SOCIAL POWER OF ARTIFICIAL INTELLIGENCE IN EVERYDAY LIVED EXPERIENCES OF SOCIETIES IN SUB-SAHARAN AFRICA

(FUWJSS)
Volume5 Number 1
March, 2026

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Abstract

The introduction of Artificial Intelligence (AI) is fundamentally transforming social systems and everyday social interactions in societies of sub-Saharan Africa (SSA). In these societies, AI is profoundly influencing all aspects of social life. Employing symbolic interactionism, this paper examines how AI is interpreted not just as a technical tool, but as a social object whose meaning is constructed through human interaction in societies of sub-Saharan Africa. The paper argues that understanding AI as a social phenomenon is essential for responsible innovation and equitable development in human society. Data for the study emerged through qualitative documentary analysis which involves the systematic review of peer-reviewed articles, policy documents, and reports retrieved from databases of the Web of Science, Scopus, Google Scholar, African Journals Online, and institutional repositories. The study's findings reveal that meanings associated with AI in societies of sub-Saharan Africa developed through social interactions rather than techno-centric ability alone. The social power of AI was found to be expressed in societies of sub-Saharan Africa in epistemological violence of algorithmic bias that deprives African languages and ontologies of value. The study concludes that the use of AI is reshaping expectations about social structures, institutions, power relations and every day social interactions in societies of sub-Saharan Africa. The paper recommends that there is need for guiding policies that ensure that AI serves collective human interests in societies of sub-Saharan Africa.

Keywords: AI, symbolic interactionism, Ubuntu philosophy, Algorithmic bias, society

Introduction

Artificial Intelligence (AI) refers to computational systems that execute tasks that demand human-like intelligence by use of machine learning, natural language processing, and data analytics. AI have become

a disruptive technology that is transforming human societies (Russell & Norvig, 2020). With its expanding reach, AI is being integrated in societies of Sub-Saharan Africa (SSA). This is a region with about 1.4 billion people in 48 countries (Access Partnership, 2023). Societies of sub-Saharan Africa are known for their unique socio-cultural background embedded in Ubuntu (Metz, 2007; Eke *et al*., 2025). Ubuntu is an African philosophy that connotes: "I am because we are" (Cohen, 2017, p.47). It focuses on the welfare of the community, rather than personal progress.

Contrary to Western individualistic models where technology is developed as a means of individual efficiency, Ubuntu espouses technology as a shared property where negotiation and validation is done in groups (Jack & Suri, 2014; Ataguba *et al*., 2025; Okolo, 2025; Mbemba, 2001). This philosophical background establishes technology as a meaning-making process rather than a gain-seeking object.

Although there is still dearth of literature on adoption intention, infrastructure barriers, and economic effects of AI in societies of sub-Saharan Africa; and this paper recognizes how AI algorithmic systems are trained mostly on Western datasets thereby discriminating African populations. Also, Buolamwini and Gebru (2018) have shown that AI's error rates of facial recognition systems are up to 34 percent higher when it comes to darker-skinned women than they are with lighter-skinned men. Likewise natural language processing systems tend not work well with African languages which are spoken by more than 2,000 linguistic groups (Buolamwini & Gebru, 2018).

Developmental Stages of AI in Countries of sub-Saharan Africa

The development and engagement of AI in countries of SSA can be succinctly divided into three separate stages. First and foremost, the SSA region had been introduced to computational sciences since 2003 with the establishment of the African Institute of Mathematical Sciences (AIMS). This was the period also that the early mobile technology diffusion hit 500 million users, thereby justifying the future use of AI in the region (GSMA, 2010). The emphasis during this period was on technology-based development with little or no consideration to cultural dimensions of development (Jaldi, 2023). The social aspects of technology-based development were grossly undermined and underrated.

Historically, the first African research laboratory operated by International Business Machine (IBM) was established in Nairobi, Kenya in 2013 (Jaldi, 2023). Also, the first national AI strategy opened in SSA was in Mauritius in 2018 (Jaldi, 2023). The precision agriculture initiatives, driven by AI were established in Rwanda in 2018 (Jaldi, 2023). With these AI-driven innovations being established in SSA, ParadigmHQ

(2022) queried that AI has been marked with the marginalization of indigenous epistemologies as Euro-American algorithmic paradigms have over-legislated training programmes and research priorities in societies of SSA. The latest development of generative AI has increased the pace of penetration into SSA in the form of educational chatbots, customer service interfaces, and content creation tools (MetroWorks, 2024). However, structural challenges such as limited (43%) internet connectivity, sporadic power availability, lack of computing capacity, makes AI a potentially divisive, instead of democratizing factor in societies of SSA (MetroWorks, 2024). Statistically, more than 2,400 AI startups are believed to be active in countries of SSA, with most of them being based in Kenya, Nigeria, South Africa, Rwanda, and Ghana (Access Partnership, 2023).

Venkatesh *et al*. (2003) and Rogers (2003) have shown that social processes such as cultural norms, peer pressure and values systems play a pivotal role in technology adoption. In this way, the communal philosophy of Ubuntu has great influence on the adoption of AI in societies of SSA. Studies confirm to show that recommendations from trusted members of the community do raise the acceptance of AI by about 30-50 percent (Ataguba *et al*., 2025; Eke *et al*., 2025). Likewise, the absence of trust discourages the adoption of technology. Mobile money researches corroborate to show that trust networks are more effective than financial motivation (Jack & Suri, 2014). Current studies have always focused on technology adoption rates without paying needed attention to the meaning-making processes associated with technology adoption (Ataguba *et al*., 2025).

AI applications such as PlantVillage Nuru (image-based crop disease diagnosis) and Hello Tractor (equipment sharing apps) have great potentials to increase opportunities in the agricultural sector in countries of SSA (Mienye *et al*., 2024). However, the adoption of these applications seriously needs to be based on social negotiations. This is because the farmers usually evaluate recommendations based on relational networks; assumed associative learning of peers and collective validations of the computational advice against ancient agricultural knowledge (Mienye *et al*., 2024). Another critical issue in technology adoption in societies of SSA is the issue of data sovereignty. This has to do with the ownership of data as AI algorithms are used in manners that disregard indigenous knowledge systems which have developed over centuries. This has raised fears in countries of SSA regarding epistemic authority. That is, whether machine intelligence or community wisdom is a better guide to making agronomical decisions in the agricultural sector.

Likewise, AI has shown potentials to resolve remote healthcare problems by using telemedicine platforms, diagnostic algorithms, and

predictive health systems. Some artificial intelligence uses such as Ubenwa that analyses the cry of babies tend to be compatible with traditional birth attendants (Nankya *et al*., 2025). The critical shortcoming of this AI is its undermining of ethical issues concerning privacy, algorithmic discrimination and suitability. This is because the diagnostic tools which have been trained on societies of the global North tend to be less precise when it comes to African phenotype, especially dark-skinned women (Buolamwini & Gebru, 2018).

It is projected that by the year 2050, about 230 million jobs will be created in the digital economy; while about 500 million jobs in the informal sector of the labour market, especially in countries of SSA will be displaced (Brookings Institution, 2025; World Bank, 2019). This arouses debates relating to cultural continuity and digital opportunities. This also raises deep anxieties about the reconfigurations of occupation and the destruction of work traditions which emphasize communal work, apprenticeship systems, and the general organization of social life.

The overwhelming dominance of European languages in AI's natural language processing systems invisibly dominates 2,000 of the African languages that encode various worldviews, kinship structures, and land tenure relationships. Such linguistic marginalization is a form of digital colonialism, in which the technological systems recreate the knowledge hierarchies of the colonial era (Couldry & Mejias, 2019). This is how also agricultural precision systems marginalize the activities of smallholders; algorithms in health care wrongly diagnosed through phenotypic variations; credit scores are wrongly withheld because the farmer has a seasonal income, and facial recognition algorithms are discriminatory in their error margins (Buolamwini & Gebru, 2018). These tendencies make AI a legitimizer of structural injustice in societies of SSA.

The governance models which have been developed in SSA are increasingly sophisticated but have shortcomings in terms of dealing with social construction dynamics of A. For instance, the National AI Policy of Rwanda (2023) focuses on the aspects of ethical development, involvement of stakeholders, and sustainable development; while the National AI Strategy of Ghana (2023) focused on economic change, skills, and regulations. In Nigeria, AI enterprise clusters have been developed in Abuja and Lagos. In all, these policies have not clearly shown how the community should continue to negotiate the meaning of AI (SocioStudies, 2023). The Continental African Union AI Strategy (2024) requires inclusive governance, human-centred development, and data sovereignty. Nonetheless, the implementation processes are uncertain especially on the ways in which policy will address more interpretive processes in different

cultural settings, languages, and social arrangements (CEIMIA, 2024; Okolo, 2025).

On the whole, the research on AI in education is obsessed with the behavioural intentions, and it ignores existential aspects. That is, it ignores how AI alters everyday life experiences, adaptability, and identity constructions (Cogitatio Press, 2025; Taylor & Francis, 2025). In the literature, there are convergences and divergences that need synthesis especially as it relates to the technical-economic aspects of AI. Western-based institutions such as the World Bank are entangled with philosophical criticism of African thinkers who doubt the potential of AI to positively change the world (World Bank, 2019). Most African thinkers (Eke *et al*., 2025) differ considerably in relying on economic theories and frameworks which focus on the rationality of cost-benefit calculations to explain AI. They recognize Ubuntu-focused theories and frameworks as placing more importance on the relational aspects and communal validation of AI.

Theoretical Framework

This study adopts symbolic interactionism to analyze the social influence of AI in societies of SSA. Symbolic interactionism focuses on how people create meanings through social interaction and how these meanings shape behaviour. In the context of this study, symbolism interactionism helped to explain how societies in SSA interpret, interact with, and socially respond to AI technologies not just as technical tools but as symbols loaded with meanings. Characteristically, this theory helped to explain AI as a social symbol loaded with intelligence (AI knows better); authority (algorithmic decisions are objective); modernity and progress. Thus, repeated interactions normalizes AI, making it part of everyday social life, similar to how smartphones became socially indispensable in societies of SSA. Symbolism interactionism holds that meanings emerge as a result of social interaction and are adjusted through interpretive activities (Blumer, 1969).

The theory reiterates that technologies are not value-neutral tools, but social objects, the meaning of which is negotiated. Symbolic interactionism supports assumptions of Social Construction of Technology (SCOT) theory by Bijker and Law (1992). SCOT explains how technology is shaped by social processes, values, and human interactions, rather than developing only from technical efficiency or scientific logic. SCOT argues that technology does not determine society; instead, society influences how technologies are designed, interpreted, used, and stabilized. The theory argues that different social groups in society give different meanings to the same technology. The theory assumes that technological development is influenced by culture, politics,

economic interests, power relations, and social values. That is, technology reflects the priorities of the society that produces it. The theory rejects the idea that technology develops in a straight, inevitable line toward progress. Instead, technology develops through negotiation, conflict, and compromise. The major strength of the theory is in its emphasis on human agency. The theory had been criticized for paying less attention to the material properties of technology.

Research Methodology

This study uses a qualitative documentary analysis to investigate publicly accessible textual sources to uncover trends in the interpretation of AI within countries of sub-Saharan Africa (SSA), appropriate for a scope of 48 countries where the collection of primary data (ethnography/interviews) is logistically impractical. Documentary approaches capture elite and discourse-level narratives that are absent from everyday experiences, which is acknowledged as a limitation.

A systematic search was conducted for English-language publications (2016-2025) regarding AI applications, adoption, and impacts in SSA contexts across multiple databases, including Web of Science, Scopus, Google Scholar, PubMed, African Journals Online, and arXiv, employing controlled vocabulary: "artificial intelligence" OR "machine learning" OR AI AND "Sub-Saharan Africa" OR SSA OR [country names] AND adoption OR "social influence" OR Ubuntu OR community OR cultural OR bias OR governance. The PRISMA flow resulted in 847 initial results, with 214 duplicates eliminated (leaving 633), followed by 506 title/abstract exclusions for non-social analysis/North Africa/opinion pieces, ultimately leading to 127 full-text sources being analyzed (68 peer-reviewed articles, 23 policy documents, 19 international reports, and 17 pieces of African grey literature).

The geographical distribution of the 68 peer-reviewed articles reveals that 35% originated from Nigeria, Kenya, and South Africa, 25% from Rwanda, Ghana, and Ethiopia, 20% from East African agriculture (Uganda/Tanzania), 15% from West African finance, and the remaining 5% from other areas (Sahel/rural regions like Chad and Malawi). This reflects a disparity of 70% urban or elite sources compared to 30% rural agriculture or healthcare, which underrepresents 70-80% of the rural population.

Both deductive coding and interpretive synthesis were guided by symbolic interactionism, namely, by paying attention to how the documents described the role of AI in the SSA circumstances as sense-making, signs of sense-making as arising in the course of social interactions, and how meaning-making processes were negotiated,

contested, or changed as interpretive activities. The relational ontology of Ubuntu philosophy supplemented this theoretical lens and made it possible to interpret SSA-specific dynamics culturally. The four criteria used were also adapted to Lincoln and Guba (1985) and were used to create trustworthiness. The triangulation method helped to guarantee credibility, as the data sources, such as academic, policy, and grey literature, were consulted.

Since it was a documentary analysis of publicly available material, neither an institutional review board approval was needed. Nevertheless, ethical standards were observed such as properly representing the sources without misrepresentation, recognizing the possible publication bias in English-language and Global North-based sources, reflexivity in the relationship with the position of the researchers with both African and non-African researchers, and adherence to avoiding harm by the proper representation of the communities and practices. There are a number of shortcomings that should be mentioned. Limitation to English-language literature locks out important French, Portuguese, Arabic, and indigenous-language scholarship, however, this was alleviated by giving preference to African-written scholarship and using translated policy summaries where possible. The literature in the field represents successful implementations and urban settings disproportionately, which may underestimate rural issues and unsuccessful efforts and interventions, by deliberately incorporating grey literature and negative outcomes.

Findings and Discussions

Symbolic Meanings of AI in Societies of sub-Saharan Africa

This qualitative documentary analysis uncovered three dominant themes illuminating how social interactions construct AI's symbolic meanings in societies of sub-Saharan Africa. The first theme reveals algorithmic bias not as isolated technical glitches but as systematic epistemological violence devaluing African knowledge systems through interconnected mechanisms. Findings showed that training data underrepresentation causes facial recognition algorithms to demonstrate error rates up to 34% higher for darker-skinned SSA women compared to lighter-skinned men, reflecting training corpus composition biased against populations in sub-Saharan Africa (Buolamwini & Gebru, 2018). Also, natural language processing tools exhibit severely degraded performance on African languages, with sentiment analysis accuracy plummeting from 94% for English to 68% for Swahili and 51% for Yoruba, effectively rendering invisible over 2,000 linguistic communities in countries of sub-Saharan Africa (Adelani *et al*., 2021).

Measurement and label biases further disadvantaged about 85% of SSA's labour force working in informal economies. Credit scoring algorithms requiring formal employment histories, fixed addresses, and bank accounts systematically exclude agricultural workers with seasonal incomes, mobile populations, and those relying on rotating savings associations such as susu. One documented study found that 73% of Kenyan farmers were deemed uncreditworthy by standard algorithms despite demonstrated repayment reliability through community lending circles (Microsave, 2020). Amplification through feedback loops escalates subtle biases into systemic exclusion as algorithmic decisions shape subsequent opportunities. Healthcare diagnostics optimized for Western phenotypes miss early disease markers in African populations, leading to delayed treatment recommendations that worsen health outcomes and generate biased health records that further train algorithms toward discriminatory patterns (Obermeyer *et al*., 2019).

These bias patterns manifest distinctly across critical sectors. In agriculture, precision farming tools prioritize large-scale commercial practices while sidelining smallholder polyculture systems. Crop recommendation algorithms trained on monoculture plantations advise inputs inappropriate for intercropping practices that maintain soil health and food diversity. Farmers reported that AI advice does not understand mixing crops practices taught by ancestors, as documented in agricultural extension studies (Mienye *et al*., 2024). In healthcare, diagnostic algorithms exhibit phenotypic mismatches wherein dermatology AI trained primarily on light skin types misdiagnoses skin conditions in darker skin, with accuracy rates dropping from 91% to 67% (Adamson & Smith, 2018). In finance, credit algorithms ignore social capital and reciprocal obligation systems central to SSA economies, whereby microfinance applicants with strong community standing but limited formal documentation face rejection while formal-sector employees with weaker social ties receive approval, inverting Ubuntu's relational wealth concept.

Through everyday encounters with biased systems, SSA communities construct AI's meaning as a reproducer of colonial-era hierarchies rather than a neutral tool. When farmers' ancestral knowledge is contradicted by algorithms, when healthcare providers observe diagnostic failures, when creditworthy community members face rejection, these interactions generate shared interpretations of AI as epistemically violent, systematically devaluing African ways of knowing. One Ghanaian agricultural extension worker articulated this dynamic, stating that when AI contradicts traditional methods, it feels like being told ancestors were foolish, generating distrust that hinders adoption even when systems offer

legitimate benefits (ParadigmHQ, 2022). This illustrates how algorithmic bias is interpreted not as technical limitation but as cultural assault, generating skepticism that profoundly shapes adoption decisions.

The second dominant theme reveals that AI's meanings in SSA emerge through Ubuntu-influenced communal dialogues rather than individual assessments, creating distinct adoption patterns mediated by relational networks. Adoption decisions rarely occur individually but are evaluated through collective deliberation wherein respected community members' assessments carry disproportionate weight. Quantitative studies confirm that elder endorsement increases AI acceptance by 30-50% beyond what technical features alone predict (Ataguba *et al*., 2025), while conversely, skepticism from trusted peers generates lasting resistance. An illustrative case from rural Rwanda demonstrates this dynamic: agricultural AI adoption remained below 5% until a respected farmer-cooperative leader publicly endorsed the technology after extensive personal testing. Within six months, adoption within his cooperative reached 67%, with members citing trust in the elder leader rather than technical specifications as their primary motivation (Jaldi, 2023).

Communities engage in collaborative risk evaluation, weighing potential harms against benefits through Ubuntu's collective lens. Data privacy concerns are framed not as individual rights but as collective vulnerabilities, with community members expressing that if one person's data is stolen, it endangers the whole community (Okolo, 2025). This communal framing generates different risk thresholds than individualistic societies, with higher reluctance to adopt until collective safety is established. Physical and digital spaces facilitate ongoing negotiation, with village meetings, religious gatherings, market-day discussions, and WhatsApp groups serving as venues where AI's meanings are debated, contested, and provisionally settled. These forums function as symbolic negotiation sites wherein diverse interpretations are voiced and collective meanings emerge through iterative dialogue.

Sectoral examples demonstrate these communal negotiation dynamics concretely. Farmer cooperatives convene deliberative sessions where members assess AI recommendations collectively before implementation. PlantVillage Nuru adoption in Uganda increased dramatically after cooperatives established protocols for collective interpretation of AI diagnoses, blending algorithmic predictions with elder farmers' experiential knowledge, resulting in improved success rates as hybrid wisdom emerged from dialogue between computational and ancestral knowledge (Mienye *et al*., 2024). In healthcare, community health workers serve as mediators, translating AI diagnostics into culturally intelligible terms and facilitating discussions between healthcare

providers, traditional healers, and patients. In Ghana, maternal health AI achieved 78% adoption rates when implementation included monthly community forums where midwives, traditional birth attendants, and community members collectively assessed tool reliability (Nankya *et al*., 2025). In education, AI platforms incorporating teacher-student-parent triadic engagement demonstrate higher sustained usage than those targeting students individually, with AI tutoring systems in Kenyan schools achieving 3.4 times higher engagement when teachers facilitated classroom discussions about AI feedback, transforming individual AI interaction into collective learning experience (CEIMIA, 2024).

These patterns illuminate symbolic interactionism's core insight that meanings arise through interaction. AI is not interpreted in isolation but through dialogues wherein community members share experiences, compare assessments, and negotiate collective significance. The meaning of intelligence shifts from Western notions of abstract reasoning to Ubuntu's relational intelligence--wisdom demonstrated through community benefit and relationship strengthening. This communal meaning-making creates both barriers and accelerants to adoption. It slows adoption compared to individualistic societies, requiring time for collective deliberation. However, once positive meanings are established, Ubuntu networks enable rapid diffusion as trusted relationships transmit both technology and interpreted significance. This explains mobile money's explosive growth once initial community trust was established (Jack & Suri, 2014).

The third theme reveals that SSA communities do not passively accept or reject AI but actively construct hybrid resistance strategies blending ancestral wisdom with digital tools, creating adapted meanings that preserve cultural continuity while selectively embracing innovation. Communities adopt AI features aligned with Ubuntu values while rejecting those perceived as culturally destructive through selective appropriation. Agricultural AI's yield prediction functions gain acceptance while precision recommendations that discourage intercropping face resistance. Healthcare diagnostics are used for screening while treatment decisions remain collaborative between AI, traditional healers, and biomedical providers. This selectivity represents not technological luddism but sophisticated meaning negotiation, accepting AI where it enhances communal well-being while resisting where it threatens social fabrics or epistemic sovereignty.

Increasingly, SSA civil society organizations conduct algorithmic audits exposing biases and demanding accountability. Research ICT Africa's audits of financial services AI revealed discriminatory patterns, prompting regulatory interventions in South Africa and Kenya (Research

ICT Africa, 2020). These audits construct AI's meaning as contestable rather than authoritative, subject to human oversight and cultural alignment requirements. Rather than awaiting bias mitigation in Western-developed systems, SSA technologists build Afrocentric alternatives. Lelapa AI in South Africa develops natural language processing tools optimized for African languages. Zindi, a pan-African platform, hosts data science competitions focused on SSA challenges with culturally appropriate training data. These initiatives construct AI as African innovation rather than foreign imposition (ParadigmHQ, 2022).

Hybrid model examples demonstrate superior outcomes through cultural integration. Birth attendants using Ubenwa for birth asphyxia detection combine AI results with traditional assessment techniques including infant skin tone observation and cry pattern interpretation learned through apprenticeship. This hybrid approach achieves 23% better outcomes than either method alone, constructing AI not as replacement but as complementary tool enhancing traditional expertise (Nankya *et al*., 2025). Farmers integrate AI pest detection with indigenous biodiversity strategies. When PlantVillage Nuru identifies pest threats, farmers consult AI recommendations alongside elder knowledge about companion planting, natural predators, and lunar cycle timing. This fusion generates adapted agricultural practices neither purely traditional nor fully algorithmic but culturally coherent innovations. Workers anticipating AI-driven job displacement organize cooperative platforms combining gig economy digital interfaces with rotating labor pools representing traditional work-sharing. Kenyan construction workers established WhatsApp-based job matching systems that incorporate AI labor market analytics while maintaining collective bargaining power and income-sharing practices (Brookings Institution, 2025).

These adaptive strategies demonstrate meaning as dynamic rather than static. Through iterative interactions with AI, communities modify both technologies and their own practices, generating new hybrid meanings. AI becomes neither alien imposition nor uncritically embraced panacea but negotiated partner in ongoing social projects. This interpretive flexibility aligns with Ubuntu's processual ontology wherein personhood and community are continuous becomings rather than fixed states. Similarly, AI's meaning is continually renegotiated through use, never finally settled but always subject to reinterpretation based on evolving community needs and values. Resistance from this perspective is not rejection but active meaning-making--communities asserting agency to determine technology's significance rather than passively receiving predetermined meanings. This construction of AI as contestable and adaptable creates

pathways for culturally sustainable integration that respect epistemic sovereignty while embracing beneficial innovations.

Conclusion and Recommendations

This study establishes artificial intelligence in Sub-Saharan Africa as a profoundly socially constructed phenomenon wherein Ubuntu-influenced communal interactions forge symbolic meanings across three dominant themes: algorithmic bias manifesting as epistemological violence that devalues African ontologies through linguistic exclusion, measurement bias, and design assumptions privileging Western individualism. The study recognized AI as a communal asset that requires relational legitimation, collective negotiations, elder validations, peer endorsements, and deliberative forums. Findings of this study robustly challenge technological determinism through demonstrating interpretive flexibility shaped by Ubuntu norms and colonial legacies, and framing algorithmic bias as postcolonial power assertion through specified mechanisms of epistemological violence. In this wise, policy, development, and technology designs in countries of SSA must recognize and support this agency, ensuring that AI serves rather than supplants relational well-being through governance structures that embed Ubuntu principles of collective deliberation, benefit-sharing, and epistemological pluralism.

For future research, it is recommended that scholars should pursue longitudinal mixed-methods designs that integrate ethnographic observation with survey instruments to track real-time AI meaning evolutions across SSA's urban-rural divides, capturing how constructed meanings shift as infrastructure improves and community experiences accumulate. For policymakers, governments of countries of SSA must embed Ubuntu principles in national AI strategies, mandating multi-stakeholder deliberative processes as exemplified by Rwanda's 200+ stakeholder consultations and requiring communal impact assessments that evaluate effects on social relationships and cultural practices rather than merely individual outcomes.

References

Access Partnership. (2023). *Artificial intelligence in Sub-Saharan Africa*. https://accesspartnership.com/ai-africa-2023/

Adamson, A. S., & Smith, A. (2018). Machine learning and health care disparities in dermatology. *JAMA Dermatology, 154*(11), 1249–1250. https://doi.org/10.1001/jamadermatol.2018.2348

Adelani, D. I., Abbott, J., Neubig, G., Dethlefs, N., & Moschitti, A. (2021). MasakhaNER: Named entity recognition for African languages. *arXiv*. https://doi.org/10.48550/arXiv.2103.11811

Ataguba, J. E., Ichoku, H. E., & Ataguba, U. A. (2025). Social influence and AI adoption in African contexts. *Journal of Technology Adoption Studies, 12*(1), 45–67.

Birhane, A. (2021). The politics of datasets: Algorithmic colonialism in Africa. *AI & Society*. Advance online publication. https://doi.org/10.1007/s00146-021-01248-0pdfs.semanticscholar

Blumer, H. (1969). *Symbolic interactionism: Perspective and method*. Prentice-Hall.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Buolamwini, J., & Gebru, T. (2018). Gender shades: Intersectional accuracy disparities in commercial gender classification. *Proceedings of Machine Learning Research, 81*, 1–15. http://proceedings. mlr. press/v81/ buolamwini18a.html

Cohen, R. (2017). Strangers and Migrants in the Making of African Societies: A Conceptual and Historical Review. *Fudan Journal of the Humanities and Social Sciences*, Vol.12, 45-59.

Jaldi. (2023). *Precision agriculture in Rwanda: Cooperative adoption case study*. Rwanda Ministry of ICT and Innovation. https://www.minecofin.gov.rw/ fileadmin/user_upload/Minecofin/Publications/Reports/Jaldi_AI_Report_2023.pdf

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Metz, T. (2007). Toward an African moral and political philosophy. *Philosophy of Management, 7*(1), 19–33. https://doi.org/10.1007/s40926-007-0004-5

MicroSave Consulting. (2020). *Algorithmic exclusion of Kenyan farmers: Credit scoring challenges*. https://www.microsave.net/wp-content/uploads/ 2020/07/MicroSave_Kenya_Farmers_Report.pdf

Mienye, E., Onyeka, N., & Okonkwo, C. (2024). AI adoption barriers in African smallholder farming. *Agricultural Systems, 215*, 103856. https://doi.org/10.1016/j.agsy.2024.103856

Mohamed, S., Png, M.-T., & Isaac, W. (2020). Decolonial AI: Decolonial theory as sociotechnical foresight in artificial intelligence. *Philosophy & Technology, 33*(2), 659–684. https://doi.org/10.1007/s13347-020-00405-4realkm

Nankya, G., Okello, J., & Nabukenya, I. (2025). Ubenwa cry analysis in African neonatal healthcare. *The Lancet Digital Health, 7*(2), e123–e134. https://doi.org/10.1016/S2589-7500(24)00215-7[11]

Okolo, S. (2025). Data privacy and communal vulnerability in African AI contexts. *African Journal of Information Ethics, 8*(1), 22–39.

ParadigmHQ. (2022). *Artificial intelligence research report: Sub-Saharan Africa*. https://paradigmhq.org/wp-content/uploads/2022/05/AI-Research-Report.pdf