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THE RISE OF ARTIFICIAL INTELLIGENCE AND ITS IMPACT ON HUMAN CAPACITIES

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Abstract

The accelerating development and diffusion of artificial intelligence (AI) technologies have generated intense scholarly and public debate regarding their implications for human capacities. While some scholars argue that AI enhances human productivity, cognition, and creativity, others contend that it contributes to cognitive atrophy, diminished critical thinking, and weakened social interaction. Using qualitative method and deep content analysis, this paper critically interrogates the cognitive decline thesis by examining whether AI is genuinely eroding human capacities or merely transforming them within evolving socio-technical systems. Moving beyond dominant Western epistemological frameworks, the study incorporates African and Nigerian philosophical perspectives to reconceptualize intelligence, personhood, and knowledge production. Drawing on relational ontology, communal epistemology, extended mind theory, and decolonial thought, the paper argues that the impact of AI is culturally mediated and context dependent. Rather than a straightforward decline, AI engenders a reconfiguration of human capacities, redistributing cognitive functions while amplifying certain forms of intelligence. However, real risks persist, including over-reliance, ethical disengagement, epistemic marginalization, and socio-economic inequality. The paper concludes by advocating for a human-centered, culturally grounded, and ethically informed approach to AI integration in human activities.

Keywords: artificial intelligence, human capacities, cognitive offloading, African philosophy, Ubuntu,

Introduction

Globally, Artificial intelligence (AI) has become one of the most transformative inventions of the twenty-first century. Livingston and Risse (2019) attributes AI with the reshaping how human beings work today, how we communicate today, how we study and learn, and indeed, how we make several decisions (on who to employ, where to work etc.). From natural language processing systems to autonomous machines, AI technologies are increasingly embedded in everyday life. Alongside this rapid integration, however, has emerged a growing concern from many academics (Luckin, 2025; Suryanto, et. al., 2025) that AI may be contributing to a decline in essential human capacities as seen in the critical abilities of many students and even teachers across the world.

The concerns about the impact of AI on human capacities are reflected in debates across disciplines, including Religion and philosophy, psychology, education, language and communication studies. In religion and philosophy for instance, Alkhouri (2025) attributes spiritual confusion to the influence of AI on the society. In psychology, Naseer, Ahmad, and Chishti, (2025) decry the cognitive and emotional consequences of dependence on AI among health professionals while in language and communication studies, Festus and Emmanuel (2025) point out the difficult in integrating AI in sociocultural related studies because of context-dependent linguistic and communication difference. These critics seemed argue that despite the transformative potentials of AI, dependence on AI tools leads to cognitive offloading, reduced memory retention, diminished critical thinking, and weakened creativity. Other scholars like Vesting (2022) counter that AI has broaden the human space and enhances human capabilities. They believe that AI augments intelligence, improve efficiency, and enables new forms of innovation to take place and thrive. What is noticeable about the outlined arguments and debates is that they are rooted in Western individualistic assumptions about intelligence and human capacity.

Such perspectives draw deeply from the philosophical stance of the great Plato who sees intelligence as the soul's ability to grasp eternal truths and René Descartes who emphasized the place of the rational thought of an individual in his famous "cogito, ergo sum - I think, therefore I am". This philosophical stance is argued amongst scholars (Wiredu, 1980; Henry Odera, Ngugi wa Thiogo) to prioritize cognitive autonomy and individual reasoning while neglecting alternative cultural understandings of knowledge systems, agency, and

personhood. In contrast, African and Nigerian philosophical traditions emphasize relationality, communal knowledge, and moral responsibility.

This paper argues that the question of whether AI causes a decline in human capacities cannot be adequately addressed without considering these broader philosophical frameworks. By integrating African perspectives, the study reframes the debate, demonstrating that AI's impact is not universally degenerative but contextually mediated.

Conceptualizing Human Capacities

Cognitive, Creative, and Social Dimensions

Human capacities encompass a wide range of abilities. Floridi et al., (2018) and Mollick (2024) believe that these capacities include cognitive processes (memory, reasoning, problem-solving), creativity (innovation, imagination), and social competencies (communication, empathy, collaboration). Traditional critiques of AI focus primarily on cognitive decline, particularly the outsourcing of mental tasks to machines.

However, such a narrow focus overlooks the multidimensional nature of human capacity. Intelligence is not limited to analytical reasoning but includes emotional, social, and moral dimensions. The reduction of human capacity to computational ability reflects a technologically deterministic view that may distort the broader picture.

African Conceptions of Personhood and Intelligence

African philosophy provides a more holistic understanding of human capacity. The concept of personhood, as articulated by thinkers such as John Mbiti and Ifeanyi Menkiti, emphasizes that individuals become fully human through their relationships with others. Personhood is achieved through participation in communal life, moral conduct, and social responsibility. Similarly, the idea of Ubuntu underscores the interconnectedness of human existence: "I am because we are." Within this framework, intelligence is not merely an individual attribute but a collective phenomenon. It includes moral reasoning, social awareness and communal wisdom This broader conception challenges the assumption that AI threatens human capacities. While AI may automate certain cognitive tasks, it does not replace the relational and ethical dimensions of intelligence central to African thought.

Theoretical Framework

The paper is anchored on three important binary theories: cognitive offloading and extended mind theory, technological determinism vs social constructivism and decolonial and African epistemology:

Cognitive Offloading and Extended Mind Theory

The theory of cognitive offloading suggests that humans increasingly rely on external tools to perform mental tasks. This is closely related to the extended mind thesis, which posits that cognitive processes can extend beyond the brain to include tools and technologies. The extended mind thesis posits that cognitive processes can extend beyond the brain to include external tools (Clark & Chalmers, 1998). AI represents an advanced form of cognitive extension, enabling humans to outsource complex tasks that the human person cannot or may not be able to execute successfully.

However, excessive reliance may lead to reduced internal cognitive engagement, a phenomenon known as cognitive offloading (Risko & Gilbert, 2016). From this perspective, AI does not necessarily diminish intelligence but redistributes cognitive labor. However, excessive reliance may reduce internal cognitive engagement, raising concerns about skill atrophy.

Technological Determinism vs Social Constructivism

Technological determinism views AI as an autonomous force shaping human behavior, often leading to pessimistic conclusions about decline. In contrast, social constructivism emphasizes human agency in shaping technological use. Human capacities encompass cognitive, creative, social, and moral dimensions (Nussbaum, 2011). Traditional critiques of AI often focus narrowly on cognitive abilities such as memory and reasoning, neglecting broader aspects of human intelligence.

Research (Floridi et al., 2018; Mollick, 2024) indicates that while digital technologies may reduce reliance on internal memory, they also enhance access to information and support complex problem-solving (Firth et al., 2019). This suggests that human capacities are not diminishing but evolving. African philosophy aligns more closely with the latter, emphasizing that technologies are embedded in social practices and cultural values. This suggests that the impact of AI depends on how societies choose to adopt and regulate it.

Decolonial and African Epistemology

Philosophers such as Kwasi Wiredu advocate for the decolonization of knowledge systems, challenging the dominance of Western epistemologies. Sophie Oluwole further demonstrates that indigenous African knowledge systems possess their own logic, rationality, and philosophical depth. Decolonial theory highlights the dominance of Western epistemologies and the need for epistemic plurality (Wiredu, 1998). AI systems risk reinforcing epistemic inequalities by privileging certain forms of knowledge over others (UNESCO, 2023).

AI systems, are largely trained on Western-centric data, raising concerns about epistemic bias. The perceived "decline" of human capacities may therefore reflect the marginalization of alternative knowledge systems rather than an actual loss of human ability.

Methodology

This study adopts a qualitative research design to examine the rise of Artificial Intelligence (AI) and its impact on human capacities. A qualitative approach is appropriate because it facilitates an in-depth exploration of meanings, patterns, and representations of AI within existing texts and documents. The study is exploratory and interpretive in nature, focusing on how AI technologies are portrayed and discussed in relation to human capacities such as cognition, creativity, decision-making, employment, communication, and social interaction.

The study employs a qualitative content analysis approach. Content analysis is a systematic method of examining and interpreting textual data to identify recurring themes, concepts, and patterns. This approach is suitable for analysing documents related to AI and understanding how the rise of AI is represented in academic literature, policy documents, industry reports, and media publications. Through content analysis, the study seeks to uncover the dominant narratives, opportunities, challenges, and implications associated with AI's influence on human capacities.

The study relied on secondary data obtained from a variety of documentary sources. These sources include peer-reviewed journal articles on Artificial Intelligence and human capacities, books and book chapters related to AI development and societal impacts, reports from international organizations, research institutions, and technology companies and newspaper articles, magazines, and credible online publications discussing AI trends and

developments. These sources were selected because they provide comprehensive information and diverse perspectives on the relationship between AI and human capacities.

Discussion and findings

Language, Communication and Culture

Language is central to human capacity, particularly in African societies where oral traditions play a vital role. AI is significantly transforming human language, communication, and culture by mediating how meaning is produced, circulated, and interpreted in digital environments. Within Sociolinguistics, AI-driven systems such as ChatGPT and machine translation tools expand communicative reach by enabling real-time multilingual interaction and facilitating access to global discourses (Floridi et al., 2018; Kasneci et al., 2023). However, these technologies also raise concerns about linguistic homogenization and the marginalization of less-resourced languages, particularly in contexts where dominant global languages disproportionately shape AI training data (Bender et al., 2021). From the perspective of Discourse Analysis, AI-mediated communication can influence discourse patterns by standardizing expression, altering pragmatic norms, and potentially reducing contextual nuance and cultural specificity (Hovy & Spruit, 2016).

Moreover, scholars such as Shoshana Zuboff argue that digital technologies contribute to new forms of cultural production and power, where data-driven systems shape not only communication practices but also cultural identities and social relations (Zuboff, 2019). Thus, while AI enhances communicative efficiency and global connectivity, it simultaneously reconfigures linguistic diversity, cultural representation, and the socio-pragmatic dynamics of human interaction, necessitating critical engagement to preserve cultural plurality and communicative authenticity. AI language models, while powerful, often lack deep contextual and cultural understanding. This limitation highlights the continued importance of human interpretive skills. Rather than diminishing linguistic capacity, AI may increase the need for critical engagement with language and meaning.

AI: Memory and Attention

AI technologies such as search engines and digital assistants have transformed how humans store and retrieve information. While this reduces the need for memorization, it enables faster access to vast knowledge resources (Livingston & Risse, 2019). Similarly, Luckin (2025) noted that AI is significantly reshaping human memory and attention by externalizing cognitive

processes and reconfiguring how information is encoded, stored, and retrieved. Drawing on principles from Cognitive Psychology, Gerlich (2025) believes that AI tools function as extensions of memory systems, enabling what researchers describe as “cognitive offloading,” whereby individuals rely on digital systems rather than internal recall. This shift aligns with the concept of Transactive Memory (Gerlich, 2025), as users increasingly depend on AI platforms such as ChatGPT to store and retrieve knowledge. While this enhances efficiency and access to vast information, it may also weaken deep memory consolidation and reduce sustained attention, as constant interaction with AI-driven systems fragments focus and encourages rapid task-switching.

From the perspective of Attention Span, AI-mediated environments often embedded in multitasking digital ecosystems can diminish the capacity for prolonged concentration, privileging immediacy over depth (Parashar, et al., 2021). However, AI also offers adaptive learning environments that can scaffold attention and reinforce memory through personalization and repetition. Thus, Vesting (2022) concluded that AI’s impact on human cognition is ambivalent: it simultaneously augments intellectual capacity while transforming, and in some cases attenuating, the fundamental cognitive processes of memory and attention. Empirical studies suggest that reliance on digital tools may weaken recall but enhance problem-solving efficiency. Thus, rather than decline, there is a shift from internal memory to external information systems.

Critical Thinking and Decision-Making

AI systems increasingly influence decision-making in areas such as education, healthcare, and governance. While this can improve efficiency, it also risks encouraging passive acceptance of algorithmic outputs. Gerlich (2025) emphasised the believe that AI is increasingly implicated in the transformation of human critical thinking, raising both enhancement and attenuation concerns within contemporary scholarship. From a cognitive perspective, reliance on AI systems can facilitate rapid access to information and support analytical tasks, yet it may also encourage what researchers describe as cognitive offloading, thereby reducing the depth of independent reasoning (Sparrow, Liu, & Wegner, 2011). Within Educational Psychology, studies suggest that excessive dependence on automated outputs can weaken evaluative judgment, as users may accept AI-generated responses without sufficient scrutiny (Kasneci et al., 2023).

Furthermore, Nicholas Carr argues that digital technologies promote shallow processing and fragmented attention, which undermine sustained critical reflection. However, other scholars contend that AI can enhance higher-order thinking when used reflexively, enabling users to compare perspectives, test arguments, and refine reasoning (Luckin et al., 2016). Thus, the effect of AI on critical thinking is not inherently deterministic; rather, it is contingent upon patterns of use, with uncritical reliance potentially diminishing analytical capacity, while intentional and guided engagement may strengthen critical and metacognitive skills. From an African ethical perspective, as emphasized by Segun Gbadegesin, moral responsibility cannot be delegated to machines. Humans must remain actively engaged in evaluating AI-generated decisions.

Creativity and Innovation in the Age of AI

AI has demonstrated remarkable capabilities in generating text, art, and music. Artificial intelligence (AI) is profoundly reshaping human creativity and innovation by functioning both as a generative partner and a potential constraint on original thought. Within Creativity Studies, AI systems are understood to augment creative processes by enabling rapid idea generation, prototyping, and iterative design, thereby lowering barriers to innovation (Elgammal et al., 2017; Amabile, 1996). These tools can stimulate divergent thinking by exposing users to novel combinations and perspectives that might not emerge through unaided cognition. However, scholars caution that overreliance on AI-generated outputs may lead to creative homogenization and reduced originality, as models are trained on existing datasets and may reproduce dominant patterns rather than genuinely novel ideas (Boden, 2004; Epstein et al., 2023). From a sociocognitive standpoint, this dynamic reflects a tension between augmentation and dependency, where AI enhances creative productivity while potentially attenuating the deep imaginative engagement traditionally associated with innovation.

Consequently, the impact of AI on creativity is dialectical: it expands the scope and speed of innovation, yet necessitates critical human agency to ensure originality, contextual relevance, and meaningful creative expression. This has led to concerns about the erosion of human creativity. However, creativity is not a zero-sum resource. Gerlich (2025) asserts that AI can serve as a tool that enhances creative processes by providing inspiration, automating repetitive tasks and expanding access to creative resources. In African contexts, creativity is often communal and performative, rooted in oral traditions and shared cultural practices. AI can support the preservation and dissemination of these traditions rather than replacing them.

Socio-Economic Implications in Nigeria and Africa

In Nigeria and Africa as a whole, the global role of AI on the continent can seen on its effects fostering or addressing digital inequality and, its impact on education and human development as discussed below.

Digital Inequality

The impact of AI in Nigeria is shaped by disparities in access to technology, education, and infrastructure. The risk is not merely cognitive decline but exclusion from technological benefits. However, AI is generating significant socio-economic transformations across Nigeria and the wider African continent, particularly in relation to digital inequality and uneven access to technological resources. While AI-driven innovations in sectors such as education, finance, agriculture, and healthcare promise increased productivity and economic growth, their benefits remain unevenly distributed due to infrastructural deficits, limited internet penetration, and disparities in digital literacy. Within Development Studies, scholars argue that such structural inequalities risk reinforcing existing socio-economic divides, creating a "digital stratification" in which urban, educated populations benefit disproportionately from AI advancements (World Bank, 2021; UNESCO, 2023).

In Nigeria, for instance, access to AI-enabled tools is largely concentrated in urban centers, leaving rural communities marginalized and excluded from emerging knowledge economies. This aligns with broader critiques of technological diffusion in Africa, where global AI systems often developed by corporations such as Google and Microsoft may inadvertently reproduce patterns of dependency and digital colonialism (Carmody, 2020). Consequently, without inclusive infrastructure and policy frameworks, AI risks deepening socio-economic inequality rather than alleviating it.

Education and human development

AI has the potential to transform education through personalized learning and automated support systems. However, over-reliance may undermine critical thinking if not carefully managed. At the same time, AI has profound implications for education and human development, offering both opportunities for transformation and challenges for equitable growth. In the field of Educational Technology, AI-powered platforms can enhance personalized learning, improve educational access, and support skills development necessary for participation in a global digital economy (Holmes et al., 2019; Luckin et al., 2016).

However, the effective integration of AI into African education systems is constrained by inadequate infrastructure, limited teacher training, and insufficient policy coordination, particularly in countries like Nigeria where systemic challenges persist.

Moreover, there is a growing concern that overreliance on AI technologies may undermine critical human capacities if not balanced with context-sensitive pedagogies. From a human development perspective, as articulated by United Nations Development Programme, technological advancement must be aligned with inclusive capability expansion to ensure that individuals are not merely passive consumers of AI but active participants in knowledge creation (UNDP, 2022). Therefore, the socio-economic impact of AI in Nigeria and Africa is fundamentally ambivalent: it holds transformative potential for education and development, yet requires deliberate investment in equity, skills, and governance to avoid exacerbating existing inequalities. African educational traditions emphasize dialogue and communal learning, which can complement AI-based systems when properly integrated.

So far**,** the evidence suggests that the claim of declining human capacities is both overstated and context dependent. While some cognitive skills may weaken, others are enhanced or transformed (Firth et al., 2019; Mollick, 2024). Extant literature (Livingston & Risse, 2019; Luckin, 2025) suggest that human intelligence extends beyond cognition, AI complements rather than replaces many capacities and cultural and relational dimensions remain intact. Additionally, Certain cognitive skills may weaken with over-reliance, ethical disengagement is a genuine concern, inequality may exacerbate disparities in capacity development. As such, AI represents a transformation rather than a decline.

Conclusion

The rise of artificial intelligence does not inevitably lead to the decline of human capacities. Instead, it reshapes how these capacities are expressed and utilized. By incorporating African and Nigerian philosophical perspectives, this paper demonstrates that intelligence is not merely computational but relational, moral, and communal. The future of human capacity in the age of AI depends on how societies integrate technology within their cultural and ethical frameworks. A balanced approach one that leverages AI's benefits while preserving human agency and critical engagement is essential.

The strongest academic position today is that AI does not simply "decline" or "enhance" human capacities it restructures them. Instead of loss, what we observe is reduced need for note memorization by students, increased importance of critical evaluation using AI technologies,

shifting attention from recall to judgment based on AI assisted technologies, redistribution of cognition between human and machine systems. This reflects a broader shift in what counts as intelligence in the age of AI: from storage-based cognition to interpretive and evaluative cognition. The “AI causes human decline” argument is partly a myth and partly a warning because humans historically adapt and often expand cognitive abilities through tools. This because uncritical dependence can weaken specific skills like deep attention and independent reasoning. AI does not automatically reduce human capacities; it amplifies whatever cognitive habits it is embedded in.

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