

Artificial Intelligence and the Future of Sustainable Economic Development in Nigeria: Implications for Marketing Policies

Muhammed Alkali Yero,

*Department of Marketing Administration,
Federal Polytechnic Nasarawa, Nigeria.*

Email: mohayero@gmail.com

Abstract:

In emerging markets, artificial intelligence (AI) has become a key enabler of economic diversification and sustainable development, but its possible impact on the marketing policy of Sub-Saharan Africa has not been theorised. This paper investigates the impact of AI on the economic landscape in Nigeria and its implications for the practice and policy of marketing in the country. The research approach used is a secondary source design, which involves document analysis, combining macroeconomic indicators from Nigeria's National Artificial Intelligence Strategy and the National Bureau of Statistics, International Finance Corporation, and PwC as well as the thematic review of ten empirical and conceptual studies on AI in Marketing in Nigeria published from 2023 to 2026. The study also reveals that Nigeria's ecosystem in AI is growing rapidly with an estimated growth rate of 27 per cent annually and a projected US\$15bn impact on GDP by 2030, all while the country faces significant digital and welfare inequality. The thematic review reveals that in Nigeria, marketing research around AI is focused primarily on adoption of digital-marketing tools and personalisation, while there is comparatively less attention to issues of consumer behaviour and regulation that are sustainable. The paper asserts that the marketing-policy framework in Nigeria, including data-protection and consumer-protection tools, have not adequately followed the evolution of marketing practice using AI, resulting in governance gaps in the area of algorithmic bias, data extraction and digital exclusion. The study brings together a synthesis framework relating the macro levels AI development indicators to the micro levels of marketing practice and presents a policy roadmap to enable harmonization of AI-enabled marketing and Nigeria's sustainable development goals.

Keywords: Artificial Intelligence, Sustainable development, Marketing policy, Digital marketing, Nigeria, Consumer behaviour.

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1. INTRODUCTION

Artificial intelligence has moved from a specialised computing concern to a general-purpose technology with acknowledged consequences for productivity, service delivery and economic structure worldwide. PwC (2018) estimated that AI could add US\$15.7 trillion to global output by 2030, roughly evenly split between productivity gains and consumption-side effects from new products and services (Federal Ministry of Communications, Innovation and Digital Economy [FMCIDE], 2023). For Africa, the International Finance Corporation projects that strategic AI adoption could add up to US\$234 billion to continental GDP by 2030 (FMCIDE, 2023). Within this continental picture, Nigeria occupies a distinctive position: it possesses the largest population and consumer market in Africa, a youthful and mobile-connected demographic, and a technology start-up ecosystem that attracted roughly a quarter of the US\$1.3 billion raised by African tech start-ups in 2021 (FMCIDE, 2023).

These national conditions have translated into deliberate policy action. In 2023, Nigeria's Federal Ministry of Communications, Innovation and Digital Economy began co-creating a National Artificial Intelligence Strategy (NAIS), culminating in an April 2024 stakeholder workshop and a policy blueprint that targets a US\$15 billion contribution to GDP, a 27 percent annual AI-market growth rate and the equipping of 70 percent of Nigeria's youthful workforce with AI skills by 2030 (BusinessDay, 2026; Policy Vault Africa, 2024). Government-led investment has been complemented by private capital: Google's continuing digital-infrastructure commitment is reported to have generated roughly US\$16 billion in regional economic activity in 2023 alone (Techpoint Africa, 2024). Alongside this policy momentum, Nigeria's underlying digital infrastructure has expanded quickly, with the National Bureau of Statistics (NBS, 2024) recording 164 million active internet users and 219 million mobile-phone subscriptions by the first quarter of 2024, figures that make Nigeria one of the largest mobile-first digital markets on the continent (Ogunbodede & Atchrim, 2025).

Marketing is one of the functional domains most directly exposed to this transformation. AI-enabled tools now support consumer segmentation, personalised advertising, automated pricing, chatbot-based customer service and predictive demand analysis, and a growing empirical literature documents their diffusion into Nigerian firms (Nyong, Samson & Akarika, 2023; Kalu & Ogungbangbe, 2024). Global marketing scholarship has already reframed AI as a structural force in the discipline: Davenport, Guha, Grewal and Bressgott (2020) propose a multidimensional framework for understanding how AI reshapes both marketing strategy and customer behaviour, while cautioning that its diffusion raises unresolved policy questions of privacy, bias and ethics. These questions acquire particular weight in a market such as Nigeria's, where 40 percent of the population lives below the national poverty line of ₦137,430 (approximately US\$381.75) per year (NBS, 2024), and where the same AI systems that promise efficiency gains for

marketers can just as easily deepen exclusion for consumers who lack reliable connectivity, digital literacy or data protection.

Despite the scale of this transformation, the relationship between Nigeria's AI-led economic development trajectory and its marketing-policy architecture has not been systematically examined. Existing Nigerian studies on AI and marketing are predominantly firm-level and sector-specific: they document AI's role in digital-marketing tool adoption (Nwachukwu, 2023), advertising strategy (Israel, Ibiyeye & Adedeji, 2026), e-commerce personalisation (Kalu & Ogungbangbe, 2024) and banking-sector efficiency (Eze, Chinedu & Ugochukwu, 2023), but they rarely connect these firm-level findings to the macroeconomic AI-development indicators being pursued by national policy, nor do they interrogate whether Nigeria's consumer-protection and data-governance instruments are adequate to the marketing practices AI now enables. This is a contextual and analytical gap: the literature on AI and the Sustainable Development Goals (SDGs) shows that AI can enable progress on 134 of 169 SDG targets while simultaneously inhibiting 59 of them, particularly where governance and oversight are weak (Vinuesa et al., 2020), yet this enabling or inhibiting duality has not been examined for Nigeria's marketing-policy environment specifically.

This paper addresses that gap by pursuing four objectives. First, it assesses the trajectory and projected macroeconomic contribution of AI adoption to Nigeria's economic development, using secondary indicators from national and international sources. Second, it evaluates the extent and thematic pattern of AI adoption in Nigerian marketing practice, through a synthesis of the empirical and conceptual marketing literature. Third, it examines the implications of AI-driven economic transformation for sustainability-oriented marketing policy in Nigeria, drawing on the SDG-enablement/inhibition framework. Fourth, it proposes a policy pathway for aligning AI-enabled marketing practice with Nigeria's sustainable-development priorities. The paper's contribution is a synthesis framework that connects macro-level AI-development indicators to micro-level marketing practice and to the specific policy instruments (data protection, consumer protection, digital-skills development) through which Nigeria's marketing regulators can respond.

2. METHODOLOGY

The study adopts a qualitative, secondary-source document-analysis design, appropriate for a policy-oriented synthesis that draws on both macroeconomic indicators and firm-level empirical literature. Two categories of secondary data were assembled. The first category comprises macro-level, quantitative indicators of Nigeria's AI-economic trajectory, sourced from official and institutional documents: Nigeria's National Artificial Intelligence Strategy documentation (FMCIDE, 2023; Policy Vault Africa, 2024), the National Bureau of Statistics (NBS, 2024), the International Finance Corporation's continental projections as reported in FMCIDE (2023), and PwC's (2018) global AI-

economic-impact estimate. The second category comprises Nigerian peer-reviewed and institutionally published studies on AI in marketing and consumer behaviour, identified through structured searches of Google Scholar and affiliated repositories using the terms “artificial intelligence,” “marketing,” “digital marketing,” “consumer behaviour” and “Nigeria,” restricted to items published between 2023 and 2026 to capture the period coinciding with Nigeria's National AI Strategy process.

Ten studies meeting these criteria were retained for thematic synthesis (Table 2). Each study was read in full or in extended abstract form and coded inductively against its stated research focus, generating five recurring themes: digital-marketing and advertising tool adoption; AI-driven personalisation and consumer behaviour; sustainable or green consumer behaviour; e-commerce and pricing optimisation; and sector-specific organisational efficiency. This thematic coding followed the logic of a critical, synthesis-oriented literature review rather than a simple descriptive catalogue, in that studies were grouped and compared by focus and finding rather than listed sequentially by author. The macro-level indicators in Table 1 were similarly compiled and cross-checked across at least two independent secondary sources where possible, to reduce the risk of relying on a single institutional projection. Simple frequency counts and descriptive comparison, rather than inferential statistics, were used to analyse the data, consistent with the exploratory, policy-synthesis purpose of the study. The principal limitation of this design is that it relies on projected and self-reported institutional figures rather than primary firm-level survey data; these projections should therefore be read as directional evidence of Nigeria's AI-development trajectory rather than as precise forecasts.

3. RESULTS AND DISCUSSION

3.1 Objective One: The Macroeconomic Trajectory of AI-Led Development in Nigeria

Table 1: Nigeria's AI-Economic Development Indicators, 2021-2030

Indicator	Value	Reference year	Source
Projected AI contribution to global economy by 2030	US\$15.7 trillion	2030 (projected)	PwC (2018), cited in FMCIDE (2023)
Projected AI contribution to Africa's GDP by 2030	US\$234 billion	2030 (projected)	International Finance Corporation, cited in FMCIDE (2023)
Projected AI contribution to Nigeria's GDP by 2030	US\$15 billion	2030 (projected/target)	FMCIDE (2023); BusinessDay (2026)

Indicator	Value	Reference year	Source
Projected annual AI-market growth rate in Nigeria	27% per annum	through 2030	BusinessDay (2026)
Target share of youth workforce equipped with AI skills	70%	by 2030 (target)	BusinessDay (2026)
Nigeria's share of African tech start-up funding	25% of US\$1.3 billion	2021	FMCIDE (2023)
Active internet users in Nigeria	164 million	Q1 2024	National Bureau of Statistics (2024)
Active mobile-phone subscriptions in Nigeria	219 million	Q1 2024	National Bureau of Statistics (2024)
GDP per capita	US\$362.81 (as reported)	2023	World Bank (2023), cited in Ogunbodede & Atchrim (2025)
Population living below the national poverty line	40% (₦137,430 / ~US\$381.75 per year)	2024	National Bureau of Statistics (2024)

Source: Author's compilation from cited institutional and government sources, 2026.

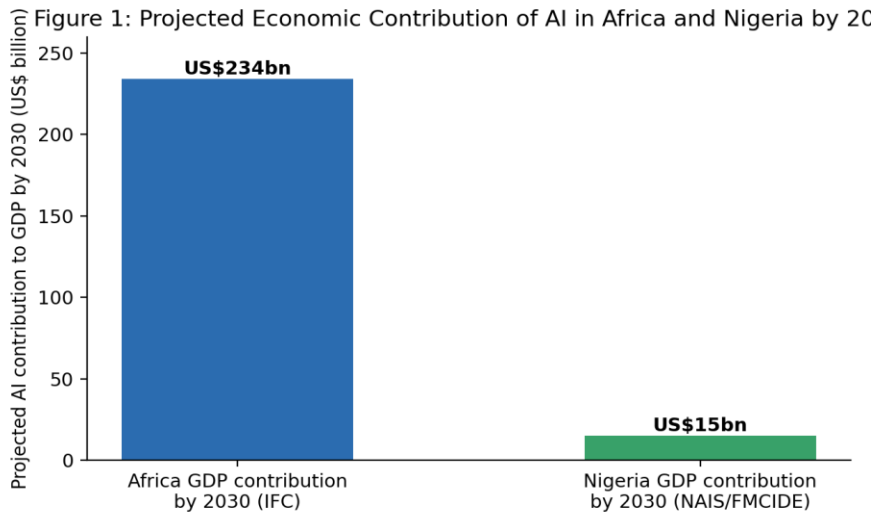


Figure 1: Projected Economic Contribution of AI in Africa and Nigeria by 2030

Table 1 and Figure 1 summarise Nigeria's AI-development trajectory against comparative continental and global benchmarks. Three patterns are evident. First, there is a clear scale gradient: the global AI-economic-impact estimate of US\$15.7 trillion by 2030 (PwC, 2018) dwarfs the IFC's continental projection of US\$234 billion for Africa, which in turn dwarfs Nigeria's own national target of US\$15 billion (FMCIDE, 2023; BusinessDay, 2026). Nigeria's targeted contribution therefore represents a modest but not negligible share of the projected continental gain, and the government's own 27 percent projected annual AI-market growth rate suggests policymakers expect this share to expand rapidly across the decade (BusinessDay, 2026). Second, Nigeria's digital infrastructure base already supports this ambition at scale: 164 million active internet users and 219 million mobile subscriptions (NBS, 2024) constitute one of the largest addressable digital-consumer populations on the continent, a precondition for AI-enabled marketing to reach mass-market scale rather than remaining confined to a small formal-sector elite (Ogunbodede & Atchrim, 2025).

Third, and most significant for a sustainable-development reading of these figures, Nigeria's AI ambitions sit alongside substantial unresolved welfare deficits. Forty percent of the population lives below the national poverty line of approximately US\$381.75 per year, and reported per-capita income for 2023 was as low as US\$362.81 (NBS, 2024; World Bank, 2023, as cited in Ogunbodede & Atchrim, 2025). The juxtaposition of a US\$15 billion AI-growth target with these poverty indicators illustrates the central tension this paper investigates: AI-led growth, as currently projected, is a macroeconomic aggregate that does not by itself specify how its gains will be distributed across a population where four in ten citizens live in poverty. The National AI Strategy's parallel target of equipping 70 percent of Nigeria's youthful workforce with AI skills by 2030 (BusinessDay, 2026) is best read as an implicit distributional mechanism, intended to convert aggregate AI growth into broad-based employability rather than concentrated returns to capital. Whether this skills target materialises at the pace and scale required is, however, an implementation question that lies beyond what secondary macro-indicators alone can answer, and it is precisely this gap between aggregate projection and distributed outcome that motivates the marketing-policy focus of the remainder of this paper.

3.2 Objective Two: AI Adoption in Nigerian Marketing Practice

Table 2: Thematic Synthesis of Reviewed Nigerian Studies on AI and Marketing (2023-2026)

Theme	Representative study (year)	Key finding
Digital marketing & advertising tool adoption	Nwachukwu (2023); Nyong, Samson & Akarika (2023); Israel, Ibiyeye & Adediji (2026); UNIZIK Journal of	AI tools support targeting, automation and content personalisation, but practitioner exposure and

Theme	Representative study (year)	Key finding
	Marketing conceptual (2024)	competence remain uneven across the Nigerian digital-marketing sector.
AI-driven personalisation & consumer behaviour	IJFMR/Academia.edu (2026)	Digital trust and consumer attitudes toward AI significantly predict online purchase intention; consumer awareness partially mediates this relationship.
Sustainable/green consumer behaviour	Oke, Ramachandran, Afolayan, Ihemereze & Udeh (2024); AI-IoT customer-behaviour study (Zenodo)	AI and IoT-based data analysis is beginning to help Nigerian firms align marketing with environmentally conscious consumer decision-making.
E-commerce & pricing optimisation	Kalu & Ogungbangbe (2024)	AI supports personalised consumer experiences, optimised pricing models and targeted marketing within Nigeria's e-commerce sector.
Sector-specific organisational efficiency	Eze, Chinedu & Ugochukwu (2023)	AI adoption enhances organisational efficiency in the Nigerian banking sector, illustrating spillovers beyond marketing narrowly defined.

Source: Author's thematic synthesis of reviewed literature, 2026.

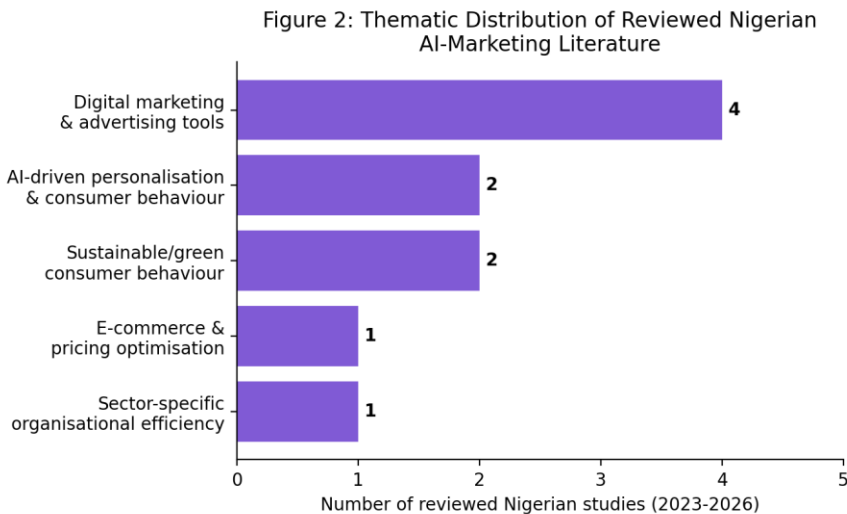


Figure 2: Thematic Distribution of Reviewed Nigerian AI-Marketing Literature

The thematic synthesis in Table 2 and Figure 2 shows that Nigerian marketing scholarship on AI is heavily weighted toward digital-marketing and advertising tool adoption, which accounts for four of the ten reviewed studies. Nyong, Samson and Akarika (2023) and Nwachukwu (2023) both report that AI tools are increasingly used by Nigerian digital marketers for content personalisation, audience targeting and campaign automation, but that exposure to and competence with these tools remains uneven across marketing practitioners, constrained by cost, training and infrastructural access. Israel, Ibiyeye and Adedeji (2026) extend this finding to advertising strategy specifically, documenting how a major Nigerian telecommunications operator has adapted AI-enabled advertising to a globalising competitive environment. Personalisation and consumer-behaviour studies form the second-largest theme: an emerging study using partial least squares structural equation modelling with 303 Nigerian respondents finds that digital trust and consumer attitudes toward AI significantly and positively predict online purchase intention, with consumer awareness acting as a partial mediator (Academia.edu/IJFMR, 2026), a finding consistent with Davenport et al.'s (2020) broader argument that AI is reshaping customer decision journeys globally, not only marketing execution.

Sustainability-oriented consumer-behaviour research forms a smaller but analytically important cluster. Oke, Ramachandran, Afolayan, Ihemereze and Udeh (2024), in a cross-sectional study of southwest Nigeria, report that AI tools are beginning to shape sustainable consumption decisions, while a related AI-and-Internet-of-Things study demonstrates how Nigerian retailers are using real-time consumer-data streams to align marketing with environmentally conscious purchasing behaviour. E-commerce-specific applications, exemplified by Kalu and Ogungbangbe (2024), show AI supporting personalised consumer experiences, optimised pricing models and targeted marketing within Nigeria's expanding online-retail sector, while sector-specific organisational-efficiency research, such as Eze, Chinedu and Ugochukwu's (2023) study of the banking

industry, documents efficiency gains attributable to AI adoption beyond marketing narrowly defined. Taken together, this thematic distribution indicates that Nigerian AI-marketing scholarship remains concentrated on tool adoption and commercial performance outcomes, with comparatively limited empirical attention to the sustainability, welfare and governance dimensions of AI-enabled marketing, an imbalance that mirrors the macro-level tension identified in Objective One and that carries direct implications for marketing policy, discussed next.

3.3 Objective Three: Implications for Sustainability-Oriented Marketing Policy

Read together, the macro-level and firm-level findings support Vinuesa et al.'s (2020) argument that AI functions simultaneously as an enabler and an inhibitor of sustainable-development outcomes, and this duality is clearly visible in the Nigerian marketing context. On the enabling side, AI-driven personalisation and targeting can improve marketing efficiency for Nigerian firms operating in a large but fragmented consumer market, reduce customer-acquisition costs for small and medium enterprises, and, as the sustainability-focused studies in Table 2 suggest, support the promotion of environmentally conscious products and consumption patterns (Oke et al., 2024). AI-enabled advertising and e-commerce personalisation can also extend market access to previously underserved consumers, consistent with Nigeria's mobile-first digital-infrastructure base of over 160 million internet users (NBS, 2024).

On the inhibiting side, the same AI systems raise governance risks that Nigeria's current marketing-policy architecture is not yet fully equipped to address. Davenport et al. (2020) identify privacy, algorithmic bias and ethics as the central unresolved policy questions accompanying AI's diffusion into marketing globally, and each has a distinctly Nigerian inflection. Privacy risk is heightened where AI-enabled personalisation depends on large-scale behavioural-data collection from consumers who may have limited digital literacy or bargaining power over how their data are used; regulatory enforcement action against a major Nigerian financial-services provider for data-protection breaches illustrates that this is not a hypothetical concern (Reuters, 2024, as cited in governance literature on Nigerian AI regulation).

Algorithmic bias risk arises where AI-driven segmentation and pricing models, trained predominantly on data from urban, higher-income, English-literate consumers, systematically underserve or misrepresent rural, lower-income or non-English-speaking segments of Nigeria's market, a risk consistent with the 40 percent poverty prevalence identified in Objective One. Digital-exclusion risk arises because AI-enabled marketing, by construction, privileges consumers who are connected, data-visible and digitally literate, potentially widening the gap between Nigeria's digitally integrated urban-middle-class consumers and its poorer, less-connected majority. None of the ten Nigerian marketing studies reviewed in Table 2 directly examines these governance questions,

which constitutes the central conceptual and contextual gap this paper identifies: Nigeria's marketing-policy literature has, to date, evaluated AI predominantly as a performance technology rather than as a governance and distribution problem.

4. IMPLICATIONS FOR MARKETING POLICY IN NIGERIA

These findings carry three specific implications for Nigeria's marketing-policy environment. First, consumer-data governance instruments, anchored in the Nigeria Data Protection Act and enforced by the Nigeria Data Protection Commission, need explicit extension to cover AI-driven marketing personalisation and profiling practices, given documented enforcement gaps in the financial-services sector (Reuters, 2024). Second, sector regulators and marketing professional bodies should develop AI-marketing codes of conduct that address algorithmic bias in consumer segmentation, consistent with the ethics and bias concerns identified by Davenport et al. (2020) and with the enabling/inhibiting SDG framework of Vinuesa et al. (2020), so that efficiency gains for firms do not translate into systematic exclusion for lower-income or rural consumers. Third, the National AI Strategy's workforce-skilling target should be explicitly linked to marketing and digital-commerce curricula, so that the 70 percent AI-skills target (BusinessDay, 2026) builds Nigerian capacity not only to deploy AI marketing tools but also to audit and regulate them, closing the demonstrated gap between Nigeria's rapidly growing firm-level AI-marketing literature and its comparatively underdeveloped governance scholarship.

5. CONCLUSION

This paper set out to examine how AI-driven economic transformation in Nigeria is reshaping marketing practice and the policy architecture within which that practice operates. Drawing on secondary macroeconomic indicators and a thematic synthesis of ten Nigerian studies, it shows that Nigeria's AI-development trajectory is ambitious and rapidly advancing, but that its distributional and governance implications for marketing remain under-examined in the existing literature, which has concentrated on tool adoption and commercial performance rather than on sustainability and consumer protection. The paper's contribution lies in connecting these two, previously separate, strands of evidence, macro-level AI-economic projection and micro-level marketing practice, into a single synthesis framework, and in showing that Nigeria's marketing-policy instruments have not kept pace with the governance questions this connection raises.

5.1 Recommendations

Based on these findings, the study recommends, first, that Nigeria's National Information Technology Development Agency and Data Protection Commission jointly issue sector-specific guidance on AI-driven marketing personalisation, profiling and pricing, closing the gap between general data-protection law and marketing-specific practice. Second, marketing professional bodies, such as the National Institute of Marketing of Nigeria, should incorporate AI-ethics and algorithmic-bias modules into professional

certification, building the auditing capacity that the reviewed literature shows is currently absent. Third, future Nigerian research on AI and marketing should move beyond tool-adoption and firm-performance framings toward explicit sustainability and equity outcomes, following the lead of the smaller sustainability-oriented cluster identified in this review (Oke et al., 2024), so that the empirical evidence base can better inform the distributional questions raised by Nigeria's national AI-growth targets. Finally, policymakers should consider disaggregating the National AI Strategy's GDP and skills targets by region and income group, enabling future monitoring of whether AI-led growth is narrowing or widening Nigeria's existing digital and economic inequalities.

References

- Academia.edu/International Journal for Multidisciplinary Research (IJFMR). (2026). The impact of AI-driven personalisation on consumer buying behaviour in Nigeria. *International Journal for Multidisciplinary Research*. <https://www.academia.edu/172246863/>
- BusinessDay. (2026, September 21). Nigeria's AI strategy aims for \$15bn GDP boost, 70% AI skills by 2030. *BusinessDay Nigeria*. <https://businessday.ng/technology/article/nigerias-ai-strategy-aims-for-15bn-gdp-boost-70-ai-skills-by-2030/>
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48(1), 24-42. <https://doi.org/10.1007/s11747-019-00696-0>
- Eze, S., Chinedu, O., & Ugochukwu, N. (2023). Enhancing organizational efficiency through AI in the Nigerian banking sector. *Journal of Financial Services*, 18(1), 78-92.
- Federal Ministry of Communications, Innovation and Digital Economy [FMCIDE]. (2023, August 28). National Artificial Intelligence Strategy. <https://fmcide.gov.ng/?p=518>
- Israel, E., Ibiyeye, O. F., & Adedeji, M. N. (2026). Impact of artificial intelligence on advertising strategies of MTN Nigeria in the era of globalisation. *Impact International Journals and Publications*.
- Kalu, C., & Ogungbangbe, O. (2024). Leveraging AI for enhanced e-commerce personalisation and pricing in Nigeria. *UNIZIK Journal of Marketing (UJofM)*, 1(3), 1-14. <https://journals.unizik.edu.ng/ujofm/article/download/4765/3897/10841>
- National Bureau of Statistics [NBS]. (2024). *Nigerian telecommunications and digital economy statistics, Q1 2024*. National Bureau of Statistics, Nigeria.
- Nwachukwu, D. (2023). Artificial intelligence and digital marketing in Nigeria. *International Journal of Management and Marketing Systems*, 13(9), 1-31. <https://www.academia.edu/106554560/>
- Nyong, T. E., Samson, A. C., & Akarika, D. C. (2023). Role of artificial intelligence in enhancing digital marketing in Nigeria. *AKSU Journal of Communication Research (AJCR)*, 9(1), 1-18. <https://www.researchgate.net/publication/372966882>

- Ogunbodede, K. F., & Atchrim, I. A. (2025). Artificial intelligence in Nigeria: A catalyst for economic growth, innovation, and technological advancement. *FNAS Journal of Computing and Applications*, 2(2), 111-116.
- Oke, T. T., Ramachandran, T., Afolayan, A. F., Ihemereze, K. C., & Udeh, C. A. (2024). The role of artificial intelligence in shaping sustainable consumer behavior: A cross-sectional study of Southwest, Nigeria. *International Journal of Research and Scientific Innovation (IJRSI)*, 11(1).
- Policy Vault Africa. (2024). *National Artificial Intelligence Strategy 2024* [Draft]. Federal Ministry of Communications, Innovation and Digital Economy, Nigeria. <https://www.policyvault.africa/wp-content/uploads/2024/08/NGA2500.pdf>
- PwC. (2018). *PwC's global artificial intelligence study: Exploiting the AI revolution*. PricewaterhouseCoopers.
- Reuters. (2024, August 22). Nigerian data agency fines Fidelity Bank for breaches. *Reuters*. <https://www.reuters.com/business/finance/nigerian-data-agency-fines-fidelity-bank-breaches-2024-08-22/>
- Techpoint Africa. (2024, September 25). How AI is set to boost Africa's economy. *Techpoint Africa*. <https://techpoint.africa/2024/09/25/ai-set-boost-africas-economy/>
- Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Felländer, A., Langhans, S. D., Tegmark, M., & Fuso Nerini, F. (2020). The role of artificial intelligence in achieving the Sustainable Development Goals. *Nature Communications*, 11, Article 233. <https://doi.org/10.1038/s41467-019-14108-y>
- Zenodo (Author collective). (2026). AI and IoT-based customer behaviour analysis for business enhancement in Nigeria. *Zenodo*. <https://zenodo.org/records/19881984>