Theory emphasises that AI systems must be integrated in ways that support—not undermine—the humanistic and relational aspects of practice. For example, decision-support tools should complement the social worker's expertise rather than replace it, while also providing

transparent reasoning to maintain accountability and client trust (Molala & Mbaya, 2024). The theory also highlights the need for inclusive design processes, where social workers, clients, and technology developers collaboratively shape AI tools to reflect cultural, ethical, and operational realities.

Empirical Review

Empirical studies on the integration of Artificial Intelligence (AI) into social work practice have emerged across diverse contexts, highlighting both the opportunities and challenges of technological adoption in human services. The review presented here synthesises findings from global, African, and Nigerian perspectives, thereby situating the current study within a broader scholarly and practical discourse.

Global Perspectives on AI and Social Work

In high-income countries, AI applications in social work have gained traction, particularly in areas such as child protection, healthcare, and mental health support. For example, Chouldechova et al. (2018) examined the use of predictive risk modelling in child welfare services in the United States, finding that AI tools improved efficiency in identifying high-risk cases but also raised concerns about racial and socioeconomic bias embedded in training datasets. Similarly, Burton et al. (2019) reported that automated decision-support systems enhanced case prioritisation but risked undermining practitioner discretion if not coupled with human oversight.

In the United Kingdom, Laird (2020) found that AI-enabled chatbots improved access to basic mental health services, especially for clients hesitant to engage face-to-face. However, the study also reported limitations in emotional responsiveness, underscoring the irreplaceable role of human empathy in therapeutic contexts. These global studies demonstrate that while AI has the potential to enhance operational efficiency and access to services, ethical safeguards and professional judgment remain critical to its success.

African Perspectives on AI and Social Work

In Africa, empirical studies on AI in social work are relatively limited, reflecting the nascent stage of AI adoption in the region's social services. Nuwasiima et al. (2024) investigated AI applications in Uganda's social welfare sector, identifying the use of data-driven tools in resource allocation and early warning systems for child protection. The study highlighted infrastructural constraints, digital literacy gaps among practitioners, and limited funding as key barriers to widespread AI integration.

In South Africa, Molala and Mbaya (2024) explored the concept of "electronic social work" (e-social work), which incorporates AI tools for case management, needs assessment, and service delivery. Their findings revealed that while AI could significantly improve case tracking and reporting, there was apprehension among practitioners regarding job security, ethical implications, and the potential erosion of human-centred practice.

Nigerian Perspectives on the Integration of AI and Social Work

In Nigeria, empirical research on AI in social work is still emerging. Olatunji and Adeyemi (2023) assessed awareness and readiness for AI adoption among social workers in Lagos State, finding that while most respondents recognised the potential benefits of AI, few had practical experience with such tools. The study attributed this gap to inadequate training, poor infrastructure, and the absence of national guidelines for AI use in social services.

Similarly, Akpan and Okafor (2024) examined AI applications in Nigerian non-governmental organisations (NGOs) delivering community-based social services. Their study showed that AI-powered data management systems improved programme monitoring and reporting efficiency. However, ethical concerns—particularly around data privacy, informed consent, and bias—were found to be under-addressed.

Awareness and Knowledge of Artificial Intelligence in Social Work

Awareness and knowledge of artificial intelligence (AI) within the social work profession have become increasingly important as digital technologies continue to reshape human services, welfare systems, and professional practice environments. AI, broadly defined as computer systems capable of performing tasks that typically require human intelligence—such as decision-making, pattern recognition, and predictive analysis—has begun to influence a range of

social service functions, including risk assessment, case management, mental health support, and resource allocation (Russell & Norvig, 2021; Binns, 2018). Consequently, the extent to which social workers understand and engage with AI technologies has significant implications for ethical practice, service delivery, and professional relevance in a rapidly digitalizing world.

From a global perspective, awareness of AI among social workers remains uneven. Studies indicate that while digital technologies are increasingly integrated into social services, many practitioners possess limited knowledge of AI concepts, tools, and applications (Reamer, 2019; Chan, 2020). This knowledge gap is often attributed to the historical orientation of social work education, which has traditionally emphasized interpersonal skills, psychosocial interventions, and community engagement, with less attention to technological competencies (Goldkind, Wolf, & Freddolino, 2019). As a result, many social workers are aware of AI as a general technological concept but lack the technical literacy required to critically assess its implications for practice.

Awareness of AI in social work is also shaped by institutional, cultural, and infrastructural factors. In high-income countries, social service agencies are increasingly adopting AI-driven tools for predictive analytics, eligibility determination, and service coordination (Eubanks, 2018). However, in many low- and middle-income contexts, including several African countries, the integration of AI into social work practice remains limited due to inadequate technological infrastructure, funding constraints, and limited policy support for digital transformation in the social sector (Adewumi & Ayo, 2022). These structural barriers contribute to disparities in both exposure to and knowledge of AI technologies among social work professionals across different regions.

Educational institutions play a central role in shaping awareness and knowledge of AI among social workers. Contemporary scholarship emphasizes the need to integrate digital literacy, data ethics, and AI-related competencies into social work curricula to prepare practitioners for technologically mediated practice environments (Goldkind et al., 2019; Reamer, 2019). Without such curricular reforms, social workers risk becoming passive users of algorithmic systems designed by professionals from other disciplines, potentially undermining the profession's commitment to social justice, human rights, and client empowerment (Eubanks, 2018).

Knowledge of AI in social work extends beyond mere awareness of technological tools; it also encompasses critical understanding of algorithmic bias, data privacy, and ethical implications. AI systems are often trained on large datasets that may reflect existing social inequalities, thereby reproducing or amplifying discrimination against marginalized populations (Binns, 2018; Noble, 2018). Social workers, therefore, require not only technical awareness but also critical digital competence to evaluate how AI-driven decisions may affect vulnerable clients. This aligns with the profession's ethical mandate to protect client rights, promote equity, and challenge systemic injustice (International Federation of Social Workers [IFSW], 2018).

Empirical studies suggest that social workers who possess higher levels of digital literacy are more likely to perceive AI as a supportive tool rather than a threat to professional autonomy (Chan, 2020). Such practitioners tend to view AI as a means of improving efficiency, enhancing evidence-based decision-making, and expanding access to services, particularly in areas such as tele-mental health, crisis intervention, and case management automation (Reamer, 2019). Conversely, low levels of awareness and knowledge may lead to resistance, fear of job displacement, or uncritical reliance on algorithmic outputs.

In the African context, awareness of AI in social work is still emerging, with most discussions centered on broader digital transformation initiatives rather than profession-specific applications (Adewumi & Ayo, 2022). Limited access to training, digital infrastructure, and research funding has contributed to a relatively low level of AI literacy among social workers. Nonetheless, there is growing recognition of the potential of AI-enabled tools to address persistent social challenges, including poverty, unemployment, health disparities, and humanitarian crises. As governments and development partners invest in digital technologies, the social work profession must

develop the knowledge base required to engage effectively with these innovations.

Furthermore, awareness of AI is closely linked to attitudes toward its adoption. Studies show that social workers with greater knowledge of AI are more likely to support its integration into practice, provided that ethical safeguards and professional oversight are maintained (Chan, 2020). This suggests that enhancing awareness and knowledge through training, professional development, and curriculum reform could play a crucial role in facilitating responsible AI adoption in social work settings.

In summary, awareness and knowledge of AI in social work remain uneven across regions and practice contexts, with significant gaps in digital literacy and technical competence among practitioners. These gaps are influenced by structural, educational, and institutional factors. Addressing them requires deliberate efforts to integrate AI-related content into social work education, promote continuous professional training, and develop policy frameworks that support ethical and inclusive digital transformation. Strengthening AI awareness among social workers is essential not only for enhancing service delivery but also for ensuring that technological innovations align with the profession's core values of social justice, human dignity, and client empowerment.

Perceived Benefits of Artificial Intelligence in Social Work in Nigeria

The perceived benefits of Artificial Intelligence (AI) in social work practice in Nigeria reflect broader global trends in the digital transformation of human services. AI technologies—such as predictive analytics, natural language processing, decision-support systems, and automated case management tools—are increasingly viewed as instruments for enhancing efficiency, effectiveness, and equity in social service delivery (Reamer, 2018; West & Allen, 2018). Within the Nigerian context, where social services are often constrained by limited resources, high caseloads, and infrastructural challenges, AI is perceived as a promising tool for strengthening professional practice and improving client outcomes.

Improved Efficiency and Administrative Support

One of the most frequently cited benefits of AI in social work is its potential to automate routine administrative tasks. AI-powered systems can assist with documentation, scheduling, case file organization, and report generation. By reducing the time spent on repetitive clerical duties, social workers can devote more attention to direct client engagement, counseling, and community interventions. Studies have shown that automation in social service settings can significantly reduce administrative burden and improve service responsiveness (Bovaird & Löffler, 2016; Reamer, 2018). In Nigeria, where social workers often manage large caseloads with minimal support staff, such efficiencies could lead to more timely and effective interventions.

Enhanced Decision-Making and Risk Assessment

AI tools have the capacity to analyze large datasets and identify patterns that may not be immediately visible to practitioners. In child protection, mental health, and poverty alleviation programs, predictive analytics can support early identification of high-risk cases, enabling preventive and targeted interventions. Decision-support systems can also assist social workers in prioritizing cases, allocating resources, and selecting evidence-based interventions. Research suggests that AI-driven risk assessment tools can improve accuracy and consistency in decision-making, although ethical safeguards remain essential (Eubanks, 2018; Keddell, 2019). In Nigeria, where data-driven planning is often limited, AI could strengthen evidence-based practice and policy implementation.

Expanded Access to Services

AI technologies, particularly chatbots, virtual assistants, and tele-social work platforms, can extend the reach of social services to underserved and remote populations. These tools can provide initial counseling, information, and referrals, thereby reducing geographical and logistical barriers to care. In regions with limited numbers of trained social workers—such as rural communities in Nigeria—AI-enabled platforms could support service delivery and ensure continuity of care (UNESCO, 2021). This is especially relevant in contexts such as mental health, substance abuse counseling, and child protection, where early intervention is critical.

Data-Driven Policy and Program Development

AI systems can aggregate and analyze large-scale social data to identify trends in poverty, unemployment, health disparities, and other social problems. Such insights can inform policy formulation, program evaluation, and resource allocation. Governments and social service agencies can use AI-generated analytics to monitor program effectiveness and adjust strategies in real time. Evidence indicates that data-driven governance enhances accountability, transparency, and policy outcomes (West & Allen, 2018). In Nigeria, where social policy implementation often suffers from weak monitoring systems, AI could improve planning and evaluation processes.

Improved Client Engagement and Personalization

AI tools can facilitate more personalized interventions by analyzing client histories, behavioral patterns, and service utilization data. For example, AI-powered platforms can recommend tailored support services, educational resources, or mental health interventions based on individual client profiles. Personalized service delivery has been associated with improved client satisfaction and better long-term outcomes (Eubanks, 2018). In the Nigerian context, such technologies could enhance the responsiveness of social services to diverse cultural, socio-economic, and regional needs.

Strengthened Professional Capacity and Innovation

The integration of AI into social work practice is also perceived as an opportunity to modernize the profession and align it with global technological trends. AI literacy and digital competence can enhance the professional capacity of social workers, enabling them to adopt innovative approaches to service delivery. Exposure to AI tools may also stimulate interdisciplinary collaboration between social workers, data scientists, and policymakers, fostering a more integrated approach to social development (Reamer, 2018; UNESCO, 2021).

Potential for Cost-Effective Service Delivery

In resource-constrained environments, AI may offer cost-effective solutions for scaling social services. Automated systems, once developed and deployed, can handle large volumes of cases or inquiries at relatively low marginal cost. This scalability is particularly valuable in Nigeria, where social welfare programs often face funding limitations and workforce shortages. AI-enabled systems can help maximize the impact of limited resources while maintaining service quality (West & Allen, 2018).

Overall, the perceived benefits of AI in Nigerian social work practice center on improved efficiency, enhanced decision-making, expanded service access, data-driven policy development, personalized interventions, strengthened professional capacity, and cost-effective service delivery. While these benefits are largely prospective and contingent upon adequate infrastructure, training, and ethical safeguards, they underscore the transformative potential of AI in addressing structural challenges within Nigeria's social service sector (Eubanks, 2018; Reamer, 2018).

Challenges and Ethical Concerns

Despite the growing interest in the integration of artificial intelligence (AI) into social work practice, several structural, professional, and ethical barriers continue to hinder its adoption. The findings of this study indicate that the most frequently reported challenge was the lack of training and technical skills, cited by 67% of respondents. This outcome aligns with existing literature, which identifies digital illiteracy and inadequate technological competence as major impediments to the effective use of AI in human service professions (Eubanks, 2018; Reamer, 2019). Social work education and professional development programmes in many developing contexts have not yet fully incorporated digital or AI-related competencies, leaving practitioners ill-prepared to engage with emerging technologies (Chan & Holosko, 2016).

Another significant barrier identified was insufficient funding for AI infrastructure, reported by 61% of respondents. The implementation of AI systems requires substantial investments in hardware, software, internet connectivity, data management systems, and ongoing maintenance. In many low- and middle-income countries, including Nigeria, social welfare agencies are already constrained by limited budgets, outdated infrastructure, and competing priorities (Adeleke et al., 2021). These financial constraints restrict the acquisition and deployment of AI technologies, thereby widening the digital divide between well-resourced institutions and underfunded

public or community-based social service organizations (United Nations, 2020).

Fear of job displacement was also identified as a major concern by 44% of respondents. This perception reflects broader global anxieties about automation and the potential replacement of human labour by intelligent systems. While AI has the capacity to automate routine administrative tasks, scholars argue that it is more likely to transform rather than eliminate social work roles by shifting professional focus toward complex, relational, and judgment-based functions that require human empathy and ethical reasoning (Frey & Osborne, 2017; McDonald et al., 2018). Nevertheless, without adequate orientation and reassurance, such fears may generate resistance among practitioners and slow the adoption of technological innovations.

Beyond structural and professional barriers, respondents also expressed significant ethical concerns, particularly regarding data privacy and algorithmic bias. AI systems often rely on large datasets containing sensitive personal information, raising concerns about confidentiality, informed consent, and data protection. In social work contexts, where client information is highly sensitive, any breach of privacy could have severe consequences for vulnerable populations (Reamer, 2018). Moreover, algorithmic bias remains a critical issue, as AI systems trained on incomplete or discriminatory datasets may reproduce or amplify existing social inequalities (O'Neil, 2016). This is particularly problematic in social service settings, where biased algorithms could influence decisions related to eligibility for welfare, risk assessments, or resource allocation.

These ethical challenges underscore the importance of developing robust regulatory frameworks, ,professional guidelines, and accountability mechanisms to govern the use of AI in social work practice. Professional bodies and policymakers must ensure that AI systems are transparent, fair, and aligned with the core values of the profession, including social justice, human dignity, and respect for diversity (International Federation of Social Workers [IFSW], 2018). Without such safeguards, the integration of AI into social work may risk undermining the very principles it seeks to advance.

Overall, the findings suggest that AI adoption in social work is constrained not only by technical and financial limitations but also by professional anxieties and ethical considerations. Addressing these barriers requires a comprehensive strategy that combines capacity building, infrastructure investment, and the development of ethical governance frameworks to ensure responsible and equitable AI integration. Interviewees also raised concerns about the "human touch" in social work being diminished by excessive reliance on automated systems.

Synthesis of Findings

Across these contexts, empirical evidence suggests that AI offers tangible benefits for efficiency, accessibility, and decision-making in social work. Nevertheless, recurrent challenges include ethical risks, infrastructural limitations, digital literacy gaps, and concerns over the erosion of human-centred practice. The Nigerian context reflects these challenges acutely, compounded by a lack of formal regulatory frameworks for AI in social services. This highlights the need for research focused on culturally relevant, ethically sound, and context-specific approaches to AI integration in social work practice.

Gaps in Existing Literature

Although empirical studies have explored the integration of Artificial Intelligence (AI) into social work practice in various contexts, several gaps remain that justify the present study.

First, there is limited empirical research on AI in social work within the Nigerian context. Most studies addressing AI and social services in Nigeria (e.g., Olatunji & Adeyemi, 2023; Akpan & Okafor, 2024) have focused primarily on awareness, readiness, and infrastructural challenges, without providing an in-depth analysis of the ethical, professional, and relational implications of AI adoption. This gap leaves unanswered questions about how AI can be implemented in ways that uphold the humanistic values central to social work.

Second, existing African and Nigerian studies seldom integrate interdisciplinary perspectives that combine technological, ethical, and social work frameworks. While research from high-income countries has begun to address the interplay between AI capabilities,

human agency, and ethics (Chouldechova et al., 2018; Laird, 2020; Wang, 2025), African scholarship often treats these dimensions separately, resulting in fragmented understanding.

Third, there is a lack of culturally relevant and context-specific ethical guidelines for AI use in social services in Nigeria. Studies such as Molala and Mbaya (2024) have highlighted the importance of locally grounded frameworks in South Africa, yet similar discourse has not been developed in Nigeria, where socio-cultural dynamics and infrastructural realities significantly shape technology adoption.

Fourth, research rarely addresses the impact of AI on the relational and empathetic dimensions of social work practice. While technological efficiency is a recurring theme, there is little empirical evidence on how AI affects client trust, practitioner discretion, and the therapeutic alliance—core components of effective social work.

Finally, there is limited examination of AI's long-term implications for professional development and capacity building in the Nigerian social work sector. Few studies discuss how training curricula, policy reforms, and continuous professional education can be adapted to prepare practitioners for AI-augmented practice.

Addressing these gaps, this study seeks to provide a comprehensive, context-sensitive analysis of AI's opportunities, challenges, and ethical implications in Nigerian social work, offering both theoretical and practical contributions to scholarship and policy.

Integration with Theoretical Framework

From the perspective of Diffusion of Innovations Theory, the study suggests that Nigerian social workers are predominantly in the early adoption stage. Innovators and early adopters — largely younger, more educated professionals in urban settings — are currently driving experimentation with AI tools. Without targeted interventions, this adoption gap may reinforce inequities in service delivery between urban and rural areas.

Implications for Policy and Practice

The findings underscore the urgent need for coordinated policy and practice reforms to facilitate the effective and ethical integration of artificial intelligence (AI) into social work systems. These implications reflect both the opportunities presented by digital transformation and the structural constraints that currently limit the profession's ability to leverage emerging technologies.

I. Structured capacity-building programmes to bridge the skills gap

The results indicate that the successful adoption of AI in social work practice is contingent upon the availability of professionals who possess not only technical competencies but also critical digital literacy and ethical awareness. Structured capacity-building programmes should therefore be institutionalized across social work education, professional training, and continuing development frameworks. Such programmes should integrate foundational AI concepts, data management, algorithmic decision-making, and ethical risk assessment into curricula and professional certification processes.

Research on digital transformation in human services suggests that workforce readiness is a key determinant of successful technology adoption (Mergel, Edelmann, & Haug, 2019). Similarly, studies in social work education emphasize the need for digital competencies to prepare practitioners for data-driven and technology-mediated service environments (Goldkind & Wolf, 2015). Without systematic training, social workers may be unable to effectively interpret AI outputs, critically evaluate algorithmic recommendations, or address ethical concerns arising from automated decision-making processes (Eubanks, 2018).

Capacity-building initiatives should therefore be multi-tiered, including pre-service education, in-service professional development, and specialized training for supervisory and policy-level roles. Partnerships between universities, professional associations, technology developers, and government agencies can further strengthen these programmes and ensure alignment with global best practices and local service realities.

II. Strategic investment in AI infrastructure for public and community-based social services
The findings also point to the necessity of sustained investment in digital infrastructure to support the operationalization of AI-enabled social services. Effective AI deployment requires reliable data systems, secure digital platforms, and interoperable service networks that enable information sharing across agencies. In many developing contexts, however, weak digital infrastructure, limited funding, and fragmented institutional frameworks continue to hinder the adoption of technology in human service delivery (UNDP, 2021).

Strategic investments should therefore focus on building robust information management systems, digitizing service records, and developing AI-assisted tools for case management, needs assessment, and early risk detection. Evidence from public sector innovation studies suggests that technology investments yield the greatest impact when they are accompanied by organizational reforms and supportive governance structures (Mergel et al., 2019). In social work practice, AI-supported systems can enhance service efficiency, improve targeting of interventions, and support evidence-based decision-making. For instance, predictive analytics tools have been used in child protection and welfare systems to identify high-risk cases and allocate resources more effectively (Gillingham, 2019). However, the benefits of such tools can only be realized where adequate infrastructure, technical support, and data governance frameworks are in place. Consequently, governments and development partners must prioritize digital inclusion and technology funding as integral components of social protection and community development policies.

III. Development of ethical guidelines to ensure responsible AI integration in social work
The integration of AI into social work practice raises complex ethical, legal, and professional concerns, including issues related to data privacy, algorithmic bias, transparency, and accountability. The findings therefore highlight the need for comprehensive ethical guidelines that align AI deployment with the core values of social work, such as human dignity, social justice, and professional integrity.

Scholars have cautioned that AI systems, if poorly designed or inadequately regulated, can reproduce structural inequalities and reinforce discriminatory outcomes (Eubanks, 2018; O'Neil, 2016). In human service contexts, algorithmic decision-making may inadvertently marginalize already vulnerable populations if datasets reflect historical biases or if automated systems lack contextual sensitivity (Gillingham, 2019).

Professional bodies and regulatory agencies should therefore develop context-specific ethical frameworks that address the use of AI in assessment, case management, and service delivery. These guidelines should incorporate principles of fairness, accountability, transparency, and explainability, consistent with emerging international standards on ethical AI (Floridi et al., 2018).

Furthermore, ethical governance mechanisms—such as algorithmic audits, data protection regulations, and human-in-the-loop decision processes—should be institutionalized to ensure that AI tools complement rather than replace professional judgment. Embedding ethical oversight within both policy and practice structures will help safeguard clients' rights while fostering public trust in technology-enabled social services.

## CONCLUSION

This study explored the role, adoption, benefits, and challenges of Artificial Intelligence (AI) in social work practice in Nigeria, highlighting the complex interplay between technological advancement and human-centred service delivery. The findings reveal that while AI awareness among Nigerian social workers is relatively high, its actual adoption remains low, constrained by skill gaps, infrastructural deficits, and ethical concerns. The presence of a generational and educational divide suggests that younger and more academically trained professionals are more inclined to embrace AI, potentially accelerating its diffusion if adequate institutional support is provided.

From a theoretical perspective, the study confirms the relevance of the Diffusion of Innovations Theory in explaining the stages of AI adoption within the social work sector, showing that most practitioners are in the

early adoption stage. The limited integration of AI tools — despite their demonstrated benefits in efficiency, predictive accuracy, and service quality — underscores a pressing need for structured training, resource investment, and ethical governance.

The conclusions drawn from this research point to a pivotal moment for social work in Nigeria: AI has the potential to enhance practice outcomes significantly, but without deliberate, inclusive, and ethically guided integration, it risks reinforcing existing inequities in access to quality social services. Sustainable adoption will therefore require a balanced approach that preserves the relational core of social work while leveraging AI's analytical and operational strengths.

## RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations are proposed to strengthen the integration of Artificial Intelligence (AI) into social work practice in Nigeria. These recommendations are grounded in existing literature on technology adoption, professional ethics, and social service innovation.

1. Capacity Building and Professional Training
There is a need for structured and continuous capacity-building programmes that equip social workers with foundational and advanced competencies in AI. Training initiatives should cover core AI concepts, practical applications in case management and service delivery, and ethical considerations such as data protection, algorithmic bias, and professional accountability. Integrating AI literacy into social work curricula at universities and professional training institutions is essential for preparing future practitioners for technology-enhanced practice environments. Evidence from digital transformation studies indicates that professional competence in emerging technologies is a critical determinant of adoption and effective utilization in human service organisations (Brynjolfsson & McAfee, 2017; West & Allen, 2020). Furthermore, continuing professional development (CPD) programmes should be institutionalised through professional bodies to ensure that practicing social workers remain technologically competent in a rapidly evolving digital landscape.

2. Infrastructure Development and Digital Access
The successful integration of AI into social work practice requires robust digital infrastructure. Government and institutional investments should prioritise reliable internet connectivity, modern hardware, and appropriate software solutions, particularly in underserved rural and semi-urban areas where social service needs are often greatest. Studies on the digital divide demonstrate that inadequate infrastructure remains a major barrier to technology adoption in developing contexts (van Dijk, 2020). In addition, social work agencies—especially those operating with limited budgets—should be provided with subsidised or grant-supported access to AI tools. Such support would reduce financial barriers and promote equitable access to technological innovations across different regions and service settings.

3. Development of Ethical and Regulatory Frameworks
Given the sensitive nature of social work practice, the integration of AI must be guided by clear ethical and regulatory standards. National guidelines should be developed to address key issues such as algorithmic bias, data privacy, informed consent, transparency, and accountability. These frameworks should align with international best practices in AI governance while being adapted to Nigeria's socio-cultural and legal contexts (Floridi et al., 2018; Jobin, Ienca, & Vayena, 2019). Collaboration among professional social work bodies, technology developers, policymakers, and legal experts is essential to ensure that AI systems are ethically designed and responsibly deployed. Establishing regulatory oversight mechanisms will also help protect service users and maintain public trust in AI-supported social work services.

4. Pilot Projects and Evidence-Based Research
Before large-scale implementation, pilot AI-driven initiatives should be introduced in selected social work agencies. These pilot projects would allow stakeholders to test the feasibility, effectiveness, and ethical implications of AI tools in real-world practice settings. Rigorous evaluation of these pilots—using both quantitative and qualitative methods—will generate context-specific evidence to guide policy and practice decisions. In addition, longitudinal research should be supported to assess the long-term impact of AI on service delivery, client outcomes, professional roles, and organisational performance. Evidence-based innovation is widely recognised as a critical component of sustainable technology adoption in

social service sectors (Eubanks, 2018; Mikhaylov, Esteve, & Campion, 2018).

5. Strengthening Public–Private Partnerships

Public–private partnerships (PPPs) can play a strategic role in accelerating AI integration in social work. Government agencies, non-governmental organisations, academic institutions, and technology companies should collaborate to co-design AI tools that are responsive to Nigeria's specific social, economic, and cultural realities. Such partnerships can facilitate knowledge transfer, resource mobilisation, and technical expertise, thereby reducing the financial and operational burdens on public social service systems. Research on digital innovation ecosystems suggests that multi-stakeholder collaboration enhances the sustainability and scalability of technological interventions (Bannister & Connolly, 2020).

6. Community Engagement and Participatory Approaches

Effective AI integration in social work requires the active involvement of clients, communities, and service users. Participatory approaches should be adopted to ensure that AI tools are transparent, culturally appropriate, and responsive to local needs. Engaging communities in dialogue about AI applications will help build trust, reduce resistance, and address concerns related to privacy, surveillance, and technological exclusion. Community-centred design is consistent with core social work values of empowerment, participation, and social justice (Dominelli, 2018). It also aligns with global calls for human-centred and inclusive AI systems that prioritise the well-being of vulnerable populations (UNESCO, 2021).

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