HARNESSING THE POTENTIALS OF ENTREPRENEURIAL ARTIFICIAL INTELLIGENCE FOR POVERTY REDUCTION IN THE 21ST CENTURY IN NIGERIA

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Abstract

Poverty is a state or condition in which people or communities lack the financial resources and other essentials for a minimum standard of living. With poverty, people cannot meet their basic human needs. Community members or families that are poverty-stricken might go without proper housing, clean water, healthy food and medical attention among other needs. However, people in the 21st century can be better equipped with entrepreneurial skills with the aid of artificial intelligence; thereby reducing the rate of poverty among people in the society. Thus, this study focused on harnessing the potentials of entrepreneurial artificial intelligence for poverty reduction in the 21st century in Nigeria. Being a position paper, this work examined the concept of poverty, causes and its danger. The paper also critically discussed the concept of entrepreneurial artificial intelligence, historical development of entrepreneurial artificial intelligence as a technological tool, relationship between entrepreneurial artificial intelligence and poverty reduction as well as the challenges of applying entrepreneurial artificial intelligence in combating poverty. Conclusion and suggestions were offered herein.

Keywords: Entrepreneurial Artificial Intelligence, Poverty Reduction, 21st Century and Nigeria*.*

Concept of poverty

Poverty in Nigeria is a vast and complex challenge that affects a majority of the population, transcending the simple lack of income to include deprivation in access to essential services like education, healthcare, clean water, sanitation, and electricity. According to the World Bank's April 2025 Poverty and Equity Brief, over 54% of Nigerians are projected to live below the poverty line, with rural poverty reaching a staggering 75.5%, nearly doubling the urban poverty rate, which stands at around 41.3% (World Bank, 2025; Punch Nigeria, 2025). This deep and multidimensional poverty inhibits individuals' capabilities to fully engage in economic activities, participate socially, and benefit from opportunities for improvement, thus entrenching systemic inequality and threatening the country's overall development progress.

The root causes of poverty in Nigeria are numerous and interrelated, spanning economic, social, and political dimensions. A heavy dependence on volatile oil revenues has stymied the diversification of the economy, while persistent inflation; particularly food inflation which touched nearly 40% in 2024 has severely eroded household purchasing power

Harnessing the Potentials of Entrepreneurial Artificial
Intelligence for Poverty Reduction in the 21st Century in Nigeria

Patrick Elizabeth Odije;
Olofu, Paul Agbade; Ogar Martina Ogbene

(World Bank, 2025). Compounding this is prolonged insecurity in northern Nigeria, where agricultural activities and trade, the lifeblood of rural economies, face disruptions from conflicts and banditry (Vanguard Nigeria, 2025). Moreover, youth unemployment is a critical factor: millions of young Nigerians enter the job market every year, facing few economic opportunities due to an underperforming education system and weak entrepreneurial frameworks, reinforcing cycles of poverty (ActionAid Nigeria, 2025; Patrick & Obibessong, 2021).

The consequences of widespread poverty in Nigeria extend beyond immediate hardship to threaten the country's socio-political stability and economic future. Poverty fuels social unrest and contributes to conditions conducive to insurgency and crime, placing heavy demands on public resources intended for national development (World Bank, 2025; Punch Nigeria, 2025). From an economic perspective, poverty suppresses domestic demand and stunts growth in what is Africa's largest economy. Additionally, the detrimental impact of poverty on human capital via malnutrition and limited access to education reduces workforce productivity and curtails the nation's innovative capacity. Without effective interventions, projections warn of deepening poverty, pushing an increasing number of Nigerians into extreme deprivation (Vanguard Nigeria, 2025; Patrick, 2022).

Nigeria's poverty crisis is further characterized by stark spatial and demographic disparities. Rural areas bear a disproportionate burden due to limited infrastructure, poor healthcare, scarce educational opportunities, and vulnerable agricultural livelihoods. According to the World Bank, the northern geopolitical zones exhibit poverty rates over triple those of the southern regions, highlighting entrenched regional inequalities (World Bank, 2025). Women and children disproportionately experience poverty's effects, facing higher rates of malnutrition, lower school enrollment, and limited economic opportunities. These intersecting vulnerabilities reinforce poverty's persistence across generations, making holistic and inclusive solutions imperative.

Beyond these internal structural challenges, Nigeria grapples with external shocks such as volatile global markets, currency depreciation, and climate change impacts that exacerbate poverty conditions. The persistent devaluation of the naira has increased the cost of imports, pushing essential goods further out of reach for many families (Vanguard Nigeria, 2025). Climate variability also threatens agricultural productivity, a primary source of income for rural poor populations, by altering rainfall patterns and increasing droughts and floods. These external pressures compound Nigeria's complex poverty drivers, underscoring the urgent need for multifaceted and resilient policy responses that address immediate needs while building long-term economic and social stability.

Causes and danger of poverty
Nigeria's poverty crisis stems largely from deep-rooted structural economic weaknesses and persistent governance challenges that have hindered inclusive growth and economic diversification. The country's overdependence on oil revenue has resulted in chronic neglect of vital sectors such as agriculture and manufacturing, which are historically significant sources of employment and income for a large portion of the population (World Bank, 2025). This narrow economic base leaves Nigeria vulnerable to the volatility of global oil prices and limits opportunities for broad-based job creation. Additionally, economic shocks such as inflation—which saw food prices escalate by nearly 40% in 2024, currency depreciation, and the removal of fuel subsidies have compounded hardships for poor households, severely restricting their purchasing power and access to essential goods and services (Punch Nigeria, 2025). The inability of other sectors to compensate for fluctuations in oil income has intensified economic instability and deepened poverty.

Compounding these economic challenges is widespread insecurity, particularly in the northern regions of Nigeria, where insurgencies, banditry, and communal conflicts forcibly displace communities and disrupt agricultural production and local trade activities that underpin rural livelihoods (Okri et. al, 2020; Ibu et. al., 2019; Vanguard Nigeria, 2025). This insecurity exacerbates food insecurity, limits access to markets, and deters investment in affected areas. The rural poor bear the brunt of these disruptions, further amplifying regional disparities in poverty incidence. Population dynamics also play a critical role in poverty's persistence; Nigeria has one of the world's fastest-growing populations, with millions of youths entering the labor market annually without sufficient economic opportunities or the skills demanded by available jobs (ActionAid Nigeria, 2025). This demographic pressure worsens unemployment and underemployment, perpetuating cycles of poverty and social exclusion.

The inadequacy of social services such as healthcare, education, and infrastructure critically undermines human capital development, the very foundation needed to escape poverty. Poor healthcare services contribute to high morbidity and mortality rates, limiting workers' productivity and increasing household vulnerability. Similarly, insufficient educational opportunities, particularly in northern and rural areas, restrict access to quality schooling and vocational training, resulting in a workforce ill-prepared for modern economic challenges (World Bank, 2025). Infrastructure deficits such as inadequate roads, electricity, and water supply further isolate vulnerable communities from markets and opportunities. These compounding social shortcomings disproportionately affect women and children, who experience higher levels of deprivation, entrenching intergenerational poverty and regional inequalities, especially evident between the northern and southern parts of the country.

The dangers posed by entrenched poverty extend beyond individual hardship to threaten Nigeria's broader socio-political and economic stability. High poverty levels contribute to social unrest, increase susceptibility to extremist recruitment, and exacerbate crime rates, thereby straining public resources and governance capacity (ActionAid Nigeria, 2025). Economically, poverty limits domestic demand, undermining business growth and reducing government revenues critical for investment in infrastructure and services (Punch Nigeria, 2025). Furthermore, the depletion of human capital caused by malnutrition, poor education, and lack of skills weakens Nigeria's competitiveness on the global stage and hinders sustainable development. Without deliberate and urgent policy interventions that address these complex causes and mitigate such dangers, Nigeria risks falling further behind in its path toward economic growth, social cohesion, and poverty eradication (World Bank, 2025).

The following further pinpoints the root causes and dangers of poverty in Nigeria:
1. Economic Overdependence on Oil:
   - Nigeria's reliance on oil revenue has led to the neglect of agriculture and manufacturing.
   - This narrow economic base makes the country vulnerable to global oil price fluctuations.
   - Result: Limited job creation and economic instability.
2. Inflation and Economic Shocks:
   - Food prices surged by nearly 40% in 2024 due to inflation and currency depreciation.
   - Removal of fuel subsidies further reduced household purchasing power.
   - Result: Increased hardship and restricted access to basic goods and services.

Harnessing the Potentials of Entrepreneurial Artificial
Intelligence for Poverty Reduction in the 21st Century in Nigeria

Patrick Elizabeth Odije;
Olofu, Paul Agbade; Ogar Martina Ogbene

3. Insecurity and Displacement:
   - Insurgencies, banditry, and communal conflicts-especially in northern Nigeria disrupt agriculture and trade.
   - Displacement of communities worsens food insecurity and deters investment.
   - Result: Amplified regional poverty and economic exclusion.
4. Rapid Population Growth and Youth Unemployment:
   - Millions of youths enter the labor market annually without adequate skills or job opportunities.
   - Result: Rising unemployment, underemployment, and social exclusion.
5. Weak Social Services and Infrastructure:
   - Poor healthcare, limited education access, and inadequate infrastructure (roads, electricity, water).
   - These deficits hinder human capital development and isolate communities.
   - Result: Intergenerational poverty, especially among women and children.

Concept of Entrepreneurial Artificial Intelligence (AI)

Entrepreneurial Artificial Intelligence (AI) refers to the strategic application of Artificial Intelligence technologies… including machine learning, automation, and data analytics, specifically designed to enhance entrepreneurial activities such as decision-making, operational efficiency, and innovation capacity. These emerging technologies equip entrepreneurs, particularly those in small and medium enterprises (SMEs), with the ability to analyze large volumes of market and consumer data swiftly, optimize supply chains, and engage customers with more precision. By automating repetitive and labor-intensive tasks, entrepreneurial Artificial Intelligence reduces uncertainty and operational risks, fostering more agile and data-informed business environments (Russell & Norvig, 2016; Obschonka & Audretsch, 2020a; Ibu et. al.; 2019; Inyang et. al, 2020; Essang et al, 2025; Essang & Adie, 2025). This digital shift empowers entrepreneurs to focus on value creation and innovation rather than routine operations, ultimately boosting competitiveness and scalability.

Beyond operational efficiency, entrepreneurial Artificial Intelligence plays a critical role in promoting inclusiveness within economic systems by connecting underserved and marginalized populations to vital resources such as finance, markets, and knowledge. Mobile AI applications can provide alternative credit scoring models that leverage non-traditional data, real-time market pricing, and customer service chatbots, which are accessible even in remote and economically disadvantaged areas. This democratization of business intelligence helps lower traditional barriers to entrepreneurship, facilitating entry for individuals who previously faced systemic exclusion. Furthermore, AI-driven personalized training platforms enhance entrepreneurial capacity by tailoring learning experiences to individual needs, closing skill gaps, and upskilling users to thrive in the increasingly digitized economy (Chin et al., 2021; Wang et al., 2023c; Patrick & Omang. 2022)

In the Nigerian context, the intersection of a youthful population characterized by a rapidly growing and tech-savvy demographic and expanding digital infrastructure creates fertile grounds for leveraging entrepreneurial Artificial Intelligence to drive economic inclusion and poverty reduction. Nigeria's drive towards a digital economy as outlined in national strategic frameworks aligns well with the potentials of entrepreneurial Artificial Intelligence to formalize and scale informal economic activities that dominate the local landscape. By integrating AI-driven solutions, Nigerian entrepreneurs can transform small-scale ventures into sustainable enterprises, which in turn stimulate economic growth and job creation at the grassroots level. These innovations offer promising pathways to alleviate

poverty by increasing incomes and improving access to essential goods and services (World Bank, 2025; Chin et al., 2021).

Moreover, entrepreneurial Artificial Intelligence represents a transformative shift in how economic value is created and distributed in developing economies. Innovators use Artificial Intelligence not only to optimize current business activities but also to develop entirely new products, services, and business models capable of disrupting existing markets and creating fresh opportunities for wealth generation. The evolution of Artificial Intelligence tools from basic automation to advanced predictive analytics and customer personalization enables entrepreneurs to anticipate market trends, manage risks, and customize offerings effectively. Successful uptake of entrepreneurial Artificial Intelligence thus depends on embedding these technologies into local contexts, supported by policies, education, and infrastructure that foster innovation ecosystems and equitable digital participation (Giuggioli & Pellegrini, 2023; Russell & Norvig, 2016).

Significantly, the following are necessary in harnessing the potentials of entrepreneurial Artificial Intelligence for Poverty Reduction in Nigeria;

- AI-Enhanced entrepreneurial decision-making:
    i. Strategic use of machine learning and data analytics to guide business choices
    ii. Real-time insights for market forecasting, risk assessment, and resource allocation
    iii. Reduces uncertainty and improves agility in dynamic environments

- Operational Automation and Efficiency:
    i. Automating repetitive and labor-intensive tasks to streamline operations
    ii. AI-driven supply chain optimization and inventory management
    iii. Frees up entrepreneurs to focus on innovation and strategic growth

- Inclusive Entrepreneurship through AI:
    i. Mobile AI tools for alternative credit scoring and financial inclusion
    ii. Chatbots and digital assistants accessible in remote or underserved areas
    iii. Reduces systemic barriers and democratizes access to entrepreneurial resources

- AI-Powered Entrepreneurial Capacity Building:
    i. Personalized learning platforms that adapt to individual skill levels and needs
    ii. I-driven training for upskilling and closing digital literacy gaps
    iii. Enhances human capital in emerging digital economies

- AI-Driven Innovation and Market Disruption:
    i. Development of new products, services, and business models using AI
    ii. Predictive analytics for trend anticipation and customer personalization
    iii. Enables entrepreneurs to disrupt traditional markets and create new value chains

Historical development of Entrepreneurial Artificial Intelligence as a Technological Tool

Artificial Intelligence (AI) as a field formally began in the mid-20th century, marked by pioneering efforts to build machines capable of symbolic reasoning and rudimentary learning. Early Artificial Intelligence research focused on rule-based systems and logic programming, aiming to replicate human problem-solving abilities. Foundational programs such as the checkers-playing software by Arthur Samuel in the 1950s demonstrated that machines could learn from experience, marking the inception of machine learning (Russell & Norvig, 2016; Britannica, 2025). Despite initial optimism, Artificial Intelligence research faced significant setbacks due to limitations in computation and understanding, leading to periods known as "Artificial Intelligence winters" when funding and interest waned. However, the 1980s

witnessed a resurgence driven by the development of expert systems — Artificial Intelligence programs that incorporated domain-specific knowledge to assist in complex decision-making, widely adopted in commercial settings (Nwana, 1981; Patrick**et.** al, 2024)

The 2010s marked a transformative era for Artificial Intelligence, propelled by exponential growth in computational power, the advent of cloud computing, and vast amounts of data generated by digital platforms. These advances enabled the rise of deep learning and neural networks, which dramatically improved Artificial Intelligence's ability to process natural language, recognize images, and predict outcomes with high accuracy. During this time, entrepreneurial Artificial Intelligence began to emerge explicitly as businesses incorporated AI-based tools to optimize operations, customer service, and strategic decisions. Startups and small and medium enterprises (SMEs) adopted AI-driven analytics, chatbots, and automation to enhance productivity and create personalized customer experiences, marking a shift from theoretical research to practical, business-critical applications (Chin et al., 2021; Tableau, 2019).

In Nigeria, the adoption of entrepreneurial Artificial Intelligence is relatively recent but growing steadily, bolstered by government policies promoting digital innovation, increased internet penetration, and the rise of technology hubs and incubators across the country. Artificial Intelligence applications are increasingly used in sectors critical to local economic development, including fintech for democratizing access to financial services, agritech for improving agricultural productivity, and e-commerce to expand market reach for SMEs (World Bank, 2025; Vanguard Nigeria, 2025). These Artificial Intelligence implementations address persistent entrepreneurial challenges such as limited access to credit, poor market information, and logistical inefficiencies, helping bridge critical gaps and fostering business growth among underserved populations (Usua et. al, 2023; Olofu & Adeyeye, 2022)

Looking forward, emerging technologies such as edge computing, which enables Artificial Intelligence processing closer to data sources, and advanced human-AI collaboration models promise to further enhance the accessibility and impact of entrepreneurial Artificial Intelligence in Nigeria. As regulatory frameworks and infrastructural readiness improve, entrepreneurial Artificial Intelligence is positioned to become a cornerstone of Nigeria's digital economy and inclusive growth strategies. By empowering entrepreneurs with data-driven tools and automation, entrepreneurial Artificial Intelligence can catalyze broader economic transformation and poverty reduction, thereby supporting sustainable development goals (IBM, 2024; Chin et al., 2021).

Relationship between Entrepreneurial Artificial Intelligence and poverty reduction

Entrepreneurial Artificial Intelligence (AI) has a direct and impactful role in poverty reduction by empowering small and medium enterprises (SMEs), which constitute the backbone of Nigeria's labor market. AI-powered tools enable these businesses to perform better demand forecasting, inventory management, and customer analytics, greatly improving operational efficiencies and reducing costs. Such improvements translate into higher revenues and better livelihood opportunities for vulnerable populations. For instance, agricultural entrepreneurs in Nigeria benefit significantly from AI applications that provide weather predictions and real-time market price information, helping them stabilize income and reduce the risks associated with climate variability and volatile pricing, thus promoting more resilient rural economies (Punch Nigeria, 2025; The Sun Nigeria, 2025; Bessong et al., 2024).

Financial inclusion is another critical avenue through which entrepreneurial Artificial Intelligence contributes to poverty reduction. AI-driven alternative credit scoring mechanisms analyze unconventional data sources, allowing micro-entrepreneurs who lack traditional collateral to access loans, insurance, and other financial services. This access to finance is

essential for creating and sustaining small businesses, enabling entrepreneurs to scale their operations and generate stable incomes. Additionally, AI-powered educational and mentorship platforms offer personalized learning and business development support, fostering innovation and enhancing entrepreneurial capacities among marginalized populations, which in turn expands income-generating opportunities and strengthens economic resilience (Chin et al., 2021; Akamobi, 2025; Olofu & Ukpanukpong, 2022; Ogunode et al., 2024).

At a broader systemic level, entrepreneurial Artificial Intelligence supports Nigeria's economic diversification and job creation efforts, which are pivotal in reducing the country's overreliance on oil revenue. By fostering innovation ecosystems, entrepreneurial Artificial Intelligence enables the emergence of new sectors and business models, thereby addressing structural challenges such as unemployment and underemployment that perpetuate poverty. AI-driven entrepreneurship stimulates more inclusive economic participation and builds resilience against external shocks, complementing national development goals. Empirical research underscores a positive relationship between Artificial Intelligence adoption in entrepreneurship and sustained poverty reduction, provided that it is accompanied by supportive infrastructures, enabling policies, and equitable access to technology (Vanguard Nigeria, 2025; Russell & Norvig, 2016; Obiageli, 2025; Ebele & Olofu**,** 2020)

However, to fully realize these benefits, there must be deliberate investment and policy frameworks that remove barriers to Artificial Intelligence adoption and ensure its advantages reach all socio-economic strata. This includes expanding digital infrastructure to underserved regions, promoting digital literacy and skills development, and fostering public-private partnerships that support context-specific Artificial Intelligence innovations. Moreover, addressing challenges like affordability, awareness, and trust will be essential to making entrepreneurial Artificial Intelligence a potent tool for reducing poverty and driving inclusive economic growth in Nigeria. With careful stewardship, entrepreneurial Artificial Intelligence can serve as a transformational catalyst in empowering SMEs and lifting millions out of poverty (Akamobi, 2025; Chin et al., 2021; (Olofu & Ukpanukpong, 2022).

Challenges of applying entrepreneurial Artificial Intelligence in combating poverty

Despite the transformative potential of entrepreneurial Artificial Intelligence (AI) in addressing poverty, its deployment in Nigeria faces significant structural and socio-economic obstacles. A dominant issue is the pervasive digital divide characterized by inadequate internet connectivity, unreliable electricity supply, and low digital literacy, especially in rural and underserved communities. While mobile phone penetration is relatively high, broadband access necessary for robust Artificial Intelligence applications remains limited, preventing large segments of the population from benefiting from AI-driven entrepreneurial opportunities (Punch Nigeria, 2025; ActionAid Nigeria, 2025). Without sustained investments to enhance digital infrastructure and energy reliability, the reach of Artificial Intelligence tools risks being confined to urban centers and wealthier entrepreneurs, thereby deepening rather than narrowing economic inequality (Ogunode &Olofu, 2023).

In addition to infrastructural deficits, cost barriers and human capital shortages considerably hinder the adoption of Artificial Intelligence technologies among small and medium enterprises (SMEs) and grassroots entrepreneurs. High upfront costs for acquiring Artificial Intelligence software, tools, and maintenance services are often prohibitive for impoverished business owners who already operate on razor-thin margins. Furthermore, there is a critical shortage of skilled Artificial Intelligence professionals within Nigeria, which limits both the development of locally relevant Artificial Intelligence solutions and the capacity of SMEs to utilize and customize existing technologies effectively (The Sun Nigeria, 2025; Chin et al., 2021; Ifejesu & Ogunleye, 2021). Without accessible financial mechanisms

Harnessing the Potentials of Entrepreneurial Artificial
Intelligence for Poverty Reduction in the 21st Century in Nigeria

Patrick Elizabeth Odije;
Olofu, Paul Agbade; Ogar Martina Ogbene

and training programs to build digital and Artificial Intelligence literacy, many entrepreneurs in poverty-stricken communities remain excluded from the benefits of emerging Artificial Intelligence innovations.

Ethical and societal concerns present additional challenges for the adoption of entrepreneurial Artificial Intelligence in poverty reduction efforts. Issues such as data privacy, algorithmic biases embedded in Artificial Intelligence systems, and fears about the potential displacement of low-skilled jobs induce skepticism and resistance among various stakeholders. Nigeria's Artificial Intelligence regulatory and policy frameworks are still underdeveloped, lacking clear guidelines to safeguard users' rights and prevent misuse or discrimination by AI-powered systems (ActionAid Nigeria, 2025; Russell & Norvig, 2016; FNAS Journals, 2025). This regulatory uncertainty fuels mistrust, particularly among those unfamiliar with Artificial Intelligence, undermining widespread acceptance and adoption. Building an ethical Artificial Intelligence ecosystem through inclusive governance, transparency, and public engagement is therefore essential (Ihekoronye et al., 2020).

Cultural and informational barriers further obstruct the effective use of entrepreneurial Artificial Intelligence in combating poverty. Many rural and traditional entrepreneurs remain unaware of Artificial Intelligence technologies' benefits or skeptical of their practical relevance to their businesses. Language barriers, limited exposure to digital innovations, and entrenched preferences for conventional methods may inhibit openness to Artificial Intelligence tools, necessitating targeted awareness campaigns and capacity-building initiatives (Ijeoma & Okeke, 2024; Chin et al., 2021). Bridging these gaps requires coordinated efforts among governments, academia, private sector actors, and civil society to embed Artificial Intelligence literacy in educational curricula and community outreach programs, ensuring that technological advances translate into inclusive economic empowerment (Opara et al., 2020).

Conclusion

Entrepreneurial AI can revolutionize how small and medium enterprises operate by providing access to powerful tools that enhance decision-making, improve operational efficiencies, and enable innovation. By leveraging Artificial Intelligence technologies such as machine learning and predictive analytics, entrepreneurs can better understand market dynamics, optimize supply chains, and engage customers more effectively. This capacity helps reduce business risks and increase profitability, which is vital for lifting vulnerable populations out of poverty. Importantly, entrepreneurial Artificial Intelligence facilitates opportunities in sectors where traditional methods have been limited, thus expanding economic activities in underserved and marginalized communities.

However, the full benefits of entrepreneurial Artificial Intelligence cannot be realized without overcoming significant infrastructural limitations. Many parts of Nigeria, particularly rural areas, suffer from unreliable electricity and poor internet connectivity, which are essential for digital technologies to function effectively. Without improvements in these foundational infrastructures, AI-driven entrepreneurial initiatives will remain accessible primarily to urban and wealthier demographics, potentially widening existing economic inequalities. Investment in digital and energy infrastructure must be scaled up to ensure AI tools can reach entrepreneurs regardless of geographic location or socio-economic status.

Equally critical is enhancing digital literacy across Nigeria's diverse population. A significant number of potential entrepreneurs lack the skills needed to effectively harness Artificial Intelligence tools, which can hinder adoption and lead to underutilization. Comprehensive training programs, especially targeted toward youth, women, and rural communities, can build the capacity required to utilize entrepreneurial Artificial Intelligence fully. Digital education facilitates not only the practical use of Artificial Intelligence but also

fosters a mindset of innovation crucial for sustainable economic development. These efforts lay the groundwork for a more inclusive digital economy where entrepreneurship becomes a viable pathway for poverty reduction.

Robust ethical frameworks must also be established to create an environment of trust and fairness in the deployment of Artificial Intelligence technologies. Issues such as data privacy, algorithmic bias, and transparency need clear regulatory guidance to prevent misuse and protect vulnerable populations. Without such oversight, there is a risk that Artificial Intelligence could exacerbate social inequalities or lead to unintended negative consequences, which would hinder acceptance and uptake among entrepreneurs. Collaborations among government entities, private sector innovators, and civil society are essential to design inclusive policies that ensure Artificial Intelligence implementation promotes equitable benefits and adheres to ethical standards.

Finally, promoting widespread acceptance of entrepreneurial Artificial Intelligence requires coordinated, multi-stakeholder engagement and advocacy. Raising awareness among entrepreneurs about Artificial Intelligence's potential benefits and addressing cultural skepticism through education and demonstration projects can encourage broader adoption. Governments, development partners, and industry leaders must work together to create platforms that support knowledge sharing, financing, and technical assistance. Through these targeted, collaborative efforts, Nigeria can build a thriving entrepreneurial ecosystem where Artificial Intelligence empowers diverse entrepreneurs to contribute meaningfully to poverty reduction and inclusive economic growth.

Accordingly, the following stances on Entrepreneurial Artificial Intelligence for Poverty Reduction in Nigeria are drawn for improvement:

1. Transformative Potential for SMEs
- Entrepreneurial AI enhances decision-making, operational efficiency, and innovation.
- It reduces business risks and boosts profitability, helping lift vulnerable populations out of poverty.
2. Infrastructure Is Foundational
- Reliable electricity and internet connectivity are essential for AI adoption.
- Without infrastructure investment, AI benefits will remain limited to urban and affluent areas, deepening inequality.
3. Need for Digital Literacy
- Many entrepreneurs lack the skills to use AI tools effectively.
- Targeted training for youth, women, and rural communities is crucial to unlock AI's full potential.
4. Importance of Ethical and Regulatory Frameworks
- Clear policies on data privacy, algorithmic bias, and transparency are needed.
- Ethical oversight ensures trust and protects vulnerable populations from misuse.
5. Multi-Stakeholder Collaboration and Advocacy
- Broad adoption requires coordinated efforts among government, private sector, and civil society.
- Awareness campaigns, demonstration projects, and support platforms can drive inclusive AI entrepreneurship.

Suggestions

To significantly enhance the role of entrepreneurial Artificial Intelligence in reducing poverty, Nigeria must prioritize substantial investments in digital infrastructure and reliable electricity supply, especially in underserved rural areas where poverty is most acute.

Harnessing the Potentials of Entrepreneurial Artificial
Intelligence for Poverty Reduction in the 21st Century in Nigeria

Patrick Elizabeth Odije;
Olofu, Paul Agbade; Ogar Martina Ogbene

Expanding broadband internet coverage and ensuring stable power availability are foundational prerequisites for the effective utilization of Artificial Intelligence technologies. Without dependable digital and energy infrastructure, entrepreneurs in marginalized communities are left unable to access or sustain AI-driven platforms and tools essential for modern business operations. Infrastructure investments will not only improve accessibility but also reduce the urban-rural digital divide, promoting inclusive economic participation and enabling rural entrepreneurs to compete on more equal footing with their urban counterparts. This foundational work serves as a critical first step toward creating an ecosystem where Artificial Intelligence can meaningfully support innovation and productivity growth that benefits impoverished populations.

Complementing infrastructure development, targeted digital skills training programs are vital in building the human capital necessary to leverage entrepreneurial Artificial Intelligence effectively. Such initiatives should be tailored specifically for entrepreneurs, youths, women, and other marginalized groups, helping to bridge gaps in digital literacy and technical know-how. Capacity-building efforts might include practical workshops, mentorship platforms, and e-learning modules focused on Artificial Intelligence applications relevant to local industries such as agriculture, retail, and services. By equipping these groups with the knowledge and skills to use Artificial Intelligence tools confidently, Nigeria can foster a culture of innovation and empower a broad base of entrepreneurs to create sustainable, scalable businesses that generate jobs and income. Moreover, investing in digital education addresses systemic inequalities, offering pathways for upward social mobility and expanding the benefits of technological progress throughout society.

In parallel, establishing comprehensive ethical guidelines, robust data protection laws, and clear regulatory frameworks is essential to create an environment of trust and accountability around Artificial Intelligence deployment. Responsible governance ensures that Artificial Intelligence technologies are developed and used in ways that protect user privacy, prevent algorithmic bias, and safeguard vulnerable groups from exploitation. Transparent policies reassure entrepreneurs, consumers, and investors alike, fostering confidence in AI-driven solutions and encouraging broader adoption. Public-private partnerships play a crucial role in this ecosystem, combining government oversight with private sector innovation to develop Artificial Intelligence applications tailored to Nigeria's unique market needs. These collaborations can also facilitate financial support mechanisms, such as subsidies or low-interest loans that reduce the cost barriers small businesses face when adopting Artificial Intelligence. Lastly, ongoing community engagement and public awareness campaigns will cultivate cultural acceptance of Artificial Intelligence technologies, dispel misinformation, and promote inclusive participation, ensuring that Artificial Intelligence becomes a sustainable and broadly embraced tool in Nigeria's fight against poverty. Itemize 5 suggestions from this extract.

Under-below are strategic suggestions to enhance the role of Entrepreneurial Artificial Intelligence (EAI) in poverty reduction in Nigeria:

1. Invest in digital infrastructure and reliable electricity
    i.   Expand broadband internet access, especially in rural and underserved areas
    ii. Ensure stable and affordable electricity to support AI technologies
    iii. Reduce the urban-rural digital divide and enable inclusive participation
2. Implement targeted digital skills training programs
    i.   Design training for entrepreneurs, youths, women, and marginalized groups
    ii. Focus on practical AI applications in local industries (e.g., agriculture, retail)
    iii. Use workshops, mentorship platforms, and e-learning modules to build capacity
3. Establish ethical guidelines and regulatory frameworks
    i.   Develop policies to protect user privacy and prevent algorithmic bias

ii.   Ensure responsible and transparent use of AI technologies
iii.   Build trust among entrepreneurs, consumers, and investors

4. Promote public-private partnerships for AI development
   i.   Encourage collaboration between government and private sector innovators
   ii.   Support the creation of AI solutions tailored to Nigeria's market needs
   iii.   Facilitate financial mechanisms like subsidies and low-interest loans for SMEs

5. Launch Community engagement and awareness campaigns
   i.   Educate the public on the benefits and risks of AI technologies
   ii.   Address cultural resistance and misinformation
   iii.   Promote inclusive adoption and long-term sustainability of AI tools

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