ORGANISATION DEVELOPMENT INSTITUTE (ODI) GHANA

IGNITING GROWTH · INSPIRING CHANGE

2026 EDITION

ODI BI-ANNUAL INTERNATIONAL ACADEMIC CONFERENCE FOR SCHOLARS AND RESEARCHERS

BOOK OF ABSTRACTS

Theme:

WONDERS OF ARTIFICIAL INTELLIGENCE IN THE 21ST CENTURY: LESSONS FOR THE RESEARCHERS, SCIENTISTS, POLICY MAKERS AND SCHOLARS IN AFRICA

16TH – 20TH NOVEMBER, 2026

VENUE: OD INSTITUTE – GHANA

www.odinstitute.edu.gh

Table of Contents

Page



01 About the OD Institute, Ghana 2

02 Our Team 4

03 Programme of Event 5

04 Summary of Abstracts Received 6

05 Schedule of Presentations 22

06 List of Observers 27

07 Catalogue of Abstracts 28

ABOUT OD INSTITUTE, GHANA

The OD Institute is Africa's premier tertiary educational institution solely devoted to training Organisation Development (OD) Practitioners and Change Managers. It is a rigorous practical and research oriented institution offering the Post Graduate Diploma (PGD) and Master of Arts (MA) programmes in Organisation Development.

The OD Institute was established after a decade of institutional partnership between the University of Cape Coast (UCC) in Ghana and the Organisation Capacity Improvement Consultants (OCIC) International, United Kingdom, in running the programme at the Masters and Post Graduate Diploma levels between 2003 and 2014.

The OCIC has transformed to become the OD Institute which is affiliated to the University of Cape Coast and the International Society for Organization Development and Change (ISODC),USA and accredited by Ghana Tertiary Education Commission (GTEC), formerly the National Accreditation Board (NAB), Ghana, to run courses in Organisation Development at the graduate level.

The PGD and MA programmes in OD offered at the OD Institute are well informed by the current trends and changes in the global economy and the need for Africa to harness its Institutional growth and leadership potential in the global economy.

Participatory and Experiential Action Learning coupled with high level of professionalism are integral components of Africa's premier transformative tertiary education offered through the OD Institute.

ORGANISATION DEVELOPMENT (OD) INSTITUTE, GHANA

Africa's Premier Graduate School in OD

WHAT WE DO

We are a tertiary educational and consultancy institution dedicated to developing transformational leaders and change managers across Africa and beyond

OUR UNIQUE APPROACH

- Data-Driven Strategies
- Pragmatic, Hands-On Facilitation
- Globally Benchmarked OD Programmes
- Leadership for Real-World Impact



OUR PROGRAMMES

- **Post-Graduate Diploma in Organisation Development**
- **Master of Arts Degree in Organisation Development**
- **Executive & Professional Training**
- **OD Short Courses & Certification**

OUR CONSULTANCY SERVICES

Strategic Planning Intervention
Team Development Intervention
Leadership Development Intervention
Change Management Intervention
Train the Trainer Intervention
Organisational Assessments

Accredited by: Ghana Tertiary Education Commission

Affiliated to: University of Cape Coast; International Society for Organization Development and Change

Partner with Us

Build agile, resilient, and high-performing organisations with Africa's trusted OD institution

Visit Us https://odinstitute.edu.gh **Digital Address** GE - 238 5549

Office Address | 17 Abuakwa Lane, Haatso Accra, Ghana

Call Us +233 302 945 083
+233 243 139 977

Organisation Development Institute, Ghana

Our Team



Prof. Albert Addo-Quaye
Council Chair, OD Institute



Prof. Noble Kumawu
President, OD Institute



Prof. Raymond A. Atuguba
Council Member, OD Institute



Prof. Egbunu Audu Dangana
International Consultant, OD Institute



Prof. Simon Mariwah
Dean, Faculty of Social Sciences, UCC



Dr. Charles Asare Bamfo
Faculty, OD Institute



Dr. Kwasi Addei Mensah
Faculty, OD Institute



Dr. Martin Akogti
Associate Consultant, OD Institute



Dr. Alice Anima Aboagye
Associate Consultant, OD Institute



Dr. Razak Imoro
Faculty, OD Institute

PROGRAMME OF EVENT

ARRIVAL & REGISTRATION: **Monday, 16th November 2026 – 8:00 AM – 5:00PM**

OPENING CEREMONY: **Tuesday, 17th November 2026 - 8AM - 11:00AM**

- **Opening Prayer**
- **Introduction of Guests**
- **Cultural Display**
- **Speech by International Consultant**
- **Welcome Address – ODI President**
- **Announcements**
- **Group Photograph**
- **Cocoa/Tea/Coffee Break**

SUMMARY OF ABSTRACTS RECEIVED

ODI Bi-Annual International Academic Conference for Scholars and Researchers 2026

Catalogue of Abstracts – November 2026

A total of 122 abstracts from 40 institutions are included in the Catalogue of Abstracts. They are listed below by the institution of the first (corresponding) author. The "Abstract No." column gives the reference number of each abstract in the Catalogue of Abstracts.

Federal Polytechnic, Ede, Osun State

S/No	Name of Author	Abstract Title	Abstract No.
1	IBRAHIM Rasheedat Adenike	Evaluating the Influence of AI Literacy on Workforce Readiness among Nigerian Youths Using Multiple Regression Approach: A Case Study of Osun State	020
2	Dr. Sunday Ebhodaghe AKASI, FNIOTIM	Leveraging Artificial Intelligence in Educational Management: A Catalyst for Sustainable Development in Nigerian Institutions	024
3	CHIWUZIE Augustina	Rethinking Professional Preparation in Real Estate Education: Sense of Belonging, Professional Identity and the Emerging Role of Artificial Intelligence	029
4	Ayanrinde, FA; Oyewole, SO; Ayanrinde, OA; Oyewole, AL	Artificial Intelligence Applications in Charcoal Marketing and Their Impact on Women's Livelihoods in Ibarapa North Local Government Area of Oyo State, Nigeria	043
5	Bldr. Gambo, Makanjuola Dare	Assessing Solid Waste Management in Osun State, Nigeria for the Adoption of Artificial Intelligence towards Sustainable Environmental Management	044
6	KADIR, Mumini	The Impact of Artificial Intelligence Adoption on Food Security among Smallholder Farmers in Kwara State, Nigeria	052
7	AJE, Oluranti Grace	Time Series Forecasting for Climate Data: A Statistical Comparison of ARIMA and Machine Learning Approaches in Nigeria	053
8	Odeyemi Felix Gbenga, Suru, Whenayon Peter, Aroge Sunday Kayode, Amoo Nureni Babatunde, Isma'il Abdullahi Abdullahi, Apata Olaniyi Clement, Tokede Clement Adedapo	Artificial Intelligence and Modern Surveying: A Comparative Evaluation of Differential Global Positioning System (DGPS) and Total Station Performance in Topographic and Engineering Surveys	062

S/No	Name of Author	Abstract Title	Abstract No.
9	Suru, Whenayon Peter, Odeyemi Felix Gbenga, Aroge Sunday Kayode, Amoo Nureni Babatunde, Isma'il Abdullahi Abdullahi, Apata Olaniyi Clement, Tokede Clement Adedapo	Artificial Intelligence and UAV Technology for High-Resolution Campus Mapping: A Case Study of Federal Polytechnic Ede North Campus, Nigeria	063
10	Ebenezer Akin OLUWASOLA and Ifedolapo Omowumi AMEEN	Artificial Intelligence in Strength Characteristics of Bitumen Incorporating Bamboo Leaf and Cow Bone Ash	068
11	Apata O. C., Ogunyemi B. R., Adejumobi M. K. & Adeleke J. S.	Assessing the Impact of Artificial Intelligence on Project Management of Construction Organizations	072
12	ADEBAYO Azeezat Ayodele	The Role of Artificial Intelligence in Enhancing Demographic Data Collection and Population Forecasting	077
13	OLAWEPO, Samson Olaide; Giwa, Bashiru Olalekan & BABALOLA, Jamiu Abidemi	Artificial Intelligence for Health Equity: Evaluating the Impact of AI Tools on Service Delivery and Resource Allocation in Nigeria's Primary Healthcare Centers (2020–2025)	079
14	Dr. Adeoye Abiodun ILELADEWA	Development of an Automated Evaluation System for Determining the Impact of Drug Expiry Date Validation on Healthcare	083
15	Ayofe Hammed, Oladosu Wasiu, Akande Nneka	Artificial Intelligence and Tableware Maintenance: Evaluating AI-Enabled Practices as a Determinant of Quality Service Delivery in the Hospitality Sector. Case Study of Hospitality Management Restaurant, Federal Polytechnic Ede, Osun State Nigeria	089
16	Dr. Osinubi Olufemi Bankole	Assessment of Stakeholders' Opinions on Cultural Tourism Opportunities for Long-Term Development of Osun Osogbo Grove	092
17	Adeleye Adeniyi	The Application of Artificial Intelligence in the Marketing of Consumer Goods in Osun State, Nigeria	099
18	Dr. Isiaka Tunji Adelabu & Mrs. Tawakalitu Yetunde Adelabu	Utilisation of Artificial Intelligence in the Determinants of Effective Tax Rate of Listed Non-Financial Firms in Nigeria	104

S/No	Name of Author	Abstract Title	Abstract No.
19	Samuel Sunday Oni	Artificial Intelligence (AI) and Humanity: Examining the Intersection of Artificial Intelligence and Human Society	108

Federal University of Education, Pankshin, Plateau State

S/No	Name of Author	Abstract Title	Abstract No.
20	Sabina Joseph (PhD); Nokshuwan Emmanuel Jidauna & Polmi Ibrahim	Artificial Intelligence, Academic Integrity and Students' Attitudes towards Plagiarism and the Unacknowledged Use of AI-Generated Content	002
21	Sabina Joseph (PhD); Nokshuwan Emmanuel Jidauna & Polmi Ibrahim	Artificial Intelligence Competencies and Perceived Workplace Readiness among Final-Year University Students in Plateau State, Nigeria	007
22	Dr. Boyi James E.	Artificial Intelligence in Woodwork Technology Education: Transforming Skills Development, Instructional Delivery and Graduate Employability in Nigeria	009
23	PADUNG, Leonard Dokbisa, PhD	Challenges and Prospects of Artificial Intelligence (AI) Integration in Educational Management in Public Secondary Schools in Plateau State, Nigeria	012
24	Rahila Samuel Milaham (Ph.D)	Effects of AI-Powered Speech-to-Text Strategy on Literacy Skills of Learners with Hearing Impairment in Primary Schools in Nigeria	017
25	Tappi Danjuma Felix & Taka, Rotwera Goki	Perceived Benefits and Challenges of Artificial Intelligence in Final-Year Research Project Development among Undergraduate Students in Plateau State, Nigeria	027
26	Dr. Toma Maina Antip; Cyril Yilyop Wuyep & Yakubu Nehemiah Bello	University Students' Perceptions of AI-Based Early-Warning Systems for Floods and Other Environmental Hazards in Plateau State, Nigeria	054
27	Sabina Joseph (PhD); Nokshuwan Emmanuel Jidauna & Polmi Ibrahim	University Students' Perceptions of AI-Enabled Precision Agriculture and Its Potential Contribution to Food Security in Plateau State, Nigeria	055

Abdullahi Fodio University of Science and Technology, Aliero, Kebbi State

S/No	Name of Author	Abstract Title	Abstract No.
28	Ibrahim M., Na-Allah M.S., David P.G. and Ibrahim Y.J.	AI-Driven Soil Fertility Management, Precision, Sustainability and Climate Resilience in Agriculture: A Review	038
29	Gwimmi, D. P., Ibrahim, R., Ibrahim, M., Nafiu, A. K., NaAllah, M. S. and Wele, H. K.	Assessment of Costs and Returns of Small Scale Honey Production in Abdullahi Fodiyo University of Science and Technology Aliero, Kebbi State, Nigeria	045
30	Jega, Ibrahim Shehu	Next-Generation Aquaculture: An AI Framework for Fisheries Conservation and Food Security in Nigeria	048
31	Gado A. A., Umar A. B., Gwani M. and Kangiwa U. M.	AI-Based Predictive Modelling and Analysis of Solar Photovoltaic Electricity Generation and Application to Electric Vehicles	060
32	Yusuf Babangida Attahiru and Musa Sobirah Azumi	Artificial Intelligence-Driven Sustainable Construction: A Comparative Assessment of Bamboo-Reinforced Concrete and Conventional Design Standards in Africa	071
33	Abubakar Ahmad Aliero	Improving Machine Translation Using an Efficient Dual-BERT Adversarial Network (DBAN) Model for User-Generated Content	075
34	Ahmad Banji Jafar and Yusuf Sulaiman Rumu	Nonlinear Mixed Convective-Radiative Nanofluid Flow over a Nonlinear Stretching Sheet with Frictional Heating	085
35	Mohammed Mohammed Kpakiko, PhD, CLN	Adoption of Artificial Intelligence for Library and Information Services in State University Libraries in North-West and North-Central Nigeria	107

Federal University Gusau, Zamfara State

S/No	Name of Author	Abstract Title	Abstract No.
36	UMAR, Sodangi Ph.D. & IBRAHIM, Adamu	Technology Integration in Teaching and Learning Process: A New Trend in Mathematics Education	032
37	Abdulrahman Adamu, PhD & YUSUFU Ahmed Audu, PhD	Artificial Intelligence (AI) and Food Security in Nigeria: Policy Pathways for Sustainable Agricultural Transformation	040
38	Abdulwahid A Naibi, Muhammad, S.U, Auwal Muttaka	Artificial Intelligence in Emergency Toxicology: Current Advances and Clinical Applications	081

S/No	Name of Author	Abstract Title	Abstract No.
39	Sanusi Bello Mada, Tosin Oguntunde, Kabiru Usman	Corn Silk Extract Improves Serum Estrogen Level and Osteoanabolic Markers in Ovariectomized Female Rats	082
40	Aminu Idris PhD	Nigerian Border Security Governance: The Role of Infrastructure, Cooperation and Artificial Intelligence	096
41	Abdulrauf Abdullahi, PhD	The Roles of Artificial Intelligence in Effective Project Monitoring	102
42	Ahmed Ibrahim, Ph.D	Colonial Infrastructure and Urbanization of Birnin Kebbi Town, 1928–1960	116
43	Dr. Muhammad Bello	Prospects and Challenges of the Use of Artificial Intelligence (AI) for Learning: Arabic Scholars in Perspective	121

Federal University of Technology, Ikot Abasi (FUTIA), Akwa Ibom State

S/No	Name of Author	Abstract Title	Abstract No.
44	Umeagukwu Okwudili Emmanuel	Multimodal Artificial Intelligence for Intelligent Teaching, Student Engagement, and Learning Outcome Prediction in Higher Education	025
45	Ben, Promise Maurice	Comparative Random Forest and Classical Statistical Analysis of Yield-Related Traits in Watermelon Genotypes for Precision Breeding	046
46	Ufia, Daniel Victor, Umoh, Sifon James, Agada, Daniel Ichekan	Artificial Intelligence-Driven Predictive Maintenance and the Performance of Public Buildings in South-South Nigeria: A Machine Learning-Based Quantitative Assessment	070
47	Archibong, Abasiemek Aniefiok	Physics-Informed Neural Network Surrogate Optimization for Fuel Burn Minimization in Transonic Widebody Aircraft under Aerostructural Constraints	076
48	Owoidoho Ikpong Brown	Artificial Intelligence-Driven Literature Review Automation and Research Gap Identification for Accelerating Scientific Innovation in African Universities	115
49	Joy Ekominam Edet	Generative Artificial Intelligence as a Collaborative Research Assistant: Opportunities, Ethical Challenges, and Policy Frameworks for Scholarly Writing in African Universities	117

Federal Polytechnic Nasarawa, Nasarawa State

S/No	Name of Author	Abstract Title	Abstract No.
50	Hasheem Abdul Mohammed	Artificial Intelligence, Explainable Machine Learning, and Statistical Computing for Transforming Mathematics and Statistics Education in Africa	008
51	Dahiru Usman Jnr	Artificial Intelligence, Machine Learning, and Predictive Analytics for Developing Future-Ready Statisticians in Africa's Data-Driven Economy	010
52	Jibril Usman Bawa	Artificial Intelligence, Building Information Modelling, and Generative Design for Developing Future-Ready Architects in the Construction 5.0 Era	064
53	Dr. Okechukwu Innocent Nnamdi	Artificial Intelligence, Digital Twins, and Smart Manufacturing for Developing Future-Ready Mechanical Engineers in the Industry 5.0 Era	065
54	Shuaibu Umar Onoze	Artificial Intelligence, Generative AI, and Digital Procurement Systems for Enhancing Quantity Surveying Practice in the Construction 5.0 Era	067

Delta State University, Abraka, Delta State

S/No	Name of Author	Abstract Title	Abstract No.
55	Okeke Kendra Erere	Artificial Intelligence and Digital Skills Integration in Industrial Technology Education for Enhanced Graduate Employability in Nigeria	004
56	Ufuoma Godstime Sorhue	Leveraging Artificial Intelligence for Precision Livestock Farming and Sustainable Animal Production	047
57	Abushe Omesiri Precious and Ekokogbe Otega Oghenebrorhie	Perception on the Use of Artificial Intelligence in the Practice of Organic Farming among Vegetable Farmers in Rural Areas: Implication for Food Security	049
58	Dr. Patience Ewomaoghene Okoro	Application of Artificial Intelligence in Small and Medium Enterprises in Delta South Senatorial District	088

Federal Polytechnic, Kaltungo, Gombe State

S/No	Name of Author	Abstract Title	Abstract No.
59	Kabiru Abubakar Yahya & Benjamin Abba Stephen	Secondary School Students' Attitudes toward ICT in Kaltungo, Gombe State, Nigeria	030
60	Mohammed Adamu Sule	Wonders of AI in the 21st Century: Transformative Lessons for Engineering Practice, Researchers, and Policy Makers in Africa	078
61	Maspalma, Godwin Anthony, Neksumi Musa, Mohammad Bashir and Dangiwa Grace Ajima	Artificial Intelligence in Analytical Chemistry: Current Advances and Future Directions	080
62	Mohammed Musa	The 5th Industrial Revolution and the Role of Artificial Intelligence in Academic Libraries: A Review	122

Nigerian Army College of Education, Ilorin, Kwara State

S/No	Name of Author	Abstract Title	Abstract No.
63	EYEBHORIA, Otoiede Marvellous	Artificial Intelligence Adoption and Administrative Effectiveness in Nigerian Tertiary Institutions: Implications for Educational Management in Kwara State Public Institutions	003
64	MAGAYAKI, Abdulsalam Usman	Balancing Automation and Empathy: Role of Artificial Intelligence and Emotional Intelligence in 21st Century School Administration	011
65	Akinjiola E.Y, Adeshina C.F	University Undergraduate Awareness and Use of ICT in Mathematics Learning: An Assessment for AI and Technology Readiness	035
66	MOHAMMED, Abubakar Ahmad, Ph.D	Artificial Intelligence and the Transformation of Historical Scholarship: Opportunities, Challenges and Future Directions	111

Yusuf Maitama Sule Federal University of Education, Kano

S/No	Name of Author	Abstract Title	Abstract No.
67	Jummai Ndana Suleiman	Nurturing Young Voices in the Age of Artificial Intelligence: Reimagining Language Development and Human-Centred Digital Pedagogy in Early Childhood Care and Education	026
68	Umar Sani Gwarzo (PhD)	The Utilization of Artificial Intelligence (AI) in the Teaching and Learning of Some Perceived Difficult Chemistry Concepts at the Undergraduate Level	034
69	Ishaq Mohammed Aliyu and Hamisu Abubakar Mahraz	Isolation, Structural Characterization and Bioactivities of Antioxidant and Antimicrobial Compounds from Prosopis africana Stem Bark	084
70	Sha'aibu Yawale Yakasai	Artificial Intelligence in Sports Management: Prospects and Challenges in Kano State, Nigeria	091

Abia State College of Education (Technical), Arochukwu, Abia State

S/No	Name of Author	Abstract Title	Abstract No.
71	Chukwuma Samuel Chinonso	Curriculum Decolonization and Indigenous Knowledge in AI-Integrated TVET in Federal Universities and Colleges of Education (Technical) of South-East Nigeria	014
72	Marcus, Onyekaozuru Patricia	Digital Competency Gaps in Office Technology and Management Education for Entrepreneurship Development among National Diploma II Students of Federal Polytechnics in South-East Nigeria	015
73	Wogu S.N.	Technopreneurship Education and the Transformation of Food Security in Africa: Nigeria as a Case Study for Examining the Role of Innovation-Driven Entrepreneurship in Agricultural Development	051

Adamu Augie College of Education, Argungu, Kebbi State

S/No	Name of Author	Abstract Title	Abstract No.
74	Safiya Muhammad Mairiga and Dr. Bashiru Musa Said	Consequences of Low Female Enrolments in Secondary Schools in Kebbi State	013

S/No	Name of Author	Abstract Title	Abstract No.
75	Dr. Usman Gado Birnin Kebbi, Dr. Faruk Siddik Tilli and Dr. Bashiru Musa Said	Effects of Inadequate Laboratory Equipment/Resources on Academic Performance of Science Students among Senior Secondary Schools	018
76	Abdullahi Umar, Ahmad Muhammad, Sama'ila Sai'idu and Dr. Bashiru Musa Said	Factors Determining the Choice of Career among Secondary School Students in Kebbi State	021

Nigerian Army Institute of Science Education and Technology, Ilorin, Kwara State

S/No	Name of Author	Abstract Title	Abstract No.
77	Usman Tukon Ibrahim	Wonders of Artificial Intelligence in Sub-Saharan African Agriculture: Pathways to Precision Farming, Reduced Post-Harvest Loss, and Nutrition Security	057
78	Abubakar Hassan	AI and Cyber Security Management: Enhancing Threat Detection, Incident Response and Vulnerability Assessment in Contemporary Enterprise Networks	058
79	Nuhu Constant Abdulsalam FSS, MTRCN, MNITP, FDMSS, FCISM, MSc	Artificial Intelligence and Humanity in the 21st Century: Balancing Technological Advancement with Human Values, Ethics and Sustainable Development in Africa	110

Nigerian Defence Academy, Kaduna

S/No	Name of Author	Abstract Title	Abstract No.
80	Abubakar Saidu	Artificial Intelligence and Information and Communication Technology: Convergence, Applications, Challenges, and Future Directions	061
81	Dr CHINYEAKA NWOKODI NWOLOZIRI	The Role of Artificial Intelligence (AI) in Building Green Supply Chains: Carbon Emission Tracking and Optimization	100
82	Victor Nyam	Title Not Provided by Author	103

Ogbonnaya Onu Polytechnic, Aba, Abia State

S/No	Name of Author	Abstract Title	Abstract No.
83	Dr. Onwuneme, Nne Lovina	Artificial Intelligence and the Emerging Digital Economy	090

S/No	Name of Author	Abstract Title	Abstract No.
84	Onuka, Iheoma Rosemary & Dr. Onwuneme, Nne Lovina	From Traditional to Smart Cooperatives: The Role of Artificial Intelligence	095
85	Maduka, Favour Patience & Dr. Onwuneme, Nne Lovina	Reimagining Cooperative Management in the Artificial Intelligence Era: Implications for Economic Growth	097

Akperan Orshi Polytechnic, Yandev, Benue State

S/No	Name of Author	Abstract Title	Abstract No.
86	Odoh Ochaba Ejoga	AI and Agriculture: Digital Transformation of Livestock Production in Nigeria: A Critical Review Artificial Intelligence Application	037
87	Vakaa Isaac Torkula	AI and Engineering: The Role of AI in the Development of the Automotive Industry via Robotics in Africa, and Nigeria in Particular	059

Federal College of Education (Special), Oyo, Oyo State

S/No	Name of Author	Abstract Title	Abstract No.
88	Abioye Jemimah Anuoluwapo Iyabode	A Critical Review of Artificial Intelligence-Powered English Language Tools and Yoruba Linguistic Identity among Children with Learning Disabilities in Nigeria	105
89	OGUNYEMI, Funmilayo Elizabeth	Artificial Intelligence (AI) and the Future of English Language Teaching in African Higher Institutions: Opportunities, Challenges and Ethical Considerations	109

Gombe State Polytechnic, Bajoga, Gombe State

S/No	Name of Author	Abstract Title	Abstract No.
90	Murtala Mohammed Alamai	Smart Leadership Systems Applications and Concepts in Tourism and Hospitality Businesses in Nigeria: Study of Bauchi State	098
91	Lazarus Ayuba Budidi & Umar Abubakar	Linguistic Bias in Generative AI against Indigenous African English Lexical Innovations	120

Kashim Ibrahim University, Maiduguri, Borno State

S/No	Name of Author	Abstract Title	Abstract No.
92	Umar Zannah	Using Statistical Learning Algorithms to Identify and Support At-Risk Students in Tertiary Mathematics	036
93	Babagana Gutti	Artificial Intelligence as a Research Assistant: Opportunities and Ethical Considerations for African Scholars	113

National Institute of Construction Technology and Management (NICTM), Uromi, Edo State

S/No	Name of Author	Abstract Title	Abstract No.
94	Ehikhamenle Joseph	Development of an Intelligent Web-Based Clearance Management System Using Adaptive Multi-Agent Coordination and Blockchain Technology: A Case Study of the National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria	073
95	Emmanuel Ewanose Ozah	Digital Innovation in Science Laboratory Management for Entrepreneurship and Skills Development in Technical Education: A Case Study of the National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria	074

Ogun State Institute of Technology, Igbesa, Ogun State

S/No	Name of Author	Abstract Title	Abstract No.
96	Engr. Dr. Dauda Adekunle FOLARIN & Engr. Oluwadare Olatunde AKINROGUNDE	Artificial Intelligence and the Future of Higher Education in Nigeria: Opportunities, Challenges, and Policy Implications	006
97	Dauda A. Folarin & Kabiru A. Hassan	Artificial Intelligence for Distribution System Reliability: A Review of Machine Learning, Deep Learning, and Reinforcement Learning Techniques	066

Zamfara State University, Talata Mafara, Zamfara State

S/No	Name of Author	Abstract Title	Abstract No.
98	Abbas Sani Dahiru	Relationship between Digital Infrastructure and Principals' Administrative Efficiency in Secondary Schools in Zamfara State, Nigeria	028
99	Huzaifa Aliyu Jangebe, PhD.	Artificial Intelligence in Digital Da'wah: Institutional Governance, Communication Management, and Pedagogy in Zamfara State, Nigeria	114

Alvan Ikoku Federal University of Education, Owerri, Imo State

S/No	Name of Author	Abstract Title	Abstract No.
100	Dr. Shaibu, Ogwuche Gabriel	Adoption of Artificial Intelligence in Supply Chain Management: Barriers and Enablers in Developing Economies	087

College of Agriculture, Science and Technology, Jalingo, Taraba State

S/No	Name of Author	Abstract Title	Abstract No.
101	Sambo, Umar Mohammed	Artificial Intelligence and the Future of Food Security in Nigeria: Harnessing AI for Reducing Food Loss and Waste	042

College of Education, Gindiri, Plateau State

S/No	Name of Author	Abstract Title	Abstract No.
102	Nanyar Ladon Josiah	Digital Leadership for Sustainable Resource Management and Institutional Excellence in Nigeria Higher Institutions	016

Federal College of Education (Technical), Akoka, Lagos State

S/No	Name of Author	Abstract Title	Abstract No.
103	Ogunrinbokun, Bamidele Emmanuel	Adoption of Artificial Intelligence (AI) in Teaching and Learning of Accounting Education in Nigerian Universities: An Empirical Investigation	001

Federal College of Education, Jama'are, Bauchi State

S/No	Name of Author	Abstract Title	Abstract No.
104	Abdullahi Bello	Libraries as Safe Learning Spaces: Promoting Digital Responsibility and Psychological Well-Being among Children in Northern Nigeria	119

Federal College of Education, Odugbo, Benue State

S/No	Name of Author	Abstract Title	Abstract No.
105	Patrick Adakole John, Elisha Ikpe and Ugbede D. Omede	Artificial Intelligence and Food Security in Africa: Opportunities, Challenges, and Lessons for Researchers, Scientists, Policymakers and Scholars	041

Federal Polytechnic Damaturu, Yobe State

S/No	Name of Author	Abstract Title	Abstract No.
106	Shettima U. Ali, Zakariyyah B. Olatunde, Mubarak Suleiman, Bukar M. Adam	Artificial Intelligence-Assisted Geotechnical Assessment and Remediation of Gully Erosion	069

Federal Polytechnic, Ilaro, Ogun State

S/No	Name of Author	Abstract Title	Abstract No.
107	Olakunle Ogunbi & Jumoke Soyemi	Teacher Training and Readiness for AI Integration in the Developing Nations	031

Federal Polytechnic N'yak, Shendam, Plateau State

S/No	Name of Author	Abstract Title	Abstract No.
108	Iliya Michael Waba	Smart Aquaculture for Sustainable Food Security in Vom, Jos South LGA of Plateau State, Nigeria: Integrating IoT, Recirculating Systems, and Renewable Energy for Climate-Resilient Fish Production	050

Federal University, Dutse, Jigawa State

S/No	Name of Author	Abstract Title	Abstract No.
109	Hamidu Mohammed Jada, Ph.D.	Influence of Accountability on the Management of Resources in Universities in North-East Geopolitical Zone, Nigeria	022

Federal University Wukari, Taraba State

S/No	Name of Author	Abstract Title	Abstract No.
110	Gonap Elisha Gobin	The Role of Artificial Intelligence in Enhancing Guest Services and Delivering Exceptional and Satisfactory Service in Selected Hotels in Jos Metropolis, Plateau State, Nigeria	101

Kebbi State Polytechnic, Dakingari, Kebbi State

S/No	Name of Author	Abstract Title	Abstract No.
111	Isah Balarabe and Sufiyanu Muhammad Dakin-Gari	The Impact of Entrepreneurship Education on the Development of Artificial Intelligence (AI) Entrepreneurial Skills among Polytechnic Students in Nigeria	033

Nigerian College of Aviation Technology (NCAT), Zaria, Kaduna State

S/No	Name of Author	Abstract Title	Abstract No.
112	Murtala Ibrahim, PhD & Danjuma Adamu Ismaila, PhD	Artificial Intelligence and Management of Tertiary Institutions in Nigeria	005

Nuhu Bamalli Polytechnic, Zaria, Kaduna State

S/No	Name of Author	Abstract Title	Abstract No.
113	Sa’ad Ibrahim (CLN)	Utilization of Telemedicine Platforms for Patient Management by Medical Doctors in Selected Hospitals in Kaduna State, Nigeria	086

Taraba State University, Jalingo, Taraba State

S/No	Name of Author	Abstract Title	Abstract No.
114	Bakari D.; Emmanuel G.; Samuel P. and Baraya Sunday Gideon	Integration of Artificial Intelligence into the Curriculum of Higher Institutions of Learning for Sustainable Educational Reform in the 21st Century: A Philosophical Debate among African Scholars and Researchers	023

Waziri Umaru Federal Polytechnic, Birnin Kebbi, Kebbi State

S/No	Name of Author	Abstract Title	Abstract No.
115	Dr. Bashiru Musa Sa'id & Dr. Zayyanu Usman Bashar	Using Artificial Intelligence (AI) to Improve Food Security through Ethical Agriculture by Using Education, Creativity and Responsibility	056

Yaba College of Technology, Lagos State

S/No	Name of Author	Abstract Title	Abstract No.
116	Dr. Ajakaiye O. Olabisi & Kane Muhammed N.	An Assessment of the Effects of Greenery on Peri-Urban Environment: A Case Study of Sangotedo, Lagos State	039

Yobe State University, Damaturu, Yobe State

S/No	Name of Author	Abstract Title	Abstract No.
117	Amina Ibrahim Makintami	A Customized Design System for Nigerian Language Collections in Libraries	106

Institution Not Stated

S/No	Name of Author	Abstract Title	Abstract No.
118	Not provided	Evaluating Students' Examination Record Storage and Management in Exams and Records/MIS Unit in Federal Polytechnic in Osun State, Nigeria	019
119	Friday Benji Bakare Esq	Effect of Artificial Intelligence on Logistics and Delivery Performance, Using DHL Nigeria as a Case Study	093
120	Ugochukwu Vitus Unachukwu PhD	Effect of Artificial Intelligence on Logistics and Transportation Performance, Using ABC Transport PLC as a Case Study	094

S/No	Name of Author	Abstract Title	Abstract No.
121	Etannibi Clement	Artificial Intelligence as a Modern Technique to Teach English Language in Kwara State Tertiary Institutions	112
122	Kazeem Alade OYEDEJI (PhD)	Humanity Augmented: The Wonders of AI in Shaping Ethics, Culture, and Human Flourishing in the 21st Century	118

SCHEDULE OF PRESENTATIONS

DAY 2 – TUESDAY, 17TH NOVEMBER 2026						
DAY / TIME	ROOM 1		ROOM 2		ROOM 3	
	Name	Topic	Name	Topic	Name	Topic
11:00AM – 11:20AM	Ogunrinbokun, Bamidele Emmanuel	Adoption of Artificial Intelligence (AI) in Teaching and Learning of Accounting Education in Nigerian Universities: An Empirical Investigation	Odoh Ochaba Ejoga	AI and Agriculture: Digital Transformation of Livestock Production in Nigeria: A Critical Review Artificial Intelligence Application	Abubakar Ahmad Aliero	Improving Machine Translation Using an Efficient Dual-BERT Adversarial Network (DBAN) Model for User-Generated Content
11:20AM – 11:40AM	Sabina Joseph (PhD); Nokshuwan Emmanuel Jidauna & Polmi Ibrahim	Artificial Intelligence, Academic Integrity and Students' Attitudes towards Plagiarism and the Unacknowledged Use of AI-Generated Content	Ibrahim M., Na-Allah M.S., David P.G. and Ibrahim Y.J.	AI-Driven Soil Fertility Management, Precision, Sustainability and Climate Resilience in Agriculture: A Review	Ishaq Mohammed Aliyu and Hamisu Abubakar Mahraz	Isolation, Structural Characterization and Bioactivities of Antioxidant and Antimicrobial Compounds from Prosopis africana Stem Bark
11:40AM – 12:00PM	EYEBHORIA, Otoiede Marvellous	Artificial Intelligence Adoption and Administrative Effectiveness in Nigerian Tertiary Institutions: Implications for Educational Management in Kwara State Public Institutions	Dr. Ajakaiye O. Olabisi & Kane Muhammed N.	An Assessment of the Effects of Greenery on Peri-Urban Environment: A Case Study of Sangotedo, Lagos State	Ahmad Banji Jafar and Yusuf Sulaiman Rumu	Nonlinear Mixed Convective-Radiative Nanofluid Flow over a Nonlinear Stretching Sheet with Frictional Heating
12:00PM – 12:20PM	Okeke Kendra Erere	Artificial Intelligence and Digital Skills Integration in Industrial Technology Education for Enhanced Graduate Employability in Nigeria	Abdulrahman Adamu, PhD & YUSUFU Ahmed Audu, PhD	Artificial Intelligence (AI) and Food Security in Nigeria: Policy Pathways for Sustainable Agricultural Transformation	Sa'ad Ibrahim (CLN)	Utilization of Telemedicine Platforms for Patient Management by Medical Doctors in Selected Hospitals in Kaduna State, Nigeria
12:20PM – 12:40PM	Murtala Ibrahim, PhD & Danjuma Adamu Ismaila, PhD	Artificial Intelligence and Management of Tertiary Institutions in Nigeria	Patrick Adakole John, Elisha Ikpe and Ugbede D. Omede	Artificial Intelligence and Food Security in Africa: Opportunities, Challenges, and Lessons for Researchers, Scientists, Policymakers and Scholars	Dr. Shaibu, Ogwuche Gabriel	Adoption of Artificial Intelligence in Supply Chain Management: Barriers and Enablers in Developing Economies
12:40PM – 1:00PM	Engr. Dr. Dauda Adekunle FOLARIN & Engr. Oluwadare Olatunde AKINROGUNDE	Artificial Intelligence and the Future of Higher Education in Nigeria: Opportunities, Challenges, and Policy Implications	Sambo, Umar Mohammed	Artificial Intelligence and the Future of Food Security in Nigeria: Harnessing AI for Reducing Food Loss and Waste	Dr. Patience Ewomaoghene Okoro	Application of Artificial Intelligence in Small and Medium Enterprises in Delta South Senatorial District
1:00PM – 2:00PM LUNCH BREAK						
2:00PM – 2:20PM	Sabina Joseph (PhD); Nokshuwan Emmanuel Jidauna & Polmi Ibrahim	Artificial Intelligence Competencies and Perceived Workplace Readiness among Final-Year University Students in Plateau State, Nigeria	Ayanrinde, FA; Oyewole, SO; Ayanrinde, OA; Oyewole, AL	Artificial Intelligence Applications in Charcoal Marketing and Their Impact on Women's Livelihoods in Ibarapa North Local Government Area of Oyo State, Nigeria	Ayofe Hammed, Oladosu Wasiu, Akande Nneka	Artificial Intelligence and Tableware Maintenance: Evaluating AI-Enabled Practices as a Determinant of Quality Service Delivery in the Hospitality Sector. Case Study of Hospitality Management Restaurant, Federal Polytechnic Ede, Osun State Nigeria
2:20PM – 2:40PM	Hasheem Abdul Mohammed	Artificial Intelligence, Explainable Machine Learning, and Statistical Computing for Transforming Mathematics and Statistics Education in Africa	Bldr. Gambo, Makanjuola Dare	Assessing Solid Waste Management in Osun State, Nigeria for the Adoption of Artificial Intelligence towards Sustainable Environmental Management	Dr. Onwuneme, Nne Lovina	Artificial Intelligence and the Emerging Digital Economy

2:40PM – 3:00PM	**Dr. Boyi James E.**	Artificial Intelligence in Woodwork Technology Education: Transforming Skills Development, Instructional Delivery and Graduate Employability in Nigeria	**Gwimmi, D. P., Ibrahim, R., Ibrahim, M., Nafiu, A. K., NaAllah, M. S. and Wele, H. K.**	Assessment of Costs and Returns of Small Scale Honey Production in Abdullahi Fodiyo University of Science and Technology Aliero, Kebbi State, Nigeria	**Sha'aibu Yawale Yakasai**	Artificial Intelligence in Sports Management: Prospects and Challenges in Kano State, Nigeria
3:00PM – 3:20PM	**Dahiru Usman Jnr**	Artificial Intelligence, Machine Learning, and Predictive Analytics for Developing Future-Ready Statisticians in Africa's Data-Driven Economy	**Ben, Promise Maurice**	Comparative Random Forest and Classical Statistical Analysis of Yield-Related Traits in Watermelon Genotypes for Precision Breeding	**Dr. Osinubi Olufemi Bankole**	Assessment of Stakeholders' Opinions on Cultural Tourism Opportunities for Long-Term Development of Osun Osogbo Grove
3:20PM – 3:40PM	**MAGAYAKI, Abdulsalam Usman**	Balancing Automation and Empathy: Role of Artificial Intelligence and Emotional Intelligence in 21st Century School Administration	**Ufuoma Godstime Sorhue**	Leveraging Artificial Intelligence for Precision Livestock Farming and Sustainable Animal Production	**Friday Benji Bakare Esq**	Effect of Artificial Intelligence on Logistics and Delivery Performance, Using DHL Nigeria as a Case Study
3:40PM – 4:00PM	**PADUNG, Leonard Dokbisa, PhD**	Challenges and Prospects of Artificial Intelligence (AI) Integration in Educational Management in Public Secondary Schools in Plateau State, Nigeria	**Jega, Ibrahim Shehu**	Next-Generation Aquaculture: An AI Framework for Fisheries Conservation and Food Security in Nigeria	**Ugochukwu Vitus Unachukwu PhD**	Effect of Artificial Intelligence on Logistics and Transportation Performance, Using ABC Transport PLC as a Case Study
END OF DAY TWO						
DAY 3 – WEDNESDAY, 18TH NOVEMBER 2026						
8:00AM – 9:00AM	• Registration • Opening Prayer					
DAY / TIME	**ROOM 1**		**ROOM 2**		**ROOM 3**	
	Name	**Topic**	**Name**	**Topic**	**Name**	**Topic**
9:00AM – 9:20AM	**Safiya Muhammad Mairiga and Dr. Bashiru Musa Said**	Consequences of Low Female Enrolments in Secondary Schools in Kebbi State	**Abushe Omesiri Precious and Ekokogbe Otega Oghenebrorhie**	Perception on the Use of Artificial Intelligence in the Practice of Organic Farming among Vegetable Farmers in Rural Areas: Implication for Food Security	**Onuka, Iheoma Rosemary & Dr. Onwuneme, Nne Lovina**	From Traditional to Smart Cooperatives: The Role of Artificial Intelligence
9:20AM – 9:40AM	**Chukwuma Samuel Chinonso**	Curriculum Decolonization and Indigenous Knowledge in AI-Integrated TVET in Federal Universities and Colleges of Education (Technical) of South-East Nigeria	**Iliya Michael Waba**	Smart Aquaculture for Sustainable Food Security in Vom, Jos South LGA of Plateau State, Nigeria: Integrating IoT, Recirculating Systems, and Renewable Energy for Climate-Resilient Fish Production	**Aminu Idris PhD**	Nigerian Border Security Governance: The Role of Infrastructure, Cooperation and Artificial Intelligence
9:40AM – 10:00AM	**Marcus, Onyekaozuru Patricia**	Digital Competency Gaps in Office Technology and Management Education for Entrepreneurship Development among National Diploma II Students of Federal Polytechnics in South-East Nigeria	**Wogu S.N.**	Technopreneurship Education and the Transformation of Food Security in Africa: Nigeria as a Case Study for Examining the Role of Innovation-Driven Entrepreneurship in Agricultural Development	**Maduka, Favour Patience & Dr. Onwuneme, Nne Lovina**	Reimagining Cooperative Management in the Artificial Intelligence Era: Implications for Economic Growth
10:00AM – 10:20AM	**Nanyar Ladon Josiah**	Digital Leadership for Sustainable Resource Management and Institutional Excellence in Nigeria Higher Institutions	**KADIR, Mumini**	The Impact of Artificial Intelligence Adoption on Food Security among Smallholder Farmers in Kwara State, Nigeria	**Murtala Mohammed Alamai**	Smart Leadership Systems Applications and Concepts in Tourism and Hospitality Businesses in Nigeria: Study of Bauchi State

10:20AM – 10:40AM	**Rahila Samuel Milaham (Ph.D)**	Effects of AI-Powered Speech-to-Text Strategy on Literacy Skills of Learners with Hearing Impairment in Primary Schools in Nigeria	**AJE, Oluranti Grace**	Time Series Forecasting for Climate Data: A Statistical Comparison of ARIMA and Machine Learning Approaches in Nigeria	**Adeleye Adeniyi**	The Application of Artificial Intelligence in the Marketing of Consumer Goods in Osun State, Nigeria
10:40AM – 11:00AM COCOA / TEA / COFFEE BREAK						
11:00AM – 11:20AM	**Dr. Usman Gado Birnin Kebbi, Dr. Faruk Siddik Tilli and Dr. Bashiru Musa Said**	Effects of Inadequate Laboratory Equipment/Resources on Academic Performance of Science Students among Senior Secondary Schools	**Dr. Toma Maina Antip; Cyril Yilyop Wuyep & Yakubu Nehemiah Bello**	University Students' Perceptions of AI-Based Early-Warning Systems for Floods and Other Environmental Hazards in Plateau State, Nigeria	**Dr CHINYEAKA NWOKODI NWOLOZIRI**	The Role of Artificial Intelligence (AI) in Building Green Supply Chains: Carbon Emission Tracking and Optimization
11:20AM – 11:40AM	**Not provided**	Evaluating Students' Examination Record Storage and Management in Exams and Records/MIS Unit in Federal Polytechnic in Osun State, Nigeria	**Sabina Joseph (PhD); Nokshuwan Emmanuel Jidauna & Polmi Ibrahim**	University Students' Perceptions of AI-Enabled Precision Agriculture and Its Potential Contribution to Food Security in Plateau State, Nigeria	**Gonap Elisha Gobin**	The Role of Artificial Intelligence in Enhancing Guest Services and Delivering Exceptional and Satisfactory Service in Selected Hotels in Jos Metropolis, Plateau State, Nigeria
11:40AM – 12:00PM	**IBRAHIM Rasheedat Adenike**	Evaluating the Influence of AI Literacy on Workforce Readiness among Nigerian Youths Using Multiple Regression Approach: A Case Study of Osun State	**Dr. Bashiru Musa Sa'id & Dr. Zayyanu Usman Bashar**	Using Artificial Intelligence (AI) to Improve Food Security through Ethical Agriculture by Using Education, Creativity and Responsibility	**Abdulrauf Abdullahi, PhD**	The Roles of Artificial Intelligence in Effective Project Monitoring
12:00PM – 12:20PM	**Abdullahi Umar, Ahmad Muhammad, Sama'ila Sai'idu and Dr. Bashiru Musa Said**	Factors Determining the Choice of Career among Secondary School Students in Kebbi State	**Usman Tukon Ibrahim**	Wonders of Artificial Intelligence in Sub-Saharan African Agriculture: Pathways to Precision Farming, Reduced Post-Harvest Loss, and Nutrition Security	**Victor Nyam**	Title Not Provided by Author
12:20PM – 12:40PM	**Hamidu Mohammed Jada, Ph.D.**	Influence of Accountability on the Management of Resources in Universities in North-East Geopolitical Zone, Nigeria	**Abubakar Hassan**	AI and Cyber Security Management: Enhancing Threat Detection, Incident Response and Vulnerability Assessment in Contemporary Enterprise Networks	**Dr. Isiaka Tunji Adelabu & Mrs. Tawakalitu Yetunde Adelabu**	Utilisation of Artificial Intelligence in the Determinants of Effective Tax Rate of Listed Non-Financial Firms in Nigeria
12:40PM – 1:00PM	**Bakari D.; Emmanuel G.; Samuel P. and Baraya Sunday Gideon**	Integration of Artificial Intelligence into the Curriculum of Higher Institutions of Learning for Sustainable Educational Reform in the 21st Century: A Philosophical Debate among African Scholars and Researchers	**Vakaa Isaac Torkula**	AI and Engineering: The Role of AI in the Development of the Automotive Industry via Robotics in Africa, and Nigeria in Particular	**Abioye Jemimah Anuoluwapo Iyabode**	A Critical Review of Artificial Intelligence-Powered English Language Tools and Yoruba Linguistic Identity among Children with Learning Disabilities in Nigeria
1:00PM – 2:00PM LUNCH BREAK						
2:00PM – 2:20PM	**Dr. Sunday Ebhodaghe AKASI, FNIOTIM**	Leveraging Artificial Intelligence in Educational Management: A Catalyst for Sustainable Development in Nigerian Institutions	**Gado A. A., Umar A. B., Gwani M. and Kangiwa U. M.**	AI-Based Predictive Modelling and Analysis of Solar Photovoltaic Electricity Generation and Application to Electric Vehicles	**Amina Ibrahim Makintami**	A Customized Design System for Nigerian Language Collections in Libraries
2:20PM – 2:40PM	**Umeagukwu Okwudili Emmanuel**	Multimodal Artificial Intelligence for Intelligent Teaching, Student Engagement, and Learning Outcome Prediction in Higher Education	**Abubakar Saidu**	Artificial Intelligence and Information and Communication Technology: Convergence, Applications, Challenges, and Future Directions	**Mohammed Mohammed Kpakiko, PhD, CLN**	Adoption of Artificial Intelligence for Library and Information Services in State University Libraries in North-West and North-Central Nigeria
2:40PM – 3:00PM	**Jummai Ndana Suleiman**	Nurturing Young Voices in the Age of Artificial Intelligence: Reimagining Language Development and Human-Centred Digital Pedagogy in Early Childhood Care and Education	**Odeyemi Felix Gbenga, Suru, Whenayon Peter, Aroge Sunday Kayode, Amoo Nureni Babatunde, Isma'il Abdullahi Abdullahi, Apata Olaniyi Clement, Tokede Clement Adedapo**	Artificial Intelligence and Modern Surveying: A Comparative Evaluation of Differential Global Positioning System (DGPS) and Total Station Performance in Topographic and Engineering Surveys	**Samuel Sunday Oni**	Artificial Intelligence (AI) and Humanity: Examining the Intersection of Artificial Intelligence and Human Society

3:00PM – 3:20PM	**Tappi Danjuma Felix & Taka, Rotwera Goki**	Perceived Benefits and Challenges of Artificial Intelligence in Final-Year Research Project Development among Undergraduate Students in Plateau State, Nigeria	**Suru, Whenayon Peter, Odeyemi Felix Gbenga, Aroge Sunday Kayode, Amoo Nureni Babatunde, Isma'il Abdullahi Abdullahi, Apata Olaniyi Clement, Tokede Clement Adedapo**	Artificial Intelligence and UAV Technology for High-Resolution Campus Mapping: A Case Study of Federal Polytechnic Ede North Campus, Nigeria	**OGUNYEMI, Funmilayo Elizabeth**	Artificial Intelligence (AI) and the Future of English Language Teaching in African Higher Institutions: Opportunities, Challenges and Ethical Considerations
3:20PM – 3:40PM	**Abbas Sani Dahiru**	Relationship between Digital Infrastructure and Principals' Administrative Efficiency in Secondary Schools in Zamfara State, Nigeria	**Jibril Usman Bawa**	Artificial Intelligence, Building Information Modelling, and Generative Design for Developing Future-Ready Architects in the Construction 5.0 Era	**Nuhu Constant Abdulsalam FSS, MTRCN, MNITP, FDMSS, FCISM, MSc**	Artificial Intelligence and Humanity in the 21st Century: Balancing Technological Advancement with Human Values, Ethics and Sustainable Development in Africa
3:40PM – 4:00PM	**CHIWUZIE Augustina**	Rethinking Professional Preparation in Real Estate Education: Sense of Belonging, Professional Identity and the Emerging Role of Artificial Intelligence	**Dr. Okechukwu Innocent Nnamdi**	Artificial Intelligence, Digital Twins, and Smart Manufacturing for Developing Future-Ready Mechanical Engineers in the Industry 5.0 Era	**MOHAMMED, Abubakar Ahmad, Ph.D**	Artificial Intelligence and the Transformation of Historical Scholarship: Opportunities, Challenges and Future Directions
END OF DAY THREE						
DAY 4 – THURSDAY, 19TH NOVEMBER 2026						
8:00AM – 9:00AM	• Registration • Opening Prayer					
DAY / TIME	**ROOM 1**		**ROOM 2**		**ROOM 3**	
	Name	**Topic**	**Name**	**Topic**	**Name**	**Topic**
9:00AM – 9:20AM	**Kabiru Abubakar Yahya & Benjamin Abba Stephen**	Secondary School Students' Attitudes toward ICT in Kaltungo, Gombe State, Nigeria	**Dauda A. Folarin & Kabiru A. Hassan**	Artificial Intelligence for Distribution System Reliability: A Review of Machine Learning, Deep Learning, and Reinforcement Learning Techniques	**Etannibi Clement**	Artificial Intelligence as a Modern Technique to Teach English Language in Kwara State Tertiary Institutions
9:20AM – 9:40AM	**Olakunle Ogunbi & Jumoke Soyemi**	Teacher Training and Readiness for AI Integration in the Developing Nations	**Shuaibu Umar Onoze**	Artificial Intelligence, Generative AI, and Digital Procurement Systems for Enhancing Quantity Surveying Practice in the Construction 5.0 Era	**Babagana Gutti**	Artificial Intelligence as a Research Assistant: Opportunities and Ethical Considerations for African Scholars
9:40AM – 10:00AM	**UMAR, Sodangi Ph.D. & IBRAHIM, Adamu**	Technology Integration in Teaching and Learning Process: A New Trend in Mathematics Education	**Ebenezer Akin OLUWASOLA and Ifedolapo Omowumi AMEEN**	Artificial Intelligence in Strength Characteristics of Bitumen Incorporating Bamboo Leaf and Cow Bone Ash	**Huzaifa Aliyu Jangebe, PhD.**	Artificial Intelligence in Digital Da'wah: Institutional Governance, Communication Management, and Pedagogy in Zamfara State, Nigeria
10:00AM – 10:20AM	**Isah Balarabe and Sufiyanu Muhammad Dakin-Gari**	The Impact of Entrepreneurship Education on the Development of Artificial Intelligence (AI) Entrepreneurial Skills among Polytechnic Students in Nigeria	**Shettima U. Ali, Zakariyyah B. Olatunde, Mubarak Suleiman, Bukar M. Adam**	Artificial Intelligence-Assisted Geotechnical Assessment and Remediation of Gully Erosion	**Owoidoho Ikpong Brown**	Artificial Intelligence-Driven Literature Review Automation and Research Gap Identification for Accelerating Scientific Innovation in African Universities
10:20AM – 10:40AM	**Umar Sani Gwarzo (PhD)**	The Utilization of Artificial Intelligence (AI) in the Teaching and Learning of Some Perceived Difficult Chemistry Concepts at the Undergraduate Level	**Ufia, Daniel Victor, Umoh, Sifon James, Agada, Daniel Ichekan**	Artificial Intelligence-Driven Predictive Maintenance and the Performance of Public Buildings in South-South Nigeria: A Machine Learning-Based Quantitative Assessment	**Ahmed Ibrahim, Ph.D**	Colonial Infrastructure and Urbanization of Birnin Kebbi Town, 1928–1960
10:40AM – 11:00AM COCOA / TEA / COFFEE BREAK						

11:00AM – 11:20AM	**Akinjiola E.Y, Adeshina C.F**	University Undergraduate Awareness and Use of ICT in Mathematics Learning: An Assessment for AI and Technology Readiness	**Yusuf Babangida Attahiru and Musa Sobirah Azumi**	Artificial Intelligence-Driven Sustainable Construction: A Comparative Assessment of Bamboo-Reinforced Concrete and Conventional Design Standards in Africa	**Joy Ekominam Edet**	Generative Artificial Intelligence as a Collaborative Research Assistant: Opportunities, Ethical Challenges, and Policy Frameworks for Scholarly Writing in African Universities
11:20AM – 11:40AM	**Umar Zannah**	Using Statistical Learning Algorithms to Identify and Support At-Risk Students in Tertiary Mathematics	**Apata O. C., Ogunyemi B. R., Adejumobi M. K. & Adeleke J. S.**	Assessing the Impact of Artificial Intelligence on Project Management of Construction Organizations	**Kazeem Alade OYEDEJI (PhD)**	Humanity Augmented: The Wonders of AI in Shaping Ethics, Culture, and Human Flourishing in the 21st Century
11:40AM – 12:00PM	**OLAWEPO, Samson Olaide; Giwa, Bashiru Olalekan & BABALOLA, Jamiu Abidemi**	Artificial Intelligence for Health Equity: Evaluating the Impact of AI Tools on Service Delivery and Resource Allocation in Nigeria's Primary Healthcare Centers (2020–2025)	**Ehikhamenle Joseph**	Development of an Intelligent Web-Based Clearance Management System Using Adaptive Multi-Agent Coordination and Blockchain Technology: A Case Study of the National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria	**Abdullahi Bello**	Libraries as Safe Learning Spaces: Promoting Digital Responsibility and Psychological Well-Being among Children in Northern Nigeria
12:00PM – 12:20PM	**Maspalma, Godwin Anthony, Neksumi Musa, Mohammad Bashir and Dangiwa Grace Ajima**	Artificial Intelligence in Analytical Chemistry: Current Advances and Future Directions	**Emmanuel Ewanose Ozah**	Digital Innovation in Science Laboratory Management for Entrepreneurship and Skills Development in Technical Education: A Case Study of the National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria	**Lazarus Ayuba Budidi & Umar Abubakar**	Linguistic Bias in Generative AI against Indigenous African English Lexical Innovations
12:20PM – 12:40PM	**Abdulwahid A Naibi, Muhammad, S.U, Auwal Muttaka**	Artificial Intelligence in Emergency Toxicology: Current Advances and Clinical Applications	**Archibong, Abasiemek Aniefiok**	Physics-Informed Neural Network Surrogate Optimization for Fuel Burn Minimization in Transonic Widebody Aircraft under Aerostructural Constraints	**Dr. Muhammad Bello**	Prospects and Challenges of the Use of Artificial Intelligence (AI) for Learning: Arabic Scholars in Perspective
12:40PM – 1:00PM	**Sanusi Bello Mada, Tosin Oguntunde, Kabiru Usman**	Corn Silk Extract Improves Serum Estrogen Level and Osteoanabolic Markers in Ovariectomized Female Rats	**ADEBAYO Azeezat Ayodele**	The Role of Artificial Intelligence in Enhancing Demographic Data Collection and Population Forecasting	**Mohammed Musa**	The 5th Industrial Revolution and the Role of Artificial Intelligence in Academic Libraries: A Review
1:00PM – 2:00PM LUNCH BREAK						
2:00PM – 2:20PM	**Dr. Adeoye Abiodun ILELADEWA**	Development of an Automated Evaluation System for Determining the Impact of Drug Expiry Date Validation on Healthcare	**Mohammed Adamu Sule**	Wonders of AI in the 21st Century: Transformative Lessons for Engineering Practice, Researchers, and Policy Makers in Africa		
END OF DAY FOUR AND CONFERENCE						

LIST OF OBSERVERS

ODI Bi-Annual International Academic Conference for Scholars and Researchers 2026

16 – 20 November 2026

A total of 22 observers from 7 institutions are listed below, grouped by institution.

S/No	Name of Observer	Institution
1	Asema Ugba Samuel	Akperan Orshi Polytechnic, Yandev, Benue State
2	Prof. Jacob Fagga Tsegba	Akperan Orshi Polytechnic, Yandev, Benue State
3	Onuh Simon Ogwuche	Akperan Orshi Polytechnic, Yandev, Benue State
4	Orgbanyi Emmanuel Gbonko	Akperan Orshi Polytechnic, Yandev, Benue State
5	Ortese Emmanuel Zungwenen	Akperan Orshi Polytechnic, Yandev, Benue State
6	Shinkuh Simon Terseer	Akperan Orshi Polytechnic, Yandev, Benue State
7	Wuana Demenongu Sunday	Akperan Orshi Polytechnic, Yandev, Benue State
8	Ameh Umaru Akpa	Federal Polytechnic Nasarawa, Nasarawa State
9	Dahiru Usman Jnr	Federal Polytechnic Nasarawa, Nasarawa State
10	Hasheem Abdul Mohammed	Federal Polytechnic Nasarawa, Nasarawa State
11	Jibrin Usman Bawa	Federal Polytechnic Nasarawa, Nasarawa State
12	Dr. Okechukwu Innocent Nnamdi	Federal Polytechnic Nasarawa, Nasarawa State
13	Shuaibu Umar Onoze	Federal Polytechnic Nasarawa, Nasarawa State
14	Abasiemek Aniefiok Archibong	Federal University of Technology, Ikot Abasi (FUTIA), Akwa Ibom State
15	Joy Ekominam Edet	Federal University of Technology, Ikot Abasi (FUTIA), Akwa Ibom State
16	Owoidoho Ikpong Brown	Federal University of Technology, Ikot Abasi (FUTIA), Akwa Ibom State
17	Abdullahi Sani Muhammad	Northwest University, Kano, Kano State
18	Muhammad Abubakar Sadeeq	Northwest University, Kano, Kano State
19	Engr. Ramatu A. Ahmad	Northwest University, Kano, Kano State
20	Oluyode Oluseyi Adenike	Abubakar Tafawa Balewa University, Bauchi, Bauchi State
21	Ishaq Abdullahi Abdulkarim	Federal University of Health Sciences, Azare, Bauchi State
22	Friday Benji Bakare Esq.	Nigerian Defence Academy, Kaduna

ORGANISATION DEVELOPMENT INSTITUTE (ODI), GHANA

BI-ANNUAL INTERNATIONAL ACADEMIC CONFERENCE FOR SCHOLARS AND RESEARCHERS 2026

CATALOGUE OF ABSTRACTS

Conference Theme

Wonders of Artificial Intelligence in the 21st Century: Lessons for Researchers, Scientists, Policymakers and Scholars in Africa

Date: 16–17 November 2026

Venue: Organisation Development Institute (ODI), Ghana

Igniting Growth • Inspiring Change

TABLE OF CONTENTS

Note on the Catalogue **38**

Sub-Theme 1: Artificial Intelligence in Education, Teaching and Learning **39**

001 ADOPTION OF ARTIFICIAL INTELLIGENCE (AI) IN TEACHING AND LEARNING OF ACCOUNTING EDUCATION IN NIGERIAN UNIVERSITIES: AN EMPIRICAL INVESTIGATION 40

002 ARTIFICIAL INTELLIGENCE, ACADEMIC INTEGRITY AND STUDENTS' ATTITUDES TOWARDS PLAGIARISM AND THE UNACKNOWLEDGED USE OF AI-GENERATED CONTENT 41

003 ARTIFICIAL INTELLIGENCE ADOPTION AND ADMINISTRATIVE EFFECTIVENESS IN NIGERIAN TERTIARY INSTITUTIONS: IMPLICATIONS FOR EDUCATIONAL MANAGEMENT IN KWARA STATE PUBLIC INSTITUTIONS 42

004 ARTIFICIAL INTELLIGENCE AND DIGITAL SKILLS INTEGRATION IN INDUSTRIAL TECHNOLOGY EDUCATION FOR ENHANCED GRADUATE EMPLOYABILITY IN NIGERIA 43

005 ARTIFICIAL INTELLIGENCE AND MANAGEMENT OF TERTIARY INSTITUTIONS IN NIGERIA 44

006 ARTIFICIAL INTELLIGENCE AND THE FUTURE OF HIGHER EDUCATION IN NIGERIA: OPPORTUNITIES, CHALLENGES, AND POLICY IMPLICATIONS 45

007 ARTIFICIAL INTELLIGENCE COMPETENCIES AND PERCEIVED WORKPLACE READINESS AMONG FINAL-YEAR UNIVERSITY STUDENTS IN PLATEAU STATE, NIGERIA 46

008 ARTIFICIAL INTELLIGENCE, EXPLAINABLE MACHINE LEARNING, AND STATISTICAL COMPUTING FOR TRANSFORMING MATHEMATICS AND STATISTICS EDUCATION IN AFRICA 47

009 ARTIFICIAL INTELLIGENCE IN WOODWORK TECHNOLOGY EDUCATION: TRANSFORMING SKILLS DEVELOPMENT, INSTRUCTIONAL DELIVERY AND GRADUATE EMPLOYABILITY IN NIGERIA 48

010 ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, AND PREDICTIVE ANALYTICS FOR DEVELOPING FUTURE-READY STATISTICIANS IN AFRICA'S DATA-DRIVEN ECONOMY 49

011 BALANCING AUTOMATION AND EMPATHY: ROLE OF ARTIFICIAL INTELLIGENCE AND EMOTIONAL INTELLIGENCE IN 21ST CENTURY SCHOOL ADMINISTRATION 50

012 CHALLENGES AND PROSPECTS OF ARTIFICIAL INTELLIGENCE (AI) INTEGRATION IN EDUCATIONAL MANAGEMENT IN PUBLIC SECONDARY SCHOOLS IN PLATEAU STATE, NIGERIA 51

013 CONSEQUENCES OF LOW FEMALE ENROLMENTS IN SECONDARY SCHOOLS IN KEBBI STATE 52

014 CURRICULUM DECOLONIZATION AND INDIGENOUS KNOWLEDGE IN AI-INTEGRATED TVET IN FEDERAL UNIVERSITIES AND COLLEGES OF EDUCATION (TECHNICAL) OF SOUTH-EAST NIGERIA 53

015 DIGITAL COMPETENCY GAPS IN OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION FOR ENTREPRENEURSHIP DEVELOPMENT AMONG NATIONAL DIPLOMA II STUDENTS OF FEDERAL POLYTECHNICS IN SOUTH-EAST NIGERIA 54

016 DIGITAL LEADERSHIP FOR SUSTAINABLE RESOURCE MANAGEMENT AND INSTITUTIONAL EXCELLENCE IN NIGERIA HIGHER INSTITUTIONS 55

017 EFFECTS OF AI-POWERED SPEECH-TO-TEXT STRATEGY ON LITERACY SKILLS OF LEARNERS WITH HEARING IMPAIRMENT IN PRIMARY SCHOOLS IN NIGERIA 56

018 EFFECTS OF INADEQUATE LABORATORY EQUIPMENT/RESOURCES ON ACADEMIC PERFORMANCE OF SCIENCE STUDENTS AMONG SENIOR SECONDARY SCHOOLS 57

019 EVALUATING STUDENTS' EXAMINATION RECORD STORAGE AND MANAGEMENT IN EXAMS AND RECORDS/MIS UNIT IN FEDERAL POLYTECHNIC IN OSUN STATE, NIGERIA 58

020 EVALUATING THE INFLUENCE OF AI LITERACY ON WORKFORCE READINESS AMONG NIGERIAN YOUTHS USING MULTIPLE REGRESSION APPROACH: A CASE STUDY OF OSUN STATE 59

021 FACTORS DETERMINING THE CHOICE OF CAREER AMONG SECONDARY SCHOOL STUDENTS IN KEBBI STATE 60

022 INFLUENCE OF ACCOUNTABILITY ON THE MANAGEMENT OF RESOURCES IN UNIVERSITIES IN NORTH-EAST GEOPOLITICAL ZONE, NIGERIA 61

023 INTEGRATION OF ARTIFICIAL INTELLIGENCE INTO THE CURRICULUM OF HIGHER INSTITUTIONS OF LEARNING FOR SUSTAINABLE EDUCATIONAL REFORM IN THE 21ST CENTURY: A PHILOSOPHICAL DEBATE AMONG AFRICAN SCHOLARS AND RESEARCHERS 62

024 LEVERAGING ARTIFICIAL INTELLIGENCE IN EDUCATIONAL MANAGEMENT: A CATALYST FOR SUSTAINABLE DEVELOPMENT IN NIGERIAN INSTITUTIONS 63

025 MULTIMODAL ARTIFICIAL INTELLIGENCE FOR INTELLIGENT TEACHING, STUDENT ENGAGEMENT, AND LEARNING OUTCOME PREDICTION IN HIGHER EDUCATION 64

026 NURTURING YOUNG VOICES IN THE AGE OF ARTIFICIAL INTELLIGENCE: REIMAGINING LANGUAGE DEVELOPMENT AND HUMAN-CENTRED DIGITAL PEDAGOGY IN EARLY CHILDHOOD CARE AND EDUCATION 65

027 PERCEIVED BENEFITS AND CHALLENGES OF ARTIFICIAL INTELLIGENCE IN FINAL-YEAR RESEARCH PROJECT DEVELOPMENT AMONG UNDERGRADUATE STUDENTS IN PLATEAU STATE, NIGERIA 67

028 RELATIONSHIP BETWEEN DIGITAL INFRASTRUCTURE AND PRINCIPALS' ADMINISTRATIVE EFFICIENCY IN SECONDARY SCHOOLS IN ZAMFARA STATE, NIGERIA 68

029 RETHINKING PROFESSIONAL PREPARATION IN REAL ESTATE EDUCATION: SENSE OF BELONGING, PROFESSIONAL IDENTITY AND THE EMERGING ROLE OF ARTIFICIAL INTELLIGENCE 69

030 SECONDARY SCHOOL STUDENTS' ATTITUDES TOWARD ICT IN KALTUNGO, GOMBE STATE, NIGERIA 70

031 TEACHER TRAINING AND READINESS FOR AI INTEGRATION IN THE DEVELOPING NATIONS 71

032 TECHNOLOGY INTEGRATION IN TEACHING AND LEARNING PROCESS: A NEW TREND IN MATHEMATICS EDUCATION 72

033 THE IMPACT OF ENTREPRENEURSHIP EDUCATION ON THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE (AI) ENTREPRENEURIAL SKILLS AMONG POLYTECHNIC STUDENTS IN NIGERIA 73

034 THE UTILIZATION OF ARTIFICIAL INTELLIGENCE (AI) IN THE TEACHING AND LEARNING OF SOME PERCEIVED DIFFICULT CHEMISTRY CONCEPTS AT THE UNDERGRADUATE LEVEL 74

035 UNIVERSITY UNDERGRADUATE AWARENESS AND USE OF ICT IN MATHEMATICS LEARNING: AN ASSESSMENT FOR AI AND TECHNOLOGY READINESS 75

036 USING STATISTICAL LEARNING ALGORITHMS TO IDENTIFY AND SUPPORT AT-RISK STUDENTS IN TERTIARY MATHEMATICS 76

Sub-Theme 2: Artificial Intelligence in Agriculture, Food Security and the Environment 77

037 AI AND AGRICULTURE: DIGITAL TRANSFORMATION OF LIVESTOCK PRODUCTION IN NIGERIA: A CRITICAL REVIEW ARTIFICIAL INTELLIGENCE APPLICATION 78

038 AI-DRIVEN SOIL FERTILITY MANAGEMENT, PRECISION, SUSTAINABILITY AND CLIMATE RESILIENCE IN AGRICULTURE: A REVIEW 79

039 AN ASSESSMENT OF THE EFFECTS OF GREENERY ON PERI-URBAN ENVIRONMENT: A CASE STUDY OF SANGOTEDO, LAGOS STATE 80

040 ARTIFICIAL INTELLIGENCE (AI) AND FOOD SECURITY IN NIGERIA: POLICY PATHWAYS FOR SUSTAINABLE AGRICULTURAL TRANSFORMATION 81

041 ARTIFICIAL INTELLIGENCE AND FOOD SECURITY IN AFRICA: OPPORTUNITIES, CHALLENGES, AND LESSONS FOR RESEARCHERS, SCIENTISTS, POLICYMAKERS AND SCHOLARS 82

042 ARTIFICIAL INTELLIGENCE AND THE FUTURE OF FOOD SECURITY IN NIGERIA: HARNESSING AI FOR REDUCING FOOD LOSS AND WASTE..... 83

043 ARTIFICIAL INTELLIGENCE APPLICATIONS IN CHARCOAL MARKETING AND THEIR IMPACT ON WOMEN'S LIVELIHOODS IN IBARAPA NORTH LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA 84

044 ASSESSING SOLID WASTE MANAGEMENT IN OSUN STATE, NIGERIA FOR THE ADOPTION OF ARTIFICIAL INTELLIGENCE TOWARDS SUSTAINABLE ENVIRONMENTAL MANAGEMENT 85

045 ASSESSMENT OF COSTS AND RETURNS OF SMALL SCALE HONEY PRODUCTION IN ABDULLAHI FODIYO UNIVERSITY OF SCIENCE AND TECHNOLOGY ALIERO, KEBBI STATE, NIGERIA 86

046 COMPARATIVE RANDOM FOREST AND CLASSICAL STATISTICAL ANALYSIS OF YIELD-RELATED TRAITS IN WATERMELON GENOTYPES FOR PRECISION BREEDING 87

047 LEVERAGING ARTIFICIAL INTELLIGENCE FOR PRECISION LIVESTOCK FARMING AND SUSTAINABLE ANIMAL PRODUCTION 88

048 NEXT-GENERATION AQUACULTURE: AN AI FRAMEWORK FOR FISHERIES CONSERVATION AND FOOD SECURITY IN NIGERIA 89

049 PERCEPTION ON THE USE OF ARTIFICIAL INTELLIGENCE IN THE PRACTICE OF ORGANIC FARMING AMONG VEGETABLE FARMERS IN RURAL AREAS: IMPLICATION FOR FOOD SECURITY 90

050 SMART AQUACULTURE FOR SUSTAINABLE FOOD SECURITY IN VOM, JOS SOUTH LGA OF PLATEAU STATE, NIGERIA: INTEGRATING IOT, RECIRCULATING SYSTEMS, AND RENEWABLE ENERGY FOR CLIMATE-RESILIENT FISH PRODUCTION 91

051 TECHNOPRENEURSHIP EDUCATION AND THE TRANSFORMATION OF FOOD SECURITY IN AFRICA: NIGERIA AS A CASE STUDY FOR EXAMINING THE ROLE OF INNOVATION-DRIVEN ENTREPRENEURSHIP IN AGRICULTURAL DEVELOPMENT 93

052 THE IMPACT OF ARTIFICIAL INTELLIGENCE ADOPTION ON FOOD SECURITY AMONG SMALLHOLDER FARMERS IN KWARA STATE, NIGERIA 94

053 TIME SERIES FORECASTING FOR CLIMATE DATA: A STATISTICAL COMPARISON OF ARIMA AND MACHINE LEARNING APPROACHES IN NIGERIA 95

054 UNIVERSITY STUDENTS' PERCEPTIONS OF AI-BASED EARLY-WARNING SYSTEMS FOR FLOODS AND OTHER ENVIRONMENTAL HAZARDS IN PLATEAU STATE, NIGERIA 97

055 UNIVERSITY STUDENTS' PERCEPTIONS OF AI-ENABLED PRECISION AGRICULTURE AND ITS POTENTIAL CONTRIBUTION TO FOOD SECURITY IN PLATEAU STATE, NIGERIA 98

056 USING ARTIFICIAL INTELLIGENCE (AI) TO IMPROVE FOOD SECURITY THROUGH ETHICAL AGRICULTURE BY USING EDUCATION, CREATIVITY AND RESPONSIBILITY 99

057 WONDERS OF ARTIFICIAL INTELLIGENCE IN SUB-SAHARAN AFRICAN AGRICULTURE: PATHWAYS TO PRECISION FARMING, REDUCED POST-HARVEST LOSS, AND NUTRITION SECURITY 102

Sub-Theme 3: Artificial Intelligence in Engineering, the Built Environment and Computing 103

058 AI AND CYBER SECURITY MANAGEMENT: ENHANCING THREAT DETECTION, INCIDENT RESPONSE AND VULNERABILITY ASSESSMENT IN CONTEMPORARY ENTERPRISE NETWORKS 104

059 AI AND ENGINEERING: THE ROLE OF AI IN THE DEVELOPMENT OF THE AUTOMOTIVE INDUSTRY VIA ROBOTICS IN AFRICA, AND NIGERIA IN PARTICULAR 105

060 AI-BASED PREDICTIVE MODELLING AND ANALYSIS OF SOLAR PHOTOVOLTAIC ELECTRICITY GENERATION AND APPLICATION TO ELECTRIC VEHICLES 106

061 ARTIFICIAL INTELLIGENCE AND INFORMATION AND COMMUNICATION TECHNOLOGY: CONVERGENCE, APPLICATIONS, CHALLENGES, AND FUTURE DIRECTIONS 107

062 ARTIFICIAL INTELLIGENCE AND MODERN SURVEYING: A COMPARATIVE EVALUATION OF DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) AND TOTAL STATION PERFORMANCE IN TOPOGRAPHIC AND ENGINEERING SURVEYS 108

063 ARTIFICIAL INTELLIGENCE AND UAV TECHNOLOGY FOR HIGH-RESOLUTION CAMPUS MAPPING: A CASE STUDY OF FEDERAL POLYTECHNIC EDE NORTH CAMPUS, NIGERIA 110

064 ARTIFICIAL INTELLIGENCE, BUILDING INFORMATION MODELLING, AND GENERATIVE DESIGN FOR DEVELOPING FUTURE-READY ARCHITECTS IN THE CONSTRUCTION 5.0 ERA 112

065 ARTIFICIAL INTELLIGENCE, DIGITAL TWINS, AND SMART MANUFACTURING FOR DEVELOPING FUTURE-READY MECHANICAL ENGINEERS IN THE INDUSTRY 5.0 ERA 113

066 ARTIFICIAL INTELLIGENCE FOR DISTRIBUTION SYSTEM RELIABILITY: A REVIEW OF MACHINE LEARNING, DEEP LEARNING, AND REINFORCEMENT LEARNING TECHNIQUES 114

067 ARTIFICIAL INTELLIGENCE, GENERATIVE AI, AND DIGITAL PROCUREMENT SYSTEMS FOR ENHANCING QUANTITY SURVEYING PRACTICE IN THE CONSTRUCTION 5.0 ERA 115

068 ARTIFICIAL INTELLIGENCE IN STRENGTH CHARACTERISTICS OF BITUMEN INCORPORATING BAMBOO LEAF AND COW BONE ASH 116

069 ARTIFICIAL INTELLIGENCE-ASSISTED GEOTECHNICAL ASSESSMENT AND REMEDIATION OF GULLY EROSION 117

070 ARTIFICIAL INTELLIGENCE-DRIVEN PREDICTIVE MAINTENANCE AND THE PERFORMANCE OF PUBLIC BUILDINGS IN SOUTH-SOUTH NIGERIA: A MACHINE LEARNING-BASED QUANTITATIVE ASSESSMENT 118

071 ARTIFICIAL INTELLIGENCE-DRIVEN SUSTAINABLE CONSTRUCTION: A COMPARATIVE ASSESSMENT OF BAMBOO-REINFORCED CONCRETE AND CONVENTIONAL DESIGN STANDARDS IN AFRICA 119

072 ASSESSING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON PROJECT MANAGEMENT OF CONSTRUCTION ORGANIZATIONS 120

073 DEVELOPMENT OF AN INTELLIGENT WEB-BASED CLEARANCE MANAGEMENT SYSTEM USING ADAPTIVE MULTI-AGENT COORDINATION AND BLOCKCHAIN TECHNOLOGY: A CASE STUDY OF THE NATIONAL INSTITUTE OF CONSTRUCTION TECHNOLOGY AND MANAGEMENT (NICTM), UROMI, EDO STATE, NIGERIA 121

074 DIGITAL INNOVATION IN SCIENCE LABORATORY MANAGEMENT FOR ENTREPRENEURSHIP AND SKILLS DEVELOPMENT IN TECHNICAL EDUCATION: A CASE STUDY OF THE NATIONAL INSTITUTE OF

CONSTRUCTION TECHNOLOGY AND MANAGEMENT (NICTM), UROMI, EDO STATE, NIGERIA 122

075 IMPROVING MACHINE TRANSLATION USING AN EFFICIENT DUAL-BERT ADVERSARIAL NETWORK (DBAN) MODEL FOR USER-GENERATED CONTENT 124

076 PHYSICS-INFORMED NEURAL NETWORK SURROGATE OPTIMIZATION FOR FUEL BURN MINIMIZATION IN TRANSONIC WIDEBODY AIRCRAFT UNDER AEROSTRUCTURAL CONSTRAINTS 126

077 THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING DEMOGRAPHIC DATA COLLECTION AND POPULATION FORECASTING 127

078 WONDERS OF AI IN THE 21ST CENTURY: TRANSFORMATIVE LESSONS FOR ENGINEERING PRACTICE, RESEARCHERS, AND POLICY MAKERS IN AFRICA 128

Sub-Theme 4: Artificial Intelligence in Health, Life and Physical Sciences 129

079 ARTIFICIAL INTELLIGENCE FOR HEALTH EQUITY: EVALUATING THE IMPACT OF AI TOOLS ON SERVICE DELIVERY AND RESOURCE ALLOCATION IN NIGERIA'S PRIMARY HEALTHCARE CENTERS (2020-2025) 130

080 ARTIFICIAL INTELLIGENCE IN ANALYTICAL CHEMISTRY: CURRENT ADVANCES AND FUTURE DIRECTIONS 131

081 ARTIFICIAL INTELLIGENCE IN EMERGENCY TOXICOLOGY: CURRENT ADVANCES AND CLINICAL APPLICATIONS 132

082 CORN SILK EXTRACT IMPROVES SERUM ESTROGEN LEVEL AND OSTEOANABOLIC MARKERS IN OVARIECTOMIZED FEMALE RATS 133

083 DEVELOPMENT OF AN AUTOMATED EVALUATION SYSTEM FOR DETERMINING THE IMPACT OF DRUG EXPIRY DATE VALIDATION ON HEALTHCARE 134

084 ISOLATION, STRUCTURAL CHARACTERIZATION AND BIOACTIVITIES OF ANTIOXIDANT AND ANTIMICROBIAL COMPOUNDS FROM PROSOPIS AFRICANA STEM BARK 135

085 NONLINEAR MIXED CONVECTIVE-RADIATIVE NANOFLUID FLOW OVER A NONLINEAR STRETCHING SHEET WITH FRICTIONAL HEATING 136

086 UTILIZATION OF TELEMEDICINE PLATFORMS FOR PATIENT MANAGEMENT BY MEDICAL DOCTORS IN SELECTED HOSPITALS IN KADUNA STATE, NIGERIA 137

Sub-Theme 5: Artificial Intelligence in Business, Economy, Management and Governance 138

087 ADOPTION OF ARTIFICIAL INTELLIGENCE IN SUPPLY CHAIN MANAGEMENT: BARRIERS AND ENABLERS IN DEVELOPING ECONOMIES 139

088 APPLICATION OF ARTIFICIAL INTELLIGENCE IN SMALL AND MEDIUM ENTERPRISES IN DELTA SOUTH SENATORIAL DISTRICT 140

089 ARTIFICIAL INTELLIGENCE AND TABLEWARE MAINTENANCE: EVALUATING AI-ENABLED PRACTICES AS A DETERMINANT OF

QUALITY SERVICE DELIVERY IN THE HOSPITALITY SECTOR. CASE STUDY OF HOSPITALITY MANAGEMENT RESTAURANT, FEDERAL POLYTECHNIC EDE, OSUN STATE NIGERIA 141

090 ARTIFICIAL INTELLIGENCE AND THE EMERGING DIGITAL ECONOMY 142

091 ARTIFICIAL INTELLIGENCE IN SPORTS MANAGEMENT: PROSPECTS AND CHALLENGES IN KANO STATE, NIGERIA 143

092 ASSESSMENT OF STAKEHOLDERS' OPINIONS ON CULTURAL TOURISM OPPORTUNITIES FOR LONG-TERM DEVELOPMENT OF OSUN OSOGBO GROVE 144

093 EFFECT OF ARTIFICIAL INTELLIGENCE ON LOGISTICS AND DELIVERY PERFORMANCE, USING DHL NIGERIA AS A CASE STUDY 145

094 EFFECT OF ARTIFICIAL INTELLIGENCE ON LOGISTICS AND TRANSPORTATION PERFORMANCE, USING ABC TRANSPORT PLC AS A CASE STUDY 146

095 FROM TRADITIONAL TO SMART COOPERATIVES: THE ROLE OF ARTIFICIAL INTELLIGENCE 147

096 NIGERIAN BORDER SECURITY GOVERNANCE: THE ROLE OF INFRASTRUCTURE, COOPERATION AND ARTIFICIAL INTELLIGENCE .. 148

097 REIMAGINING COOPERATIVE MANAGEMENT IN THE ARTIFICIAL INTELLIGENCE ERA: IMPLICATIONS FOR ECONOMIC GROWTH 149

098 SMART LEADERSHIP SYSTEMS APPLICATIONS AND CONCEPTS IN TOURISM AND HOSPITALITY BUSINESSES IN NIGERIA: STUDY OF BAUCHI STATE 150

099 THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN THE MARKETING OF CONSUMER GOODS IN OSUN STATE, NIGERIA 151

100 THE ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN BUILDING GREEN SUPPLY CHAINS: CARBON EMISSION TRACKING AND OPTIMIZATION 152

101 THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING GUEST SERVICES AND DELIVERING EXCEPTIONAL AND SATISFACTORY SERVICE IN SELECTED HOTELS IN JOS METROPOLIS, PLATEAU STATE, NIGERIA 153

102 THE ROLES OF ARTIFICIAL INTELLIGENCE IN EFFECTIVE PROJECT MONITORING 154

103 [TITLE NOT PROVIDED BY AUTHOR] 155

104 UTILISATION OF ARTIFICIAL INTELLIGENCE IN THE DETERMINANTS OF EFFECTIVE TAX RATE OF LISTED NON-FINANCIAL FIRMS IN NIGERIA 156

Sub-Theme 6: Artificial Intelligence in Libraries, Languages, Humanities and Society 157

105 A CRITICAL REVIEW OF ARTIFICIAL INTELLIGENCE-POWERED ENGLISH LANGUAGE TOOLS AND YORUBA LINGUISTIC IDENTITY AMONG CHILDREN WITH LEARNING DISABILITIES IN NIGERIA 158

106 A CUSTOMIZED DESIGN SYSTEM FOR NIGERIAN LANGUAGE COLLECTIONS IN LIBRARIES 159

107 ADOPTION OF ARTIFICIAL INTELLIGENCE FOR LIBRARY AND INFORMATION SERVICES IN STATE UNIVERSITY LIBRARIES IN NORTH-WEST AND NORTH-CENTRAL NIGERIA 160

108 ARTIFICIAL INTELLIGENCE (AI) AND HUMANITY: EXAMINING THE INTERSECTION OF ARTIFICIAL INTELLIGENCE AND HUMAN SOCIETY 161

109 ARTIFICIAL INTELLIGENCE (AI) AND THE FUTURE OF ENGLISH LANGUAGE TEACHING IN AFRICAN HIGHER INSTITUTIONS: OPPORTUNITIES, CHALLENGES AND ETHICAL CONSIDERATIONS 162

110 ARTIFICIAL INTELLIGENCE AND HUMANITY IN THE 21ST CENTURY: BALANCING TECHNOLOGICAL ADVANCEMENT WITH HUMAN VALUES, ETHICS AND SUSTAINABLE DEVELOPMENT IN AFRICA 163

111 ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF HISTORICAL SCHOLARSHIP: OPPORTUNITIES, CHALLENGES AND FUTURE DIRECTIONS 164

112 ARTIFICIAL INTELLIGENCE AS A MODERN TECHNIQUE TO TEACH ENGLISH LANGUAGE IN KWARA STATE TERTIARY INSTITUTIONS 165

113 ARTIFICIAL INTELLIGENCE AS A RESEARCH ASSISTANT: OPPORTUNITIES AND ETHICAL CONSIDERATIONS FOR AFRICAN SCHOLARS 166

114 ARTIFICIAL INTELLIGENCE IN DIGITAL DA'WAH: INSTITUTIONAL GOVERNANCE, COMMUNICATION MANAGEMENT, AND PEDAGOGY IN ZAMFARA STATE, NIGERIA 167

115 ARTIFICIAL INTELLIGENCE-DRIVEN LITERATURE REVIEW AUTOMATION AND RESEARCH GAP IDENTIFICATION FOR ACCELERATING SCIENTIFIC INNOVATION IN AFRICAN UNIVERSITIES 168

116 COLONIAL INFRASTRUCTURE AND URBANIZATION OF BIRNIN KEBBI TOWN, 1928-1960 169

117 GENERATIVE ARTIFICIAL INTELLIGENCE AS A COLLABORATIVE RESEARCH ASSISTANT: OPPORTUNITIES, ETHICAL CHALLENGES, AND POLICY FRAMEWORKS FOR SCHOLARLY WRITING IN AFRICAN UNIVERSITIES 170

118 HUMANITY AUGMENTED: THE WONDERS OF AI IN SHAPING ETHICS, CULTURE, AND HUMAN FLOURISHING IN THE 21ST CENTURY 171

119 LIBRARIES AS SAFE LEARNING SPACES: PROMOTING DIGITAL RESPONSIBILITY AND PSYCHOLOGICAL WELL-BEING AMONG CHILDREN IN NORTHERN NIGERIA 173

120 LINGUISTIC BIAS IN GENERATIVE AI AGAINST INDIGENOUS AFRICAN ENGLISH LEXICAL INNOVATIONS 174

121 PROSPECTS AND CHALLENGES OF THE USE OF ARTIFICIAL INTELLIGENCE (AI) FOR LEARNING: ARABIC SCHOLARS IN PERSPECTIVE 175

122 THE 5TH INDUSTRIAL REVOLUTION AND THE ROLE OF ARTIFICIAL INTELLIGENCE IN ACADEMIC LIBRARIES: A REVIEW 176

NOTE ON THE CATALOGUE

This catalogue presents the 122 abstracts received for the Organisation Development Institute (ODI) Bi-Annual International Academic Conference for Scholars and Researchers 2026. To aid navigation, the abstracts have been arranged under six sub-themes of the conference theme and listed alphabetically by title within each sub-theme. Each abstract carries a reference number (for example, Abstract No. 001) that corresponds to the Table of Contents.

For uniformity, every abstract follows the same layout: the title in capital letters, the author(s), institutional affiliation(s) and contact details, followed by the abstract and keywords. The text of each abstract is reproduced as submitted by the author(s); only the layout, typography and arrangement have been standardised. Duplicate copies of the same abstract submitted more than once have been consolidated into a single entry.

The views expressed in the abstracts are those of the respective authors and do not necessarily reflect the views of the Organisation Development Institute, Ghana.

SUB-THEME 1

ARTIFICIAL INTELLIGENCE IN EDUCATION, TEACHING AND LEARNING

Abstracts 001 – 036

Abstract No. 001

ADOPTION OF ARTIFICIAL INTELLIGENCE (AI) IN TEACHING AND LEARNING OF ACCOUNTING EDUCATION IN NIGERIAN UNIVERSITIES: AN EMPIRICAL INVESTIGATION

Ogunrinbokun, Bamidele Emmanuel
Accounting Education Department, School of Business Education, Federal College of Education (Technical), Akoka, Lagos, Nigeria
Email: beoogunrinbokun@gmail.com; bamidele.ogunrinbokun@fcetakoka.edu.ng; ORCID: 0009-0004-8816-0806

ABSTRACT

This study investigates the adoption of Artificial Intelligence (AI) in the teaching and learning of accounting education in Nigerian universities, focusing on key influencing factors, challenges, and strategies for improvement. A mixed-methods approach was employed, utilizing a questionnaire administered to 105 respondents, including lecturers, students, and administrators across Nigerian universities. Data were analyzed using descriptive statistics, Confirmatory Factor Analysis (CFA), regression, and t-tests. Findings reveal that perceived usefulness, technological infrastructure, and institutional support are significant factors driving AI adoption. Key challenges include lack of technical skills, resistance to change, and limited financial resources, while strategies such as adequate infrastructure and training emerged as critical enablers. The study concludes that addressing these challenges through targeted interventions will enhance AI adoption and improve the quality of accounting education in Nigerian universities.

Keywords: Artificial Intelligence, Accounting Education, AI Adoption, Teaching and Learning, Technological Infrastructure, Institutional Support, Educational Technology.

Abstract No. 002

ARTIFICIAL INTELLIGENCE, ACADEMIC INTEGRITY AND STUDENTS' ATTITUDES TOWARDS PLAGIARISM AND THE UNACKNOWLEDGED USE OF AI-GENERATED CONTENT

Sabina Joseph (PhD)
Centre for Educational Technology Unit, Federal University of Education, Pankshin
Sabinajoseph59@gmail.com
Nokshuwan Emmanuel Jidauna
Department of Geography, Federal University of Education, Pankshin
emmyjiddy@gmail.com; 07062671004
Polmi Ibrahim
Department of Social Studies and Civic Education, Federal University of Education, Pankshin
ibropolmi@gmail.com; 08060625853

ABSTRACT

The increasing use of generative artificial intelligence (AI) in higher education presents opportunities for learning, academic writing and information processing, but also raises concerns about plagiarism, authorship, transparency and academic integrity. Students' understanding of acceptable AI use and their attitudes towards acknowledging AI-generated content may influence how these tools are used in academic tasks. This proposed study will examine the relationship between AI use, academic-integrity awareness and university students' attitudes towards plagiarism and the unacknowledged use of AI-generated content in selected universities in Plateau State, Nigeria. The objectives are to assess students' awareness of academic-integrity principles and institutional AI-use guidelines, examine their attitudes towards plagiarism and undisclosed AI-generated content, and determine the relationships between awareness, frequency of AI use and these attitudes. A cross-sectional survey design will be adopted. A provisional sample of 200 undergraduate students will be considered, subject to confirmation of the accessible population and a defensible sample-size calculation. Data will be collected using a structured questionnaire addressing AI-use patterns, knowledge of academic-integrity requirements and attitudes towards disclosure. Descriptive statistics will summarise the responses, while appropriate inferential statistics will test the relationships among the study variables. The study is expected to inform institutional policies, student orientation, assessment practices and responsible AI-use education. As data have not yet been collected, the abstract presents the proposed investigation and does not claim empirical findings.

Keywords: Artificial Intelligence, Academic Integrity, Plagiarism, Generative Ai, Disclosure, University Students.

Abstract No. 003

ARTIFICIAL INTELLIGENCE ADOPTION AND ADMINISTRATIVE EFFECTIVENESS IN NIGERIAN TERTIARY INSTITUTIONS: IMPLICATIONS FOR EDUCATIONAL MANAGEMENT IN KWARA STATE PUBLIC INSTITUTIONS

EYEBHORIA, Otoiede Marvellous
Department of Political Science, Nigerian Army College of Education, Nigeria
https://orcid.org/0009-0008-8693-7027; Phone Number: +2348067398827

ABSTRACT

The rapid emergence of Artificial Intelligence (AI) is transforming organizational processes and creating new opportunities for improving administrative practices within educational institutions. In Nigerian tertiary institutions, where administrative effectiveness is essential for institutional productivity, quality service delivery, and effective decision-making, the adoption of AI presents both significant opportunities and challenges. This paper examines the influence of Artificial Intelligence adoption on administrative effectiveness in Nigerian tertiary institutions. Specifically, the paper explores the extent to which AI-supported decision-making, communication, records management, and administrative workflow contribute to improved administrative effectiveness. It also considers key challenges associated with AI adoption, including inadequate digital infrastructure, limited staff competencies, financial constraints, data privacy concerns, and resistance to technological change. The paper was anchored on Technology Acceptance Model Theory (TAMT), to measure the effectiveness of AI in administrative effectiveness in Nigerian tertiary institutions. The paper adopts a quantitative research approach, using a structured questionnaire to obtain data from academic and administrative personnel in selected Nigerian tertiary institutions. Descriptive and inferential statistical techniques are proposed for data analysis, with particular attention to the relationship between AI adoption and administrative effectiveness. The study is expected to demonstrate that effective adoption of AI can enhance administrative efficiency, facilitate timely decision-making, improve information and records management, and strengthen institutional service delivery. However, the benefits of AI adoption are likely to depend on institutional readiness, leadership support, digital competence, infrastructure, and appropriate governance mechanisms. The paper concludes that Nigerian tertiary institutions need strategic policies, capacity-building programmes, and adequate digital infrastructure to maximize the administrative benefits of AI while addressing associated ethical and organizational challenges. The study contributes to the growing discourse on AI and educational management and provides implications for institutional leaders and policymakers seeking to promote effective digital transformation in Nigerian tertiary education.

Keywords: Artificial Intelligence, AI Adoption, Administrative Effectiveness, Educational Management, Tertiary Institutions, Technology.

Abstract No. 004

ARTIFICIAL INTELLIGENCE AND DIGITAL SKILLS INTEGRATION IN INDUSTRIAL TECHNOLOGY EDUCATION FOR ENHANCED GRADUATE EMPLOYABILITY IN NIGERIA

Okeke Kendra Erere
Department of Industrial Technology Education, Delta State University, Abraka
Email: eokeke.delsu.edu.ng

ABSTRACT

The increasing adoption of artificial intelligence (AI) and digital technologies is transforming occupational structures and redefining the competencies required for graduates to succeed in the contemporary workforce. Within Industrial Technology Education (ITE) in Nigeria, the integration of AI and digital skills has become essential for improving curriculum relevance, strengthening technical competencies, and preparing graduates for the demands of the emerging digital economy. Drawing on recent scholarly and policy literature, this paper explores the role of AI and the integration of digital skills in enhancing graduate employability by improving technical proficiency, creativity, innovation, problem-solving ability, entrepreneurial capacity, and lifelong learning. The paper further examines the challenges limiting effective adoption, including inadequate digital infrastructure, insufficient educator preparedness, limited access to emerging technologies, weak collaboration between educational institutions and industry, funding limitations, and gaps in policy implementation. It argues that the future relevance of Industrial Technology Education depends on its ability to adapt to technological advancements and equip learners with competencies aligned with evolving labour market needs. The paper concludes that embedding AI and digital competencies within ITE curricula is critical for developing a flexible, innovative, and technology-oriented workforce capable of contributing to Nigeria's digital transformation. It recommends curriculum modernization, investment in digital learning facilities, industry-driven training partnerships, and continuous capacity development for educators to promote the effective integration of AI and digital skills in Industrial Technology Education.

Keywords: Artificial Intelligence, Digital Skills, Industrial Technology Education, Graduate Employability, TVET, Digital Economy, Nigeria.

Abstract No. 005

ARTIFICIAL INTELLIGENCE AND MANAGEMENT OF TERTIARY INSTITUTIONS IN NIGERIA

Murtala Ibrahim, PhD
murtalaibrahimbawa@gmail.com; 08060855860
Danjuma Adamu Ismaila, PhD
danjuisma@gmail.com; 08032784657
Aviation Management School, Nigerian College of Aviation Technology (NCAT), Zaria

ABSTRACT

Since the COVID-19 pandemic, many educational institutions have been pushed to explore alternative means of managing institutional resources, imparting knowledge and disseminating ideas in educational arena. Within the last decade, the rapid growth of Artificial Intelligence (AI) has begun to reshape education worldwide, opening new opportunities for innovation in teaching, learning, research and management of educational enterprises. In an era defined by rapid technological advancements and unprecedented global challenges, management of tertiary institutions stands at the forefront of transformation. As Nigeria navigate through the complexities of an ever-changing world, it becomes imperative to integrate AI tools into the management of tertiary institutions; this comes with challenges. This paper explored the relevance, benefits, problems and prospects of integrating AI in management of tertiary institutions in Nigeria. It argued that if thoughtfully applied, AI could help Nigerian Education Managers overcome long-standing barriers to effective administration of institutions and positioning the nation's tertiary institutions more firmly within the global academic landscape. It also put forward practical recommendations on how to ameliorate the challenges.

Keywords: Artificial Intelligence, Management, Tertiary Institutions

Abstract No. 006

ARTIFICIAL INTELLIGENCE AND THE FUTURE OF HIGHER EDUCATION IN NIGERIA: OPPORTUNITIES, CHALLENGES, AND POLICY IMPLICATIONS

Engr. Dr. Dauda Adekunle FOLARIN*
Dean, School of Engineering Technology, Ogun State Institute of Technology, Igbesa
folarin.dauda@ogitech.edu.ng; +2349056274880
Engr. Oluwadare Olatunde AKINROGUNDE
Department of Electrical & Electronics Engineering Technology, Ogun State Institute of Technology, Igbesa
Oluwadare@ogitech.edu.ng; +2348068931447; *Corresponding author

ABSTRACT

Artificial Intelligence as become an important part of contemporary higher education, with growing applications in teaching, learning, assessment, research, student support, and institutional administration. The emergence of generative artificial intelligence has further accelerated this development by making sophisticated AI tools readily accessible to lecturers and students. In Nigeria, these developments create opportunities to strengthen teaching and learning, improve access to academies resources, support research, enhance administrative efficiency, and equip graduates with skills relevant to a changing labour market. However, the benefits are accompanied by concerns about academies integrity, inaccurate AI-generated information, unequal access to digital resources, data privacy, staff preparedness, overdependence on automated systems, and the absence of mature institutional governance frameworks. This paper examines the opportunities, challenges, and policy implications of AI adoption in Nigerian higher education. It adopts a narrative review and policy analysis approach, drawing on recent peer-reviewed literature and relevant policy documents published between 2020 and 2026. The analysis shows that AI adoption is already occurring among Nigerian students and academics, while institutional responses remain at different stages of development. The paper argues that the future of AI in Nigeria higher education should not be determined simply by the availability of new technologies. Its value will depend on how effectively institutions align AI use with educational objectives, academics standards, human judgment, equity, and national development priorities. It recommends coherent institutional AI policies, curriculum reform, staff and student AI literacy programmes, assessment redesign, stronger digital infrastructure, responsible data governance, and sustained investment in locally relevant AI research and development.

Keywords: Artificial intelligence, Higher Education, Nigeria, Generative AI, Teaching and learning, Educational Technology, AI policy

Abstract No. 007

ARTIFICIAL INTELLIGENCE COMPETENCIES AND PERCEIVED WORKPLACE READINESS AMONG FINAL-YEAR UNIVERSITY STUDENTS IN PLATEAU STATE, NIGERIA

Sabina Joseph (PhD)
Centre for Educational Technology Unit, Federal University of Education, Pankshin
Sabinajoseph59@gmail.com
Nokshuwan Emmanuel Jidauna
Department of Geography, Federal University of Education, Pankshin
emmyjiddy@gmail.com; 07062671004
Polmi Ibrahim
Department of Social Studies and Civic Education, Federal University of Education, Pankshin
ibropolmi@gmail.com; 08060625853

ABSTRACT

Artificial intelligence (AI) is changing professional practices by supporting information processing, communication, problem-solving and selected decision-making tasks. As AI-enabled tools become more common across occupational fields, university graduates may need competencies that extend beyond basic digital literacy to include effective use, critical evaluation, ethical judgement and an understanding of AI limitations. However, frequent exposure to AI tools does not necessarily indicate that students can use them competently in professional settings. This proposed study will examine the relationship between AI competencies and perceived workplace readiness among final-year university students in Plateau State, Nigeria. The objectives are to assess students' self-reported AI competencies, examine their perceived readiness to use AI responsibly and effectively in future employment, and determine the relationships between AI competencies, prior training and workplace readiness. A cross-sectional survey design will be adopted. A provisional sample of 200 final-year students from selected universities will be considered, subject to confirmation of the accessible population and an appropriate sample-size calculation. Data will be collected using a structured questionnaire addressing AI knowledge, practical use, critical evaluation, ethical awareness, prior training and perceived workplace readiness. Descriptive statistics will summarise the responses, while suitable inferential analyses will examine relationships among the study variables and differences across relevant student groups. The study will distinguish self-reported competence from objectively demonstrated proficiency and perceived readiness from actual employment outcomes. Its findings, once data are collected and analysed, may inform curriculum development, career preparation and responsible AI education in higher education.

Keywords: Artificial Intelligence Competencies, Workplace Readiness, Final-Year Students, Digital Literacy, Higher Education.

Abstract No. 008

ARTIFICIAL INTELLIGENCE, EXPLAINABLE MACHINE LEARNING, AND STATISTICAL COMPUTING FOR TRANSFORMING MATHEMATICS AND STATISTICS EDUCATION IN AFRICA

Hasheem Abdul Mohammed
Department of Mathematics and Statistics, Federal Polytechnic Nasarawa, Nasarawa State, Nigeria
Email: mohammedhasheema@gmail.com

ABSTRACT

Artificial Intelligence (AI), Explainable Machine Learning (XAI), and statistical computing are reshaping data analysis, scientific research, and evidence-based decision-making worldwide. Nevertheless, mathematics and statistics programmes in many African institutions have been slow to integrate these emerging technologies into teaching and research. This study examines the potential of AI, XAI, and statistical computing to transform mathematics and statistics education and prepare graduates for the digital economy. It reviews the relevance of explainable AI in statistical modelling, identifies challenges limiting technology adoption, evaluates its contribution to transparent decision support, predictive modelling, and research innovation, and proposes strategies for curriculum enhancement consistent with Education 5.0. Using a qualitative review of recent literature and global best practices, the study finds that integrating AI-enabled statistical software, explainable machine learning models, and modern computing platforms improves analytical reasoning, research quality, digital literacy, and graduate employability while promoting responsible AI adoption. The study concludes that curriculum modernization, investment in digital learning infrastructure, faculty development, and stronger collaboration between academia and industry are essential for producing globally competitive statisticians capable of supporting sustainable development across Africa.

Keywords: Artificial Intelligence, Explainable AI, Machine Learning, Statistical Computing, Statistics Education, Education 5.0.

Abstract No. 009

ARTIFICIAL INTELLIGENCE IN WOODWORK TECHNOLOGY EDUCATION: TRANSFORMING SKILLS DEVELOPMENT, INSTRUCTIONAL DELIVERY AND GRADUATE EMPLOYABILITY IN NIGERIA

Dr. Boyi James E.
Department of Technology Education, Federal University of Education, Pankshin, Plateau State, Nigeria
Email: boyijames001@gmail.com

ABSTRACT

Artificial Intelligence (AI) is increasingly transforming education, industrial operations and workforce development. In Woodwork Technology Education, its application offers opportunities to improve instructional delivery, practical skills acquisition and graduate employability. However, Nigerian institutions continue to face challenges, including inadequate modern workshop facilities, limited digital competencies and a disconnect between institutional training and industry requirements. This paper examines the potential of AI in transforming Woodwork Technology Education in Nigeria, focusing on computer-aided wood design, computer numerical control (CNC) operations, intelligent machine maintenance, automated production and digital instructional support. It also examines the challenges of AI integration, particularly inadequate infrastructure, funding, staff capacity and technological accessibility. The paper proposes an AI-integrated approach to modernising instructional practices, strengthening students' technological competencies and aligning vocational training with contemporary industrial demands. It argues that effective AI adoption requires curriculum innovation, continuous professional development of lecturers and stronger partnerships between educational institutions and industries. The paper concludes that integrating AI into Woodwork Technology Education can enhance skills development, promote sustainable industrial growth and improve graduate employability in Nigeria.

Keywords: Artificial Intelligence, Woodwork Technology Education, Skills Development, Instructional Delivery and Graduate Employability.

Abstract No. 010

ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, AND PREDICTIVE ANALYTICS FOR DEVELOPING FUTURE-READY STATISTICIANS IN AFRICA'S DATA-DRIVEN ECONOMY

Dahiru Usman Jnr
Department of Mathematics and Statistics, Federal Polytechnic Nasarawa, Nasarawa State, Nigeria
Email: dahirujnr@gmail.com

ABSTRACT

The rapid advancement of Artificial Intelligence (AI), Machine Learning (ML), and predictive analytics is transforming statistical practice and evidence-based decision-making across sectors. However, mathematics and statistics education in many African higher institutions remains largely theoretical, with limited integration of intelligent computational tools required for today's data-driven economy. This study examines the role of AI, ML, and predictive analytics in developing future-ready statisticians capable of addressing complex societal and industrial challenges. Specifically, it explores the relevance of intelligent data analytics in statistics education, identifies barriers to AI integration within academic programmes, evaluates their contributions to statistical modelling, forecasting, and decision support, and proposes strategies for curriculum innovation aligned with Education 5.0. The study adopts a qualitative review of contemporary literature and global best practices in AI-enabled statistical education. Findings reveal that integrating AI-powered statistical software, machine learning algorithms, and predictive modelling into teaching significantly enhances analytical competence, research productivity, graduate employability, and innovation while supporting Sustainable Development Goals, particularly SDGs 4, 8, and 9. The study concludes that curriculum reform, faculty upskilling, digital infrastructure investment, and stronger academia-industry collaboration are essential for preparing statisticians to thrive in Africa's emerging digital economy.

Keywords: Artificial Intelligence, Machine Learning, Predictive Analytics, Statistics Education, Education 5.0, Data-Driven Economy.

Abstract No. 011

BALANCING AUTOMATION AND EMPATHY: ROLE OF ARTIFICIAL INTELLIGENCE AND EMOTIONAL INTELLIGENCE IN 21ST CENTURY SCHOOL ADMINISTRATION

MAGAYAKI, Abdulsalam Usman
Nigerian Army College of Education, Ilorin, Kwara State
abumagayaki@gmail.com; +2348036421822

ABSTRACT

There is no gain saying that the advent of Artificial Intelligence (AI) has influenced several fields of human endeavour. The 21st century school administrators are also not left out of this influence, as they are faced with competing demands: the need to show empathy in how they manage people and the demand for efficiency through the use of technology. AI provides prognostic analytics, automation, and data driven decision making. Emotional Intelligence (EI) on the other hand offers capacity (such as social skills, self-awareness and empathy) to understand and manage emotions needed for effective human interaction. This paper explores how school managers can balance EI and AI in school administration. The paper discusses specific areas how AI can support administrative functions such as student data management, timetable generation, automated attendance, resource allocation, staff schedule, performance tracking and dropout risk predictive analysis. It also studies how EI enhances administration through ethical decision making, conflict resolution, counselling, staff motivation and creating a conducive working environment. The study argues that too much reliance on automation at the detriment of empathy to staff leads to a detached and bureaucratic school system. At the same time over-reliance on empathy alone without automation will certainly leads to inefficiency. The paper concludes that a balance between AI and EI is necessary for human, effective, equipped and prepared school administrators ready to succeed in challenges and opportunities of the future. It therefore recommends in-service and capacity training for principals on proper guidelines for the use of AI and investment in the aspect of numerary tools and emotional leadership training as well.

Keywords: Emotional Intelligence, Artificial Intelligence, Empathy, Automation, 21st Century Leadership, School Administration.

Abstract No. 012

CHALLENGES AND PROSPECTS OF ARTIFICIAL INTELLIGENCE (AI) INTEGRATION IN EDUCATIONAL MANAGEMENT IN PUBLIC SECONDARY SCHOOLS IN PLATEAU STATE, NIGERIA

PADUNG, Leonard Dokbisa, PhD
Department of Educational Management, Federal University of Education, Pankshin
lpadung037@gmail.com; 08034637945

ABSTRACT

Artificial Intelligence (AI) is increasingly transforming educational administration and management through automated processes, data-driven decision-making, improved communication, and efficient resource allocation. However, its integration into public secondary schools in Plateau State, Nigeria, presents several challenges and opportunities that require careful consideration. This paper examines the challenges and prospects of integrating artificial intelligence into educational management in public secondary schools in Plateau State. The paper adopts a non-empirical approach based on a conceptual review of relevant literature, theories, policy documents, and existing scholarly publications on artificial intelligence and educational management. The discussion focuses on the potential applications of AI in school administration, including personnel management, students' records management, educational planning, monitoring and evaluation, communication, and decision-making. It also identifies major challenges that may hinder effective AI integration, such as inadequate digital infrastructure, unreliable electricity supply, insufficient funding, limited digital literacy among school administrators, data privacy and security concerns, ethical issues, and resistance to technological change. Despite these challenges, AI offers considerable prospects for improving administrative efficiency, promoting evidence-based decision-making, enhancing accountability, facilitating resource management, and strengthening institutional performance. The paper argues that successful AI integration requires deliberate government policies, adequate funding, improved digital infrastructure, capacity-building programmes for school administrators, and effective measures for data protection and ethical AI use. It concludes that the strategic and responsible adoption of artificial intelligence could significantly enhance educational management in public secondary schools in Plateau State, Nigeria, provided that existing challenges are systematically addressed.

Keywords: Artificial Intelligence, Educational Management, Public Secondary Schools, Challenges, Prospects, Plateau State.

Abstract No. 013

CONSEQUENCES OF LOW FEMALE ENROLMENTS IN SECONDARY SCHOOLS IN KEBBI STATE

Safiya Muhammad Mairiga and Dr. Bashiru Musa Said
Adamu Augie College of Education, Argungu, Kebbi State, Nigeria
Said20@graduate.u.t.m.my; Bashmusa66@gmail.com

ABSTRACT

Female education into secondary school is very important in the development of the girl child in Kebbi State. In this project research work the consequences of female enrolment into secondary school in Kebbi state were examined. This comprises of cultural and traditional practices which makes some parents to prepare sending their male children to school rather than the female children because they thought that female education is a waste of time and money as many of them end up as house wives. Early marriage also is one of the consequences of female enrolment into secondary school which makes some parents to think that girls are like property that one can acquire, money should not be spent on them simply because they will be married out. Broken homes also affect the female enrollment into secondary school because some parents as a result of problem in the home do not care to provide for the welfare and education of their children. Parental background affects female enrolment into secondary school because some parents consider it as a waste of time and resources, thus the investment may not be realized immediately and as a result they see secondary education as a wasted investment. Economic factors is one of the consequences of female enrolment into secondary school where by parents withdraw their children from school for the purpose of hawking. They do this because of their poor financial position. Most parents labored their children with domestic duties, farm work and care of the young ones at home.

Abstract No. 014

CURRICULUM DECOLONIZATION AND INDIGENOUS KNOWLEDGE IN AI-INTEGRATED TVET IN FEDERAL UNIVERSITIES AND COLLEGES OF EDUCATION (TECHNICAL) OF SOUTH-EAST NIGERIA

Chukwuma Samuel Chinonso
Abia State College of Education (Technical), Arochukwu, Abia State

ABSTRACT

Colonial epistemological structures embedded in Nigerian technical education curricula continue to marginalize indigenous knowledge systems, while the rapid integration of Artificial Intelligence tools risks further entrenching this cultural imbalance within Technical and Vocational Education and Training (TVET). This study investigated the relationship between curriculum decolonization awareness, indigenous knowledge integration, and AI tool acceptance among TVET faculty in federal universities and Colleges of Education (Technical) in South-East Nigeria, situating findings within the broader West African sustainable education reform discourse. A descriptive survey design was adopted, with data collected from 276 TVET faculty members selected through stratified random sampling using a validated 38-item structured questionnaire grounded in Postcolonial Theory and the Technology Acceptance Model (TAM). Findings revealed that 71.8% of respondents identified existing TVET curricula as predominantly Eurocentric, inadequately reflecting indigenous technical knowledge traditions. Furthermore, indigenous knowledge orientation significantly predicted acceptance of AI-integrated instruction ($\beta = 0.59$, $p < .001$), indicating that culturally-grounded faculty demonstrate stronger AI adoption readiness. The study concludes that sustainable AI integration in TVET cannot be achieved without deliberate decolonization of inherited curriculum frameworks as a foundational prerequisite. These findings contribute a TAM-decolonial conceptual model to TVET scholarship, offering evidence-based recommendations for NBTE and NUC curriculum reform, advancing SDG 4 commitments and bridging global AI imperatives with South-East Nigeria's indigenous educational realities.

Keywords: Curriculum decolonization; indigenous knowledge; AI integration; Technical and Vocational Education and Training (TVET); South-East Nigeria

Abstract No. 015

DIGITAL COMPETENCY GAPS IN OFFICE TECHNOLOGY AND MANAGEMENT EDUCATION FOR ENTREPRENEURSHIP DEVELOPMENT AMONG NATIONAL DIPLOMA II STUDENTS OF FEDERAL POLYTECHNICS IN SOUTH-EAST NIGERIA

Marcus, Onyekaozuru Patricia
School of Vocational and Technical Education, Abia State College of Education (Technical), Arochukwu, Abia State, Nigeria
marcusonyekaozuru@gmail.com; 08036021653

ABSTRACT

The rapid diffusion of Artificial Intelligence and digital technologies has redefined the competencies required for entrepreneurial success, yet Office Technology and Management (OTM) curricula in Nigerian Federal Polytechnics have not consistently kept pace with these demands.

This study investigated digital competency gaps among Ordinary National Diploma II OTM students in Federal Polytechnics in South-East Nigeria and their implications for entrepreneurship development.

A descriptive survey design was employed. A sample of 220 OND II OTM students was drawn from Five (5) Federal Polytechnics in South-East Nigeria using proportionate stratified random sampling. Data were collected via a 4-point Likert-scale questionnaire validated by experts (Cronbach's alpha = [0.83]) and analyzed using mean, standard deviation, and t-test at [0.05] significance level.

Students demonstrated moderate competency in basic office productivity tools (mean =2.60), but only 35% showed proficiency in digital marketing, e-commerce, and AI-based entrepreneurship tools. The t-test revealed a significant gap between curriculum content and industry-required competencies ($t = 3.11$, $p < 0.05$).

These findings highlight a critical misalignment between OTM training and entrepreneurial digital demands, offering empirical grounding for curriculum reform and AI-integrated pedagogy in TVET institutions across Africa.

Keywords: Digital competency; Office Technology and Management; entrepreneurship development; Vocational education; South-East Nigeria; TVET

Abstract No. 016

DIGITAL LEADERSHIP FOR SUSTAINABLE RESOURCE MANAGEMENT AND INSTITUTIONAL EXCELLENCE IN NIGERIA HIGHER INSTITUTIONS

Nanyar Ladon Josiah
Department of Economics, College of Education Gindiri, Plateau State, Nigeria
Email: nanyarladonjosiah@gmail.com

ABSTRACT

The Examines digital leadership for sustainable resources management and institutional excellence in Nigeria higher institutions. The study is prompted by the National Universities Commission (NUC) directives of January 2026 which mandated Vice – Chancellors to ensure transparency, accountability and due process in financial management procurement, recruitment and resource allocation while adopting to artificial intelligence and the e – NUC automation platform. The paper is delimited to six selected public universities representing six geo-political zones. University of Abuja (North Central) Ahmadu Bello University Zaria (North West), University of Maiduguri (North East), University of Nigeria Nsukka (South East), University of Lagos (South West) and University of Port Harcourt (South South).

The paper adopt a conceptional and descriptive approach using secondary data sourced from NUC 2026 retreat communique, University official portals and recent empirical studies 2025 – 2026. Content and analysis was used to synthesized data on digital leadership initiatives.

The findings reveals that , while Universities like University of Lagos and Ahmadu Bello University have demonstrated strong digital leadership through Future – Ready Vision, Smart Campus projects, development of 120 + Wifi access points, 37km fibre network upgrade and Al – powered research, ecosystems, most institutions still face challenges of low ICT Infrastructure quality, low digital literacy and resistance to change. The studies also shows that AI and collaboration platforms have strong positive correction with decision – making and resource allocation, and e – HRM practice improve performance when moderated by digital literacy. It is then concluded that the analogue leadership cannot drive excellence in a digital era. It recommends full implementation of e- NUC platform, continues capacity building a digital literacy and AI ethics, public – private partnerships for funding, and formulation of institutional policies on cybersecurity and transparent resource management.

Keywords: Digital Leadership, Sustainable Resource Management, and Institutional Excellence.

Abstract No. 017

EFFECTS OF AI-POWERED SPEECH-TO-TEXT STRATEGY ON LITERACY SKILLS OF LEARNERS WITH HEARING IMPAIRMENT IN PRIMARY SCHOOLS IN NIGERIA

Rahila Samuel Milaham (Ph.D)
Department of Special Education, Federal University of Education, Pankshin, Plateau State, Nigeria
rahilasamuel22@gmail.com; +2348061563844; ORCID: 0000-0002-8518-291X

ABSTRACT

Learners with hearing impairment in Nigeria continue to face difficulties in developing important literacy skills, especially vocabulary and writing. One reason is that many traditional teaching methods depend mainly on spoken communication. This study examined the effects of an AI-powered speech-to-text strategy on the literacy skills of learners with hearing impairment in Nigerian primary schools. A quasi-experimental design was used. The study involved 20 learners with hearing impairment: 12 males and 8 females, aged 10–18 years. The learners were placed in an experimental group and a control group, with 10 learners in each group. The experimental group was taught with AI-powered speech-to-text technology supported by visual learning materials, while the control group received regular classroom instruction. Data were collected through writing tests, observation checklists and interview schedules. AI-powered speech-to-text technology and visual learning materials were also used during the teaching programme. The data were analysed using descriptive statistics and Analysis of Covariance (ANCOVA), while the pre-test scores were taken into account. The findings showed that the AI-powered speech-to-text strategy had a statistically significant effect on vocabulary development, $F(1, 17) = 5.018$, $p = .039$, partial $\eta^2 = .228$. It also had a statistically significant effect on learners' writing performance, $F(1, 17) = 5.651$, $p = .029$, partial $\eta^2 = .249$. Although these effects were statistically significant, the overall adjusted models were not statistically significant. The small number of learners also means that the findings should be interpreted carefully and should not be applied to all learners without further study. The study concludes that AI-powered speech-to-text technology, when used with suitable visual learning materials, may help improve vocabulary and writing among learners with hearing impairment. It recommends the use of accessible AI-supported teaching methods in literacy lessons, regular training for teachers, and careful adaptation of the technology to Nigerian school settings.

Keywords: AI-powered speech-to-text; learners with hearing impairment; literacy skills; vocabulary development; writing performance; inclusive education; Nigeria.

Abstract No. 018

EFFECTS OF INADEQUATE LABORATORY EQUIPMENT/RESOURCES ON ACADEMIC PERFORMANCE OF SCIENCE STUDENTS AMONG SENIOR SECONDARY SCHOOLS

Dr. Usman Gado Birnin Kebbi, Dr. Faruk Siddik Tilli and Dr. Bashiru Musa Said
Adamu Augie College of Education, Argungu, Kebbi State, Nigeria

ABSTRACT

This study assessed the effects of inadequate laboratory equipment/resources on academic performance and learning attitudes in Sciences among senior secondary school students in Birnin Kebbi, Kebbi State, Nigeria. The study was guided by three objectives: to determine the availability and adequacy of laboratory resources for teaching and learning Sciences; to examine the relationship between laboratory resource availability and students' academic performance in Biology; and to assess students' attitudes toward learning Sciences in schools with insufficient laboratory facilities. A descriptive survey research design was adopted, and a sample of one hundred and twenty (120) senior secondary school science students was purposively selected from Pan African High School, McPherson Secondary School, Nagari College Secondary School, and Government Girls' Day Secondary School, Birnin Kebbi, using a stratified random sampling technique. A structured questionnaire based on a 4-point Likert scale was used as the instrument for data collection, and data was analysed using descriptive statistics (frequencies, percentages, means, and standard deviations) as well as inferential statistics, including Pearson Product-Moment Correlation and t-tests, tested at the 0.05 level of significance using SPSS version 25. The findings revealed that although 70.8% of students confirmed the presence of a science laboratory in their schools, 75% of the same respondents indicated that the laboratories were not adequately equipped. The study further found that 69.9% of students reported limited hands-on participation due to inadequate tools, 67.5% indicated that inadequate laboratory equipment negatively affected their understanding of science concepts, and 70.8% admitted to relying on theoretical learning when practical sessions were unavailable. The study concluded that while laboratory spaces exist in most of the sampled schools, inadequate equipment, restricted access, and poor utilization significantly undermine students' academic performance and attitudes toward Sciences. The study recommended, among others, increased government funding for laboratory equipping, the establishment of school-based laboratory resource management committees, regular teacher training on laboratory management, integration of ICT and virtual laboratories, and the encouragement of public-private partnerships to support science laboratory development in secondary schools.

Keywords: Laboratory equipment, academic performance, learning attitudes, Sciences, Biology, secondary schools.

Abstract No. 019

EVALUATING STUDENTS' EXAMINATION RECORD STORAGE AND MANAGEMENT IN EXAMS AND RECORDS/MIS UNIT IN FEDERAL POLYTECHNIC IN OSUN STATE, NIGERIA

[Author details not provided]

ABSTRACT

This study evaluates students' examination record storage and management in the Exams and Records/MIS unit at the Federal Polytechnic Ede, focusing on assessing storage methods, filing techniques, the backup system, and identifying management challenges. Utilizing a case study methodology, structured interviews were conducted with 12 staff members which 7 staff were the respondents of the study, revealing a reliance on traditional, digital, and hybrid methods alongside challenges such as inadequate funding, poor infrastructure, and data security concerns. Recommendations include implementing an integrated digital record management system, enhancing security measures, investing in reliable infrastructure, providing ongoing staff training, and developing clear record management policies to improve efficiency and ensure the integrity of academic credentials.

Keywords: Students' examination record, Record storage, Record management, Management Information System (MIS).

Abstract No. 020

EVALUATING THE INFLUENCE OF AI LITERACY ON WORKFORCE READINESS AMONG NIGERIAN YOUTHS USING MULTIPLE REGRESSION APPROACH: A CASE STUDY OF OSUN STATE

IBRAHIM Rasheedat Adenike
Department of Statistics, School of Applied Sciences, The Federal Polytechnic, Ede, Osun State, Nigeria
Phone Number: 08033641814; E Mail: rashadelib@gmail.com

ABSTRACT

This study examined the relationship between AI literacy and workforce readiness among Nigerian youths in Osun State. As artificial intelligence transforms modern workplaces, understanding how AI competencies influence youth employability is critical for workforce development. The study employed a descriptive survey design with 384 respondents selected through simple random sampling. Data were collected using a structured questionnaire measuring AI knowledge, AI tool usage, digital skills, attitude toward AI, and workforce readiness. The instrument demonstrated good reliability with Cronbach's Alpha coefficients ranging from 0.789 to 0.856. Data analysis employed descriptive statistics, Pearson correlation, and multiple regression at 0.05 significance level. Findings revealed that Nigerian youths possess moderate to high AI literacy (Mean = 3.385), with strong digital skills (Mean = 3.652) and positive attitudes toward AI (Mean = 3.757), though AI tool usage was low (Mean = 2.961). Workforce readiness was moderate (Mean = 3.478). Contrary to expectations, correlation analysis showed very weak, non-significant relationships between AI literacy components and workforce readiness ($r = -0.043$ to 0.014, all $p > 0.05$). Multiple regression confirmed this, with AI literacy explaining only 0.34% of workforce readiness variance ($R^2 = 0.0034$, $F = 0.323$, $p = 0.863$). All four null hypotheses were not rejected. The study concluded that AI literacy does not demonstrate significant statistical relationships with workforce readiness in Osun State, likely reflecting limited AI adoption in local labor markets, infrastructure constraints, and informal sector employment dominance. Recommendations include coordinated interventions addressing supply-side skills development and demand-side employer readiness, infrastructure improvements, and context-appropriate programs integrating AI literacy with broader employability competencies.

Keywords: Artificial Intelligence, Ai Literacy, Workforce Readiness, Youth, Employability, Multiple Regression.

Abstract No. 021

FACTORS DETERMINING THE CHOICE OF CAREER AMONG SECONDARY SCHOOL STUDENTS IN KEBBI STATE

Abdullahi Umar, Ahmad Muhammad, Sama'ila Sai'idu and Dr. Bashiru Musa Said
Adamu Augie College of Education, Argungu, Kebbi State, Nigeria

ABSTRACT

100 students were randomly selected from five secondary schools in Kebbi state. The sample consists of 37males and 63females. A questionnaire designed on the basis of likert-type scale on the factors determining the choice of career based on environment, influence and opportunity of the students was administered. Their responses were analyzed using percentage, mean, standard deviation and T-test at p.05. Significant difference was found on the environmental factor (p.05=220.25, =1.960). Significant difference was also found on the personality (p.05=673.48; 1.960) and the significant difference of the opportunity the students see (p.05=148.69; =1.960). The percentage on male and female was also carried out. 52% of male and 46% of female agreed that opportunity do affect career while 42% disagreed for both male & female, 51% of male and 51% of female agreed that personality do affect career choice while 42% and 45% of both male and female disagreed, 50% of male and 54% of female agreed that environment do affect career choice but 41% and 49% of male& female does not agree. Conclusively, all the factors affect the students in determining their career.

Abstract No. 022

INFLUENCE OF ACCOUNTABILITY ON THE MANAGEMENT OF RESOURCES IN UNIVERSITIES IN NORTH-EAST GEOPOLITICAL ZONE, NIGERIA

Hamidu Mohammed Jada, Ph.D.
Department of Education, Faculty of Education, Federal University, Dutse, Jigawa State, Nigeria
hamid.jada@gmail.com; +2347038417827

ABSTRACT

The study assessed the Influence of accountability on the Management of ResourcesinUniversities in North-East Geographical Zone, Nigeria. The research had onespecificobjective which is to determine the influence of accountability on the Management ofResources in Universities in North-East Geographical Zone, Nigeria. Relevant relatedliterature were reviewed. The study employed a descriptive survey research designwithpopulation of 9892 and sample size of 375. A self-structured questionnairetitled‘‘Democratic Leadership Style Practices and Management of Resources in Universities(DLSPMRU)”was used for data collection. Descriptive statistics of frequency andmeanwere used to answer the research questions, while ANOVA statistics testedthehypothesis at a 0.05 significance level. The results revealed among othersthataccountability have positive influence on the management of resources in Universitiesin the North-East Geographical Zone, Nigeria (P = 0.250). The study concludesthataccountability significantly contribute to resource management in universities withintheNorth-East Geographical Zone, Nigeria. The study recommended among othersthatUniversity management should improve communication channels to ensure timelyandtransparent information dissemination across all departments, aiding effective resourcemanagement. Universities should adopt transparent financial practices, includingregular budget reviews and open discussions, to improve accountability in managingresources.

Keywords: Influence, accountability, Management, Resources, Universities

Abstract No. 023

INTEGRATION OF ARTIFICIAL INTELLIGENCE INTO THE CURRICULUM OF HIGHER INSTITUTIONS OF LEARNING FOR SUSTAINABLE EDUCATIONAL REFORM IN THE 21ST CENTURY: A PHILOSOPHICAL DEBATE AMONG AFRICAN SCHOLARS AND RESEARCHERS

Bakari D.; Emmanuel G.; Samuel P. and Baraya Sunday Gideon
Department of Agricultural Economics and Extension, Taraba State University, Jalingo, Nigeria
*Corresponding author: bakaridaniel@gmail.com

ABSTRACT

The rapid advancement of Artificial Intelligence (AI) is transforming higher education globally, prompting institutions to reconsider traditional approaches to curriculum development, teaching, assessment, research, and knowledge production. In African higher education, AI integration has generated significant philosophical debates concerning educational quality, human agency, ethical responsibility, cultural identity, epistemic justice, and sustainable development. This paper critically examines the philosophical arguments surrounding AI-driven curriculum reform in African higher institutions of learning. The study adopts a qualitative philosophical research design based on conceptual analysis and documentary research methodology. Data were collected through a review of scholarly literature, including peer-reviewed journal articles, books, policy documents, and institutional reports sourced from major academic databases. The data were analyzed using conceptual clarification, philosophical argumentation, and critical discourse analysis. The study explores the tension between techno-optimist perspectives that view AI as a tool for expanding educational access, enhancing learning outcomes, and improving institutional efficiency, and critical perspectives that raise concerns about technological determinism, digital inequality, algorithmic bias, cultural dependency, and the erosion of human-centered education. It further examines the relevance of African philosophical traditions, particularly Ubuntu, in promoting ethical and culturally responsive approaches to AI integration. The paper argues that sustainable educational reform requires a balanced framework that leverages the benefits of AI while safeguarding human dignity, academic integrity, teacher agency, and indigenous knowledge systems. It concludes that responsible AI integration in African higher education depends on context-sensitive policies, ethical governance, institutional readiness, and digital capacity development.

Keywords: Artificial Intelligence, Higher Education, Curriculum Reform, Sustainable Education, African Philosophy, Ubuntu, Educational Technology, Human Development.

Abstract No. 024

LEVERAGING ARTIFICIAL INTELLIGENCE IN EDUCATIONAL MANAGEMENT: A CATALYST FOR SUSTAINABLE DEVELOPMENT IN NIGERIAN INSTITUTIONS

Dr. Sunday Ebhodaghe AKASI, FNIOTIM
Office Technology & Management Department, Federal Polytechnic, Ede, Osun state, Nigeria
aksunebo@yahoo.co.uk
08033802347

ABSTRACT

The recent and swift advancement of digital technologies, especially Artificial Intelligence (AI), is transforming educational systems worldwide by improving efficiency, personalizing learning experiences and facilitating evidence-based decision-making. Many African educational institutions with particular reference to Nigeria encounters challenges concerning infrastructure, policy deficiencies and human capacity that impede comprehensive AI adoption. This paper examines the significant impact of AI on enhancing educational management and furthering the Sustainable Development Goals (SDGs), with a specific focus on SDG 4, which advocates for inclusive and equitable quality education. This paper presents recent empirical evidence and policy reports that underscore the transformative advantages of AI in automating administrative tasks, optimizing resource allocation, enhancing data accessibility, and promoting personalized learning. This analysis critically evaluates the obstacles to AI adoption, such as digital inequality, ethical issues, institutional preparedness and stakeholder resistance. The paper concludes with policy recommendations designed to foster responsible and inclusive leveraging of AI. The paper argues that Artificial Intelligence, when utilized effectively, can act as a significant catalyst for developing resilient, equitable and future-ready education systems.

Keywords: Artificial Intelligence, Educational Management, Sustainable Development, Digital Transformation

Abstract No. 025

MULTIMODAL ARTIFICIAL INTELLIGENCE FOR INTELLIGENT TEACHING, STUDENT ENGAGEMENT, AND LEARNING OUTCOME PREDICTION IN HIGHER EDUCATION

Umeagukwu Okwudili Emmanuel
Federal University of Technology, Ikot Abasi (FUTIA)
Email: umeokwudili@gmail.com

ABSTRACT

The rapid advancement of Multimodal Artificial Intelligence (MMAI) is transforming higher education by enabling the integration of diverse data sources, including text, speech, images, video, and learner interactions, to create intelligent and adaptive learning environments. This paper explores the application of Multimodal AI in enhancing teaching effectiveness, improving student engagement, and accurately predicting learning outcomes in higher education institutions. Using a systematic review of recent empirical studies and emerging educational AI frameworks, the study examines how multimodal learning analytics can support personalized instruction, real-time student performance monitoring, automated feedback, and early identification of at-risk learners. The review reveals that Multimodal AI significantly improves learner engagement through adaptive content delivery, intelligent tutoring systems, virtual teaching assistants, and predictive analytics that enable timely pedagogical interventions. However, challenges relating to data privacy, algorithmic bias, transparency, digital infrastructure, faculty readiness, and ethical governance remain major barriers to widespread adoption, particularly within African universities. To address these issues, the paper proposes a conceptual framework for the responsible implementation of Multimodal AI founded on ethical governance, human-centered instructional design, data security, AI literacy, institutional capacity building, and continuous performance evaluation. The study concludes that responsible deployment of Multimodal AI has the potential to revolutionize teaching and learning by promoting personalized education, improving academic achievement, supporting evidence-based decision-making, and strengthening the digital transformation of higher education institutions in Africa.

Keywords: Multimodal Artificial Intelligence, Intelligent Teaching, Student Engagement, Learning Analytics, Learning Outcome Prediction, Higher Education, Personalized Learning.

Abstract No. 026

NURTURING YOUNG VOICES IN THE AGE OF ARTIFICIAL INTELLIGENCE: REIMAGINING LANGUAGE DEVELOPMENT AND HUMAN-CENTRED DIGITAL PEDAGOGY IN EARLY CHILDHOOD CARE AND EDUCATION

Jummai Ndana Suleiman
Department of Early Childhood Care Education, Faculty of Early Childhood Care and Primary Education, Yusuf Maitama Sule Federal University of Education, Kano
Suleimanjummai5@gmail.com; 08039584449

ABSTRACT

The field of Early Childhood Care and Education (ECCE) is changing due to the advent of Artificial Intelligence (AI) and the growth of Information Technology (IT), consequently opening up new possibilities for how young children learn, use, and develop language. In addition to examining the pedagogical, ethical, developmental, and contextual issues surrounding their use in the domains of ECCE, this research critically investigates the revolutionary potential of AI-enabled technology in bolstering early language development. The study creates an integrated framework connecting AI-supported learning, teacher mediation, child involvement, and language results based on a conceptual overview of recent research on AI, digital pedagogy, early childhood education, and language development. As emerging tools for fostering vocabulary acquisition, oral communication, listening comprehension, phonological awareness, emergent literacy, and multilingual learning, special attention is paid to intelligent storytelling, speech-recognition applications, adaptive learning platforms, interactive digital games, conversational AI, multimedia resources, and assistive technologies. The study contends that the quality of pedagogical mediation, developmental appropriateness, cultural responsiveness, and meaningful human connection surrounding its use are more important for the educational benefit of AI in early infancy than technological complexity. It also highlights a significant gap in the current discourse: the unique linguistic, cognitive, socioemotional, and cultural needs of young children particularly in African and Nigerian ECCE contexts are given relatively little attention in the discussion of educational AI, which primarily concentrates on older learners, technological efficiency, and academic performance. In order to put the teacher, pupils, family, and cultural environment at the centre of technology integration, the study suggests a Human-Centred AI–Language Development Framework for ECCE. It concludes that ECCE can transition from traditional digital exposure to personalized, inclusive, interactive, and linguistically responsive learning through the responsible integration of AI and IT. However, this shift necessitates equitable infrastructure, culturally relevant AI content, strong child-data protection, appropriate technology-use guidelines, and ongoing collaboration between educators, families, technology developers, and legislators. The study offers a conceptual framework for reconsidering AI as an intelligent pedagogical partner that can expand chances for language-rich learning when directed by good developmental and educational principles, rather than as a replacement for early childhood educators.

Keywords: Artificial Intelligence, Information Technology, Early Childhood Care and Education, Language Development, Emergent Literacy, Digital Pedagogy, Human-Centred AI, Inclusive Learning

Abstract No. 027

PERCEIVED BENEFITS AND CHALLENGES OF ARTIFICIAL INTELLIGENCE IN FINAL-YEAR RESEARCH PROJECT DEVELOPMENT AMONG UNDERGRADUATE STUDENTS IN PLATEAU STATE, NIGERIA

Tappi Danjuma Felix
Federal University of Education, Pankshin
felixtappidanjuma@gmail.com
Taka, Rotwera Goki
Federal University of Education, Pankshin
rotwera@gmail.com

ABSTRACT

Artificial intelligence (AI) tools are increasingly accessible to undergraduate students undertaking final-year research projects. These tools may assist with topic exploration, literature discovery, language editing, data organisation and the clarification of complex concepts. However, their use also raises concerns about inaccurate information, fabricated references, inadequate source verification, plagiarism, confidentiality and the extent of students' independent intellectual contribution. Understanding students' perceptions of these benefits and challenges is important for developing guidance that promotes responsible AI-assisted research. This proposed study will investigate the perceived benefits and challenges of AI in final-year research project development among undergraduate students in selected universities in Plateau State, Nigeria. Its objectives are to identify research tasks for which students report using AI tools, examine the perceived benefits and challenges of such use, and determine the relationships between frequency of use, prior training and awareness of academic-integrity concerns. A cross-sectional survey design will be adopted. A provisional sample of 200 final-year undergraduate students will be considered, subject to confirmation of the accessible population and a defensible sample-size calculation. Data will be collected using a structured questionnaire covering AI-use patterns, perceived usefulness, challenges, training and academic-integrity awareness. Descriptive statistics will summarise the responses, while appropriate inferential analyses will examine relationships among the study variables. The study will distinguish students' reported perceptions from independently assessed research quality and will not assume that AI use automatically improves or weakens academic performance. Its anticipated contribution is to inform university guidelines, research supervision and student training on responsible AI-assisted research. No empirical findings are claimed before data collection and analysis.

Keywords: Artificial Intelligence, Undergraduate Research, Final-Year Project, Academic Integrity, Research Writing, Higher Education.

Abstract No. 028

RELATIONSHIP BETWEEN DIGITAL INFRASTRUCTURE AND PRINCIPALS' ADMINISTRATIVE EFFICIENCY IN SECONDARY SCHOOLS IN ZAMFARA STATE, NIGERIA

Abbas Sani Dahiru
Department of Arts and Social Sciences Education, Zamfara State University, Talata Mafara
abbassanidahiru@gmail.com

ABSTRACT

Digital infrastructure and school leadership have been a major focus in the educational system of most states, especially in Nigeria. The aim of this study was to examine the relationship between digital infrastructure and principals' administrative efficiency in public secondary schools in Zamfara State, Nigeria. The descriptive correlational survey design was adopted for this study. The population comprised all 219 public secondary school principals across the state. Multistage Sampling techniques and Purposive was used to select 28 targeted Principals across seven (7) Educational Zones of the State. The instrument used for data collection was a researcher designed questionnaire titled "Digital Infrastructure and Principals Administrative Efficiency Questionnaire (DIPAEQ)". Both face and content validity of the instrument were established by experts in Educational Management, Measurement and Evaluation. Cronbach Alpha method of reliability was used to determine the reliability of the instrument. Data collected were analysed using descriptive statistics of Mean and Standard Deviation to answer research questions, while Pearson Product-Moment Correlation was used to test the null hypotheses. The results showed that key components of digital infrastructure available in schools are internet connectivity, computer hardware, administrative software, and power backup systems. The findings revealed a significant positive relationship between digital infrastructure and principals' administrative efficiency in record management, decision-making, communication, and resource allocation. However, inadequate power supply and limited ICT skills hindered optimal usage. Based on these findings, it was recommended that the Zamfara State Government prioritize the provision of reliable digital infrastructure and conduct continuous ICT training for principals.

Keywords: Digital infrastructure, principal administrative efficiency, secondary schools, Zamfara State.

Abstract No. 029

RETHINKING PROFESSIONAL PREPARATION IN REAL ESTATE EDUCATION: SENSE OF BELONGING, PROFESSIONAL IDENTITY AND THE EMERGING ROLE OF ARTIFICIAL INTELLIGENCE

CHIWUZIE Augustina
Department of Estate Management and Valuation, Federal Polytechnic Ede, Nigeria
okaugusta@yahoo.com

ABSTRACT

The growing adoption of artificial intelligence (AI) is reshaping professional practice and challenging higher education to reconsider how students are prepared for evolving workplace demands. In real estate, the growing application of AI in property valuation, market analysis and other professional activities makes it critical to combine technological competence with professional identity and meaningful educational engagement. This study examines the relationship between students' sense of belonging and professional identity development in Estate Management and Valuation education and explores the implications of the findings for preparing future real estate professionals for an emerging AI-enabled environment. A quantitative research design was adopted using a structured questionnaire administered to 167 undergraduate students in the Estate Management and Valuation Department at the Federal Polytechnic Ede, Nigeria. Descriptive statistics were used to assess students' sense of belonging and professional identity development, while Pearson Product-Moment Correlation was employed to examine the relationship between the two constructs. The findings revealed a high level of students' sense of belonging (Group Mean = 3.98), particularly in relation to feelings of belonging to the profession, enjoyment of classes and respect from lecturers. Professional identity development was also high (Group Mean = 4.05), reflected in strong career commitment, identification as future real estate professionals and perceptions of educational preparation for professional practice. However, there were comparatively lower ratings for participation in professional activities and engagement with property-market issues, indicating opportunities for stronger industry exposure and experiential learning. A strong positive and statistically significant relationship was found between sense of belonging and professional identity development ($r = 0.684$, $p < 0.001$). The study argues that AI integration should complement rather than replace the relational and experiential dimensions of professional education. It advocates a human-centred approach that integrates AI competence, belonging, professional identity and industry engagement to strengthen professional preparation.

Keywords: Artificial Intelligence; Sense of Belonging; Professional Identity; Estate Management and Valuation; Professional Preparation; Higher Education

Abstract No. 030

SECONDARY SCHOOL STUDENTS' ATTITUDES TOWARD ICT IN KALTUNGO, GOMBE STATE, NIGERIA

Kabiru Abubakar Yahya & Benjamin Abba Stephen
Department of Electrical/Electronic, School of Engineering, Federal Polytechnic, Kaltungo, Gombe State, Nigeria

ABSTRACT

This study will assess the attitudes of senior secondary school students towards Information and Communication Technology (ICT) in the Kaltungo Local Government Area of Gombe State, Nigeria. Recognizing ICT as a critical educational tool for the 21st century, the research will investigates the level of student awareness, perceived utility and underlying factors shaping their disposition. A descriptive survey design will be employed, collecting data via structured questionnaires from a sample of *Six hundred (600)* senior secondary students *from six public schools in Kaltungo Local Government area*. I hope the findings may indicate a generally positive attitude among students, who acknowledge ICT's importance for academic success and future opportunities. However, these positive dispositions may be significantly constrained by infrastructural deficits, limited access to functional hardware and software, and inadequate practical exposure, mirroring challenges identified in broader regional studies. Recommendations will be provided for policymakers and school administrators, focusing on strategic investment in infrastructure, curriculum integration, and teacher support to bridge the gap between attitude and practical ICT utilization. Furthermore, *intensifying ICT education, organization of seminars, conferences, workshops and orientation programs based on ICT and provision of incentive for potential and existing ICT beneficiaries among others.*

Keywords: ICT, Student Attitudes, Secondary Education, Digital Divide, Educational Technology.

Abstract No. 031

TEACHER TRAINING AND READINESS FOR AI INTEGRATION IN THE DEVELOPING NATIONS

Olakunle Ogunbi[1,3] & Jumoke Soyemi[2,3]
[1]Department of Banking and Finance, Federal Polytechnic, Ilaro, Ogun State
[2]Department of Computer Science, Federal Polytechnic, Ilaro, Ogun State Federal University of Technology, Ilaro, Ogun State

ABSTRACT

The advent of Artificial Intelligence (AI) in the education industry is changing both the teaching and learning processes as well as how institutions are run across the globe. However, the implementation of AI in developing countries is not successful because of the absence of teacher-readiness and a lack of sufficient professional training systems. The authors of the current paper have touched upon the phenomenon of teacher training and readiness as the two crucial factors to success in the process of AI implementation in the educational system. The study, based on a literature synthesis and policy review methodology, unveils the competencies that are of significant importance in an AI-enabling pedagogy, including competencies in digital literacy, data-driven instruction, and data-sensitive ethics. It sheds light on the current problems of poor infrastructure, lack of special programs to educate individuals, resistance to change, and inequality in access to technology as well. The article recommends a strategic approach in enhancing teacher readiness through a continuous professional development, curriculum redesign, and institutional support. It emphasizes the need of context-based training models that are appealing to the reality of developing countries. The study fits into the current debate by providing a realistic insight to policy-makers, educational administrators, and other stakeholders who may want to implement AI-oriented educational changes. It concludes that teacher capacity needs to be strengthened in order to make sure that the introduction of AI results in a higher learning outcome, equity, and sustainable learning development.

Keywords: Artificial Intelligence, AI-enabled teaching, Teacher Training, AI Integration

Abstract No. 032

TECHNOLOGY INTEGRATION IN TEACHING AND LEARNING PROCESS: A NEW TREND IN MATHEMATICS EDUCATION

[1]UMAR, Sodangi Ph.D. & [2]IBRAHIM, Adamu
[1,2]Department of Science Education, Federal University Gusau, Zamfara State
[1]Sodangiumar@fugusau.edu.ng; +2348036076752
[2]Adamugwoza@fugusau.edu.ng; +2348065108662

ABSTRACT

This study investigates the crucial role of technology integration within the contemporary teaching and learning process, focusing specifically on its application in mathematics education. The incorporation of digital tools into classrooms has become an increasingly significant trend, supported by substantial research highlighting its potential to significantly enhance student engagement, understanding, and overall learning experiences, particularly in abstract fields like mathematics. This paper looked into various pedagogical strategies and specific technological resources such as interactive whiteboards, graphing calculators, educational software, online learning platforms, and mathematical modelling tools that can be effectively utilized to enrich the teaching and learning of mathematical concepts. Furthermore, the researchers critically examine the inherent challenges accompanying technology integration. These include issues like equitable access for all students (the digital divide), the need for adequate teacher training and ongoing professional development, the cost associated with acquiring and maintaining technology, and the pedagogical complexities of selecting appropriate tools and integrating them seamlessly into the curriculum without becoming a distraction. Potential solutions and practical strategies are proposed to help educators overcome these obstacles. This research aims to provide comprehensive insights into both the compelling benefits and potential drawbacks of embedding technology within the mathematics curriculum, ultimately exploring how it can be implemented effectively to improve student learning outcomes and foster deeper mathematical understanding. This paper underscores the transformative importance of strategic technology integration in revolutionizing mathematics education for the 21st century.

Keywords: Technology Integration, Teaching and Learning Process, Mathematics Education, Educational Technology, Pedagogy

Abstract No. 033

THE IMPACT OF ENTREPRENEURSHIP EDUCATION ON THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE (AI) ENTREPRENEURIAL SKILLS AMONG POLYTECHNIC STUDENTS IN NIGERIA

Isah Balarabe[1], and Sufiyanu Muhammad Dakin-Gari[2]
[1]*Department of General Studies, Kebbi State Polytechnic, Dakingari, Nigeria*
[2]*Department of Mathematics, Kebbi State Polytechnic, Dakingari, Nigeria*
Correspondence Email: sufiyanumuhammad77@gmail.com; Contact Number: +2348169336465

ABSTRACT

This research investigates the effect of entrepreneurship education on the development of Artificial Intelligence (AI) entrepreneurial skills among Nigerian polytechnic students, addressing a critical area in tackling the country's substantial youth unemployment and economic challenges. Recognizing the importance of nurturing entrepreneurial skills as a primary responsibility of polytechnics and higher education institutions, the study underscores the necessity for a clear comprehension of AI entrepreneurial skills among students. It advocates for an integrative approach, incorporating educational institutions, family, society, and governmental support to effectively cultivate these skills. Through a questionnaire survey, the study identifies essential entrepreneurial abilities and constructs a model demonstrating how these skills can be developed and enhanced through targeted education and collaborative efforts. The findings indicate that reinforcing entrepreneurship education, coupled with support from families, society, and government, can significantly enhance students' entrepreneurial capabilities. The research not only contributes to academic discussions on entrepreneurship education but also provides practical insights for policymakers and educational institutions aiming to improve AI entrepreneurial skills among polytechnic students in Nigeria. Ultimately, the study seeks to equip students with superior entrepreneurial competencies, fostering a more dynamic and capable young workforce that can contribute to Nigeria's economic growth.

Keywords: Polytechnic students, entrepreneurship education, entrepreneurial capability, entrepreneurial skills, Artificial Intelligence (AI)

Abstract No. 034

THE UTILIZATION OF ARTIFICIAL INTELLIGENCE (AI) IN THE TEACHING AND LEARNING OF SOME PERCEIVED DIFFICULT CHEMISTRY CONCEPTS AT THE UNDERGRADUATE LEVEL

Umar Sani Gwarzo (PhD)
Chemistry Department, Yusuf Maitama Sule Federal University of Education, Kano

ABSTRACT

Teaching and learning of chemistry concepts in the pre – artificial intelligence era in our universities had been associated with a lot of difficulties where both teachers and students were faced with abstract concepts, phenomena, theories, laws and principles difficult to comprehend and domesticated especially by those individuals with low level of intelligence. But chemistry as one of the basic sciences became an impediment to many students who aspire for careers in medical, biomedical, pharmaceutical and engineering etc. It has been found that, with the coming of artificial intelligence (AI), chemistry education is now easier by transforming its complex concepts more accessible and personalized in its teaching and learning processes. This have been possible by AI, being a personalized tutor, providing custom study materials and giving way to interactive learning for students and for teachers; it paves way for lesson content generation, development of automated assessment tools and safe simulation for experiments that are safe, simple and cost effective in a controlled environment. AI is equally vital for researchers and professionals where it could be of help in drug discovery, design of new materials and optimization of chemical processes for high yield, safety and efficiency. This paper therefore discusses how AI can be utilized by both teachers and students to overcome the difficulties in teaching and learning of chemistry which was in the past a problem. It finally highlights the problems that may be faced by our university system of education when AI is fully adopted as: lack of human interaction; privacy concerns; bias in algorithms and dependence on technology.

Keywords: Chemistry concepts and Artificial intelligence (AI)

Abstract No. 035

UNIVERSITY UNDERGRADUATE AWARENESS AND USE OF ICT IN MATHEMATICS LEARNING: AN ASSESSMENT FOR AI AND TECHNOLOGY READINESS

Akinjiola E.Y, Adeshina C.F
Department of Mathematics, Nigeria Army College Of Education, Sobi Barracks Ilorin
Email: akinjiolaesther@gmail.com, adecom331@gmail.com

ABSTRACT

Information and Communication Technology (ICT) is essential for modern mathematics education and emerging fields like Artificial Intelligence (AI). Although undergraduates are digitally proficient socially, their academic application—particularly in mathematics—remains limited. This study assessed ICT awareness and utilization as indicators of readiness for AI-supported instruction among Nigerian undergraduate mathematics students, using the University of Ilorin as a case study. Adopting a descriptive survey design, a purposive sample of 191 students from 300- and 400-level Mathematics and Science Education participated. Data were gathered using the Questionnaire on ICT Used Among Undergraduate Mathematics Students (ICTUAUMS), which yielded a Cronbach's alpha of 0.67, and were analyzed using percentages and mean scores. Findings revealed a stark contrast: while 65% of respondents were aware of available ICT facilities, frequent utilization stood at only 26.6% (with 35.0% rarely using them and 38.3% unused). Basic tools like scientific calculators, the internet, and spreadsheets were primarily employed for routine tasks such as basic calculations and data entry, rather than advanced functions like computational modeling or data analysis. The notable gap between high awareness and low frequent use demonstrates that students are not yet adequately positioned to leverage ICT for advanced applications or AI-driven learning environments. The study recommends the intentional integration of ICT tools and hands-on digital training into undergraduate mathematics lectures to build crucial digital competencies, enhance conceptual understanding, and better prepare students for technology-driven educational futures.

Keywords: Artificial Intelligence Readiness, Digital Competence, ICT Utilization, ICT Awareness, Undergraduate Students.

Abstract No. 036

USING STATISTICAL LEARNING ALGORITHMS TO IDENTIFY AND SUPPORT AT-RISK STUDENTS IN TERTIARY MATHEMATICS

Umar Zannah
Department of Mathematics and Computer Science, Kashim Ibrahim University, Maiduguri, Borno State, Nigeria
Email: umarzannah2@gmail.com

ABSTRACT

The transition from secondary to tertiary education in mathematics often presents significant challenges, leading to high failure rates and student attrition, particularly in the first year. Early identification of students at risk of academic underperformance is crucial for providing timely and effective interventions. This paper aims to determine how statistical learning algorithms can be used to establish a predictive model to identify students at-risk in tertiary mathematics courses, based on data from the Department of Mathematics and Computer Science at Kashim Ibrahim University. The research will utilize historical student data, including entry qualifications, performance in continuous assessments, attendance records, and participation levels in online learning platforms. Several classification algorithms will be applied and compared, including Logistic Regression, Decision Trees, Random Forests, and Support Vector Machines. Model performance will be evaluated using accuracy, precision, and the Area Under the Receiver Operating Characteristic Curve (AUC-ROC). All analyses will be conducted using R and JASP to guarantee the strength and replicability of the results. The primary goal is to determine which model most accurately predicts students who are likely to score below a passing threshold. Beyond prediction, this paper will discuss how the output of these algorithms can be operationalized by academic departments to trigger targeted support mechanisms, such as personalized tutoring, modified assignments, or academic counseling. The results of the study are intended to offer mathematics instructors and university administrators an empirical instrument that will assist them in shifting their student support strategy towards a more proactive approach, ultimately enhancing retention and academic achievement of students enrolled in introductory mathematics courses.

Keywords: Statistical Learning, Predictive Analytics, At-Risk Students, Mathematics Education, Logistic Regression, Random Forest

SUB-THEME 2

ARTIFICIAL INTELLIGENCE IN AGRICULTURE, FOOD SECURITY AND THE ENVIRONMENT

Abstracts 037 – 057

Abstract No. 037

AI AND AGRICULTURE: DIGITAL TRANSFORMATION OF LIVESTOCK PRODUCTION IN NIGERIA: A CRITICAL REVIEW ARTIFICIAL INTELLIGENCE APPLICATION

Odoh Ochaba Ejoga
Department of Animal Health and Production Technology, Akperan Orshi Polytechnic Yandev, P.M.B. 181 Gboko, Benue State, Nigeria
(Email: ejogaodoh@gmail.com ; Mobile No. 08060590722)

ABSTRACT

Artificial Intelligence (AI) is transforming animal production in Nigeria by replacing traditional guesswork with data-driven precision livestock farming. While full-scale automation is still emerging, local farmers, tech startups, and the federal government are actively deploying AI tools to improve poultry management, optimize cattle breeding, track animal health, and mitigate climate-related risks.

This current paper reviews potentials of artificial intelligence (AI) in animal farming. Livestock production underpins food security, income generation and cultural identity across Nigeria, yet the sector remains constrained by disease burden, low productivity, weak infrastructure and limited by access to modern management tools. Artificial intelligence, encompassing machine learning, computer vision, and internet of things (IoT) - enabled sensing has begun to reshape livestock husbandry in high-income countries and is increasingly being tested and adopted for Nigeria's mixed crop - livestock and pastoral economies. These new tools are capable of transforming animal agriculture to meet the expectation of demands that is being placed on this important sub- sector of agriculture. However adoption in Nigeria remains constrained by fragmented connectivity, high cost of hardware, scarce training data representative of indigenous breeds and agro - ecologies and under developed data governance frameworks. This review paper concludes with directions for future research and practice that could narrow the gap between the technical promise of AI and it's realised benefit for Nigerian livestock farmers.

Keywords: Artificial intelligence, farm animals, Nigeria, smallholders, digital agriculture

Abstract No. 038

AI-DRIVEN SOIL FERTILITY MANAGEMENT, PRECISION, SUSTAINABILITY AND CLIMATE RESILIENCE IN AGRICULTURE: A REVIEW

[1]Ibrahim M., [2]Na-Allah M.S., [3]David P.G. and [2]Ibrahim Y.J.
[1]Department of Soil Science, Abdullahi Fodio University of Science and Technology, Aliero
[2]Department of Crop Science, Abdullahi Fodio University of Science and Technology, Aliero
[3]Department of Forestry and Fisheries, Abdullahi Fodio University of Science and Technology, Aliero
Corresponding author email: kamsdogo01@gmail.com

ABSTRACT

Soil fertility is a critical factor influencing agricultural productivity and sustainability. Traditional soil management practices frequently rely on routine sampling and broad recommendations, which may not adequately address spatial and temporal variability in soil conditions. Recent advances in Artificial Intelligence (AI) provide transformative opportunities for improving soil fertility management using data-driven, precise, and adaptive approaches. AI techniques such as machine learning, deep learning, and computer vision can analyse a wide range of datasets, including soil test results, remote sensing imagery, climate data, and crop performance records, to accurately predict nutrient deficiencies, recommend site-specific fertilisation regimes, and forecast long-term soil health trends. Integration with Internet of Things (IoT) sensors allows for real-time monitoring of soil parameters (pH, moisture, and nutrient levels), while predictive modelling enables proactive interventions to prevent degradation. Furthermore, AI-powered decision support systems can optimise organic and inorganic input use, reduce environmental impact, and improve resource efficiency. Data quality, standardisation, farmer adoption, and ensuring AI model interpretability are all ongoing challenges. Nonetheless, AI applications in soil fertility management hold great promise for sustainable agriculture, increased yields, and climate-resilient farming systems.

Keywords: Soil fertility, Artificial Intelligence, Precision agriculture, Machine learning, Nutrient management, Sustainable farming

Abstract No. 039

AN ASSESSMENT OF THE EFFECTS OF GREENERY ON PERI-URBAN ENVIRONMENT: A CASE STUDY OF SANGOTEDO, LAGOS STATE

Dr. Ajakaiye O. Olabisi
Department of Urban & Regional Planning, Yaba College of Technology, Lagos, Nigeria
Kane Muhammed N.
Department of Urban & Regional Planning, Yaba College of Technology, Lagos, Nigeria

ABSTRACT

Rapid urbanization in Sangotedo has led to significant vegetation loss, undermining environmental sustainability and urban livability. This study assessed the effects of urban greenery in the peri-urban environment by examining vegetation cover, identifying challenges to its development and maintenance, and evaluating the effectiveness of existing planning frameworks. A mixed-method approach was adopted, combining NDVI-based geospatial analysis of satellite imagery with key informant interviews. The study focused on residential buildings within the delineated area, assessing variables such as vegetation distribution, socio-environmental benefits, institutional constraints, and policy effectiveness. Findings revealed a consistent decline in vegetation across five sampled parcels, with fragmented and poorly maintained green spaces. Major constraints included weak institutional capacity, inadequate funding, and poor enforcement of planning regulations. Although policies supporting greenery exist, implementation remains ineffective. The study recommends stronger regulatory enforcement and the establishment of a structured, well-funded urban greenery management framework to promote sustainable green infrastructure integration.

Keywords: Greenery, Vegetation, Environmental Sustainability, Policy Implementation, Green Infrastructure, Sangotedo.

Abstract No. 040

ARTIFICIAL INTELLIGENCE (AI) AND FOOD SECURITY IN NIGERIA: POLICY PATHWAYS FOR SUSTAINABLE AGRICULTURAL TRANSFORMATION

Abdulrahman Adamu, PhD
Department of Political Science, Federal University Gusau, Zamfara State, Nigeria
abduladamu6@gmail.com
YUSUFU Ahmed Audu, PhD
Department of Political Science, Phoenix University Agwada, Nasarawa State, Nigeria
aayusufuphd@gmail.com

ABSTRACT

Despite Nigeria's vast agricultural potential, food insecurity remains a significant development challenge, exacerbated by climate variability, low agricultural productivity, post-harvest losses, and limited access to digital technologies. While Artificial Intelligence (AI) presents opportunities to improve agricultural efficiency, enhance decision-making, and strengthen food systems, its integration into Nigeria's agricultural sector remains constrained by inadequate policy frameworks and institutional capacity. This study examines the role of AI in advancing food security in Nigeria to identify policy pathways for sustainable agricultural transformation. Specifically, it assesses the opportunities and challenges of AI adoption in agriculture, evaluates the existing policy and institutional environment, and proposes policy measures for promoting responsible and inclusive AI deployment. The study is anchored on the Innovation Diffusion Theory, which assumes that the adoption of technological innovations depends on their perceived benefits, compatibility with existing systems, and the availability of supportive institutional frameworks. A qualitative research design is adopted, relying on documentary analysis of relevant national policies, government reports, and scholarly literature, complemented by Key Informant Interviews (KIIs) with policymakers, agricultural researchers, AI experts, agribusiness practitioners, and representatives of farmers' associations. This methodology is appropriate because it provides in-depth insights into policy and institutional issues shaping AI adoption in agriculture. The findings reveal that AI has considerable potential to improve agricultural productivity, climate resilience, and food system efficiency; however, inadequate digital infrastructure, limited technical expertise, fragmented policy coordination, and insufficient investment constrain its widespread adoption. The study concludes that effective policy and institutional reforms are essential for harnessing AI to strengthen food security in Nigeria. It recommends the development of a comprehensive national AI-for-agriculture policy, increased investment in digital infrastructure and human capacity, strengthened multi-stakeholder partnerships, and enhanced support for AI-driven agricultural innovation to promote sustainable agricultural transformation.

Keywords: AI, Food Security, Innovation Diffusion Theory, Nigeria, Sustainable Agriculture

Abstract No. 041

ARTIFICIAL INTELLIGENCE AND FOOD SECURITY IN AFRICA: OPPORTUNITIES, CHALLENGES, AND LESSONS FOR RESEARCHERS, SCIENTISTS, POLICYMAKERS AND SCHOLARS

Patrick Adakole John[1], Elisha Ikpe[2] and Ugbede D. Omede[1]
[1]*Department of Agricultural Education, Federal College of Education, Odugbo, Benue State*
[2]*Department of Geography, Federal College of Education, Odugbo, Benue State*
Corresponding author's email: adakolejpatrick@fceodugbo.edu.ng; Phone: +2348038004029

ABSTRACT

Artificial Intelligence (AI) has emerged as one of the most consequential technological developments of the twenty-first century, with growing applications in agriculture, food systems, climate adaptation, scientific research and public policy. At a time when Africa continues to face persistent food insecurity, climate variability, population growth, agricultural productivity constraints, post-harvest losses, market instability and inadequate food-system infrastructure, AI presents an important opportunity to improve the efficiency, resilience and responsiveness of food systems. This conceptual and narrative review examines the potential of AI to strengthen food security in Africa, with particular attention to Nigeria. Drawing on recent scholarly and institutional literature published primarily between 2020 and 2026, the paper examines AI applications across crop production, livestock, agricultural extension, climate-smart agriculture, post-harvest management, markets, supply chains and food-security early-warning systems. The analysis is organized around the four dimensions of food security: availability, access, utilization and stability. Evidence indicates that AI can support yield prediction, crop and disease monitoring, precision resource management, climate-risk forecasting, market intelligence, food-quality assessment and early warning. However, the literature also identifies significant barriers, including weak digital infrastructure, unreliable electricity, inadequate agricultural datasets, high technology costs, limited digital literacy, insufficient technical expertise, gender and socioeconomic inequalities, data-governance concerns and weak institutional coordination. The paper argues that AI should not be treated as a technological substitute for agricultural investment, human expertise or sound governance. Rather, it should be deployed as an enabling technology within an inclusive socio-technical ecosystem. The paper proposes an AI-Enabled Food Security Transformation Framework for Africa, comprising enabling conditions, AI technologies, agrifood applications, food-security outcomes and sustainable development impacts. It concludes with specific lessons for researchers, scientists, policymakers and scholars and proposes a Nigerian strategic pathway emphasizing smallholder inclusion, locally relevant datasets, human-AI collaboration, responsible governance, interdisciplinary research and AI-integrated agricultural education.

Keywords: Artificial Intelligence, Food Security, Agriculture, Digital Agriculture, Africa, Nigeria, Smallholder Farmers, Food Systems, Agricultural Innovation, AI Governance

Abstract No. 042

ARTIFICIAL INTELLIGENCE AND THE FUTURE OF FOOD SECURITY IN NIGERIA: HARNESSING AI FOR REDUCING FOOD LOSS AND WASTE

Sambo, Umar Mohammed
Department of Agricultural Extension and Management, College of Agriculture, Science and Technology, Jalingo, Taraba State, Nigeria
Correspondence: jalingomsambo@gmail.com; Phone: +2348036888389

ABSTRACT

Nigeria has great agricultural potential but food insecurity is still a recurring development problem. Losses and wastes along the food value chain have been given comparatively little attention, and policy interventions have tended to focus on expanding the areas of farm cultivation and access to inputs as well as increasing agricultural production. Food losses occur during production, harvesting, handling, storage, transportation, processing and marketing and the modern focus of food waste is on retail, food-service and domestic applications. This paper explores how Artificial Intelligence (AI) can be an emerging means to avert food losses and waste, while enhancing food security in Nigeria. The paper, employing a qualitative review method, draws together literature published from 2016 to 2026, institutional reports, and policy documents. It covers the use of machine learning, predictive analytics, digital traceability, intelligent storage, and demand forecasting and logistics optimisation throughout the food value chain. This paper suggests that besides contributing to food security through productivity gains in agriculture, AI can also help food system actors anticipate, identify and avoid unnecessary food losses. AI-powered systems can help detect issues with crops and storage facilities early, optimize harvest timings, track storage conditions, predict demand, streamline transportation, and detect spoilage. Technology alone will not solve structural issues such as access to storage, poor rural infrastructure, electricity availability, limited cold chain systems, digital connectivity and access to finance. So the paper suggests an integrated AI based framework designed to cover four areas: Data Infrastructure, Intelligent Production, Smart post-Harvest Management, Intelligent Logistics, and evidence based policy. It states that the food-security policy must go beyond production into preservation, distribution and consumption in Nigeria.

Keywords: Artificial Intelligence, food security, food loss, food waste, post-harvest losses, Nigeria.

Abstract No. 043

ARTIFICIAL INTELLIGENCE APPLICATIONS IN CHARCOAL MARKETING AND THEIR IMPACT ON WOMEN'S LIVELIHOODS IN IBARAPA NORTH LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

***[1]Ayanrinde, FA; [2]Oyewole, SO; [3]Ayanrinde, OA; [4]Oyewole, AL**

**[1]Department of Horticulture and Landscape Technology, Federal Polytechnic Ede, Osun State, Nigeria*

[2]Forestry Research Institute of Nigeria, P.M.B. 5054, Ibadan, Oyo State, Nigeria

[3]Elicar Farm Ventures Ede, Osun State, Nigeria

[4]Federal College of Forestry, Ibadan, Oyo State, Nigeria

*Corresponding Author Email: festus.ayanrinde@gmail.com; Tel: +2347060897501

ABSTRACT

This study analysed the applications of Artificial Intelligence in Charcoal Marketing and their Impact on Women's Livelihoods in Ibarapa North Local Government Area of Oyo State, Nigeria. A well-structured questionnaire was used to obtain information from 80 respondents. The results revealed that 100% of the respondents were females of which 60% were between the age of 41 and 50 years. The budgeting analysis revealed that the rate of return on investment indicated a positive average of 0.76. Benefit cost ratio analysis gave a value of 1.76 which suggested that the business is lucrative and profitable. Findings revealed that adoption of AI in Charcoal marketing is promising and has demonstrated significant potential to increase traders' income. The paper also demonstrates that AI integration into women-owned Charcoal business can catalyze economic transformation and reduce poverty in the study area. Charcoal trade has provided job opportunities for women to support their households and meet other domestic expenses. The study recommends the provision of low-interest credit facilities, the implementation of supportive government policies to promote charcoal export and the integration of artificial intelligence (AI) into charcoal marketing to enhance women's livelihoods and improve their participation in the charcoal value chain.

Keywords: Artificial Intelligence; Charcoal; Livelihood; Marketing; Ibarapa North

Abstract No. 044

ASSESSING SOLID WASTE MANAGEMENT IN OSUN STATE, NIGERIA FOR THE ADOPTION OF ARTIFICIAL INTELLIGENCE TOWARDS SUSTAINABLE ENVIRONMENTAL MANAGEMENT

Bldr. Gambo, Makanjuola Dare
Department of Building Technology, The Federal Polytechnic, Ede, Osun State, Nigeria
Email: gambovision@gmail.com; Phone: +2348034800510

ABSTRACT

Solid waste management remains a significant environmental challenge in Osun State, Nigeria, owing to rapid urbanisation, population growth, increasing waste generation, and inefficient waste management practices. These challenges have contributed to indiscriminate waste disposal, environmental pollution, and reduced service efficiency. Although Artificial Intelligence (AI) has emerged as an innovative tool for improving waste management globally, there is a limited understanding of its potential application within the existing solid waste management system in Osun State. This study aims to assess the current solid waste management system with a view to identifying opportunities for the adoption of AI towards sustainable environmental management. Specifically, the study will examine existing waste management practices, identify operational challenges, assess stakeholders' perceptions of AI adoption, and identify priority areas where AI technologies could enhance waste collection, monitoring, planning, and decision making. A quantitative research approach will be adopted using a structured questionnaire administered to waste management professionals and relevant environmental stakeholders in Osun State. Data will be analysed using descriptive statistics, including frequencies, percentages, mean scores, and ranking. The study is expected to provide evidence based recommendations for the future adoption of AI in solid waste management, thereby supporting more efficient environmental management and contributing to the achievement of Sustainable Development Goals 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), and 13 (Climate Action).

Keywords: Artificial Intelligence; Solid Waste Management; Environmental Management; Sustainability; Osun State; Sustainable Development Goals.

Abstract No. 045

ASSESSMENT OF COSTS AND RETURNS OF SMALL SCALE HONEY PRODUCTION IN ABDULLAHI FODIYO UNIVERSITY OF SCIENCE AND TECHNOLOGY ALIERO, KEBBI STATE, NIGERIA

Gwimmi, D. P.[1], Ibrahim, R.[1], Ibrahim, M.[2], Nafiu, A. K.[1], NaAllah, M. S.[3] and Wele, H. K.[4]

[1]*Department of Forestry and Fisheries, Abdullahi Fodio University of Science and Technology, Aliero*

[2]*Department of Soil Science, Abdullahi Fodio University of Science and Technology, Aliero*

[3]*Department of Crop Science, Abdullahi Fodio University of Science and Technology, Aliero*

[4]*Department of Forestry and Wildlife, Federal University of Agriculture, Zuru, Kebbi State*

Corresponding author: gwimidave@gmail.com; 08062963929

ABSTRACT

The study evaluate the cost and returns of small scale honey production in Abdullahi Fodio University of Science and Technology Aliero (AFUSTA), to determine the cost involved in Small scale honey production, to evaluate the returns on investment in small scale honey production.The traditional hives was placed or installed on the branch of a tree species at irregular height, it was fixed in a position for easy viewing of bees from the ground. The cost of the purchased materials was recorded, transportation and the cost of labour were all recorded. The honey yield from each hive were measured in liters, the descriptive statistics were used to analyzed the data. The result shows that the total cost incurred in setting up ten beehives for small scale honey production amounted of ₦285,000 and the returns from investment is amounted of ₦655,000, the net profit realized from the entire production was ₦370,000. The result recommends small scale honey production since it profitable, contributes to income generation, food security and rural development when properly managed.

Keywords: cost, returns, small scale and honey production

Abstract No. 046

COMPARATIVE RANDOM FOREST AND CLASSICAL STATISTICAL ANALYSIS OF YIELD-RELATED TRAITS IN WATERMELON GENOTYPES FOR PRECISION BREEDING

Ben, Promise Maurice
Federal University of Technology, Ikot Abasi (FUTIA), Akwa Ibom State, Nigeria
Email: promisemben@gmail.com

ABSTRACT

Yield improvement in watermelon breeding programs remains constrained by the polygenic and environmentally sensitive nature of yield-related traits, which limits the predictive power of conventional statistical approaches such as correlation and path coefficient analysis. While classical statistical methods have long supported the identification of yield-component relationships, they often fail to capture the complex, non-linear interactions among traits that influence overall yield performance, thereby restricting the accuracy and efficiency of selection decisions in breeding programs. Artificial Intelligence, particularly machine learning, offers an alternative analytical pathway capable of modelling these non-linear relationships with greater predictive accuracy. This study proposes a comparative analysis of Random Forest, a machine learning algorithm, against classical statistical methods for predicting yield-related traits including fruit weight, fruit number per plant, vine length, and rind thickness across watermelon genotypes. Using existing phenotypic datasets derived from direct field measurement, both analytical approaches will be applied to the same set of genotypes to evaluate predictive accuracy, trait-importance ranking, and interpretability. The study is expected to demonstrate that integrating machine learning with conventional statistical techniques provides a more robust and efficient framework for trait prediction, supporting faster and more precise selection decisions in precision breeding programs. By benchmarking machine learning against established statistical methods, this study contributes a reproducible, data-driven framework that can be adapted across crops and breeding contexts, advancing the integration of AI into agricultural research and precision breeding practice in Africa.

Keywords: Artificial Intelligence, Machine Learning, Random Forest, Yield-Related Traits, Watermelon, Precision Breeding, Comparative Analysis.

Abstract No. 047

LEVERAGING ARTIFICIAL INTELLIGENCE FOR PRECISION LIVESTOCK FARMING AND SUSTAINABLE ANIMAL PRODUCTION

Ufuoma Godstime Sorhue
ufuoma.sorhue@delsu.edu.ng
Department of Animal Science

ABSTRACT

The increasing demand for livestock products, coupled with concerns about environmental sustainability, animal welfare, and production efficiency, has accelerated the search for innovative farming approaches. Artificial intelligence (AI) is emerging as a transformative technology capable of advancing precision livestock farming through intelligent data analysis, automated monitoring, and predictive decision-making. This paper examines the role of AI in promoting sustainable animal production by improving livestock management and optimizing resource utilization.

The study explores how AI applications, including machine learning, smart sensors, and data analytics, contribute to disease detection, precision feeding, reproductive management, behavioural monitoring, and enhanced productivity in livestock enterprises. A conceptual review methodology is adopted, drawing on recent scholarly literature and global evidence to examine emerging trends, opportunities, and implementation challenges associated with AI adoption in animal agriculture.

The review indicates that AI technologies facilitate continuous monitoring of animal health and welfare, enable early disease detection, improve feed efficiency, reduce production losses, and enhance overall farm performance while contributing to lower carbon emissions. Furthermore, AI enhances operational efficiency and productivity by minimizing human error and supporting evidence-based decision-making through the analysis of data generated by sensors and other digital technologies.

Despite its considerable potential, AI adoption remains constrained by high investment costs, inadequate digital infrastructure, limited technical expertise, and insufficient policy support, particularly in developing economies. The paper concludes that AI has considerable potential to transform livestock farming by promoting productivity, sustainability, and resilience. It recommends greater investment in digital infrastructure, farmer capacity building, supportive policy frameworks, and collaborative research to accelerate the responsible integration of AI into livestock production systems and strengthen global food security.

Keywords: Artificial Intelligence, Precision Livestock Farming, Sustainable Animal Production, Smart Agriculture, Animal Welfare

Abstract No. 048

NEXT-GENERATION AQUACULTURE: AN AI FRAMEWORK FOR FISHERIES CONSERVATION AND FOOD SECURITY IN NIGERIA

***Jega, Ibrahim Shehu**
**Department of Forestry and Fisheries, Faculty of Agriculture, Abdullahi Fodio University of Science and Technology, P.M.B. 1144, Aliero, Kebbi State, Nigeria*
Mobile: +2348039370546; Email: ibrahimshehu77@yahoo.com

ABSTRACT

In Nigeria, aquaculture provides fish which is the richest source of protein, healthy fatty acids like omega-3 and supports rural livelihoods. However, the sector faces myriad of challenges, including high feed costs, water quality degradation, and disease outbreaks that threaten local aquatic ecosystems and wild fisheries conservation. Traditional, reactive management practices limit production efficiency and exacerbate environmental footprint. This paper proposes a conceptual, next-generation Artificial Intelligence (AI) framework designed to optimize small-to-medium scale aquaculture systems in Nigeria, aligning intensive fish production with strict ecological conservation.

The proposed architecture integrates satellite remote sensing with predictive machine learning algorithms specifically calibrated for tropical catfish (*Clarias gariepinus*) and tilapia species. The framework will utilize computer vision via mobile applications to monitor feeding behaviors and estimate biomass in real time. Concurrently, predictive models will analyze water quality telemetry—such as dissolved oxygen and ammonia levels—to forecast critical hypoxia events and disease risks before they manifest.

By automating these parameters, the system aims to theoretically reduce feed waste by up to 25% and mitigate localized chemical effluent runoff into surrounding natural water bodies. This preventive approach directly safeguards indigenous riverine and coastal fisheries from habitat degradation. Furthermore, the framework features an offline-capable, SMS-based alert system designed to overcome rural digital infrastructure constraints, ensuring accessibility for local smallholder farmers.

This presentation will detail the conceptual architecture, hardware requirements, and localized data parameters needed for physical deployment. Ultimately, this framework offers a scalable blueprint for climate-smart aquaculture in Sub-Saharan Africa. By leveraging AI to maximize yield while preserving natural aquatic habitats, the model demonstrates how technological innovation can fortify national food security without compromising the long-term integrity of Nigeria's marine and freshwater resources.

Keywords: Aquaculture, Artificial Intelligence, Fisheries conservation, Food security, Conservation

Abstract No. 049

PERCEPTION ON THE USE OF ARTIFICIAL INTELLIGENCE IN THE PRACTICE OF ORGANIC FARMING AMONG VEGETABLE FARMERS IN RURAL AREAS: IMPLICATION FOR FOOD SECURITY

[1]Abushe Omesiri Precious and [2]Ekokogbe Otega Oghenebrorhie
[1,2]Department of Agricultural Extension, Delta State University, Abraka
abusheprecious@gmail.com; tegaekoogbe@delsu.edu.ng; Corresponding author email: abusheprecious@gmail.com

ABSTRACT

The study examined the perception on the use of artificial intelligence (AI) in the practice of organic farming among vegetable farmers in rural areas of Delta Central Agricultural Zone Nigeria. A multistage sampling procedure was used to select 120 vegetable farmers. Data were collected on socio-economic characteristics, level of awareness of AI, perception on the use of AI, level of usage of AI, and challenges to the use of AI among vegetable farmers. Data were analyzed using frequency count, percentage and mean score derived from a Likert type scale and binary logistic regression. Respondents had a mean age of 46 years, majority had tertiary education (55.8%), with a mean house hold size of 6 persons, with a mean farm size of 0.8 hectares, and an average seasonal income of ₦458,816. Around 43.3% of the participants had occasional contact with extension services, while 59.17% practiced organic farming. A majority, 81.67%, primarily cultivated leafy vegetables. The awareness index was 97.5%, indicating that 97.5% of vegetable farmers were familiar with artificial intelligence, and a perception index of 72% revealed a high positive attitude towards AI, with little usage recorded. Poor internet/network coverage, unstable electricity, cost of AI tools, low ROI perception, low digital literacy, flooding, land tenure issue, limited training support and government policy gaps were the major challenges recorded. binary logistic regression analysis showed that level of awareness, educational level, and income significantly influenced the use of artificial intelligence. Based on these findings, the study recommended that government and relevant stake holders should provide subsidy for AI tool loans for vegetable farmers and also provide pay as you go services instead of buying

Keywords: Artificial intelligence, Organic farming, Vegetable farmers

Abstract No. 050

SMART AQUACULTURE FOR SUSTAINABLE FOOD SECURITY IN VOM, JOS SOUTH LGA OF PLATEAU STATE, NIGERIA: INTEGRATING IOT, RECIRCULATING SYSTEMS, AND RENEWABLE ENERGY FOR CLIMATE-RESILIENT FISH PRODUCTION

Iliya Michael Waba
Department of Business Administration and Management, Federal Polytechnic N'yak, Shendam
paramike37@gmail.com

ABSTRACT

Fish farming in Plateau State is becoming more difficult. Rainfall is no longer predictable, water dries up quickly during harmattan, price of petrol and diesel is very high, and fish feed now costs almost double what it was two years ago. For small farmers who depend on earthen ponds, these problems mean low harvest, high death of fish, and many are leaving the business.

This study tested a different approach in Vom, Jos South LGA. We combined three things: simple water sensors that can send alert to farmer's phone, a recirculating system that cleans and reuses the same water, and solar power to run the whole farm without fuel. The work was done on six smallholder farms between June and December 2025, covering rainy season and early dry season.

We compared the new system with traditional earthen ponds. Results from the field showed that the smart system used about 85% less water because the same water was treated and reused. Energy cost went down by about 40% since solar replaced petrol pump. Feed was used more efficiently - feed conversion improved by 25% - and fish grew faster because water quality was stable. Farmers got SMS alert when oxygen was low or ammonia was high, so they could act before fish died.

The findings show that smart fish farming can help farmers produce more fish with less water and less energy, which is very important for Plateau where water is scarce in dry season.

However, adoption is still low. Most farmers cannot afford the initial cost of about ₦1.25 million for a 5 cubic metre tank. There are also no technicians in Vom to repair sensors, spare parts are not available in Jos Market, and many farmers are not familiar with phone apps. Network failure in some villages also affected data sending.

For wider adoption, government and TETFund need to support local fabrication of low-cost RAS in colleges like FCAHPT Vom, include solar subsidy for fish farmers, train youths as Smart Aquaculture technicians, and strengthen extension services. If properly supported, this approach can help achieve food security, create jobs for youths, and build a fish production system that can withstand climate change in Plateau State.

It contributes directly to SDG 2 (Zero Hunger), SDG 7 (Affordable Clean Energy), and SDG 13 (Climate Action).

Keywords: Smart Aquaculture; IoT; Recirculating Aquaculture System; Solar Energy; Food Security; Climate Resilience; Vom; Plateau State

Abstract No. 051

TECHNOPRENEURSHIP EDUCATION AND THE TRANSFORMATION OF FOOD SECURITY IN AFRICA: NIGERIA AS A CASE STUDY FOR EXAMINING THE ROLE OF INNOVATION-DRIVEN ENTREPRENEURSHIP IN AGRICULTURAL DEVELOPMENT

Wogu S.n
Department of Technical Education, School of Vocational and Technical Education, Abia State College of Education (Technical), Arochukwu, Abia State Nigeria
Sundaywogu1@gmail.com; +2348030986946

ABSTRACT

Food security remains a critical challenge in Nigeria despite its vast agricultural resources and favorable climatic conditions. This study examines the role of technopreneurship education in transforming food security in Nigeria by exploring how innovation-driven entrepreneurship contributes to agricultural development. Technopreneurship education integrates digital skills, innovation and entrepreneurial competencies to empower individuals to create scalable solutions within the agricultural sector. Using a mixed-methods research design, data were collected from 150 respondents. The findings reveal that technopreneurship education significantly enhances agricultural productivity, improves value chain efficiency and increases market access through digital platforms. Respondents exposed to technopreneurship training demonstrated higher adoption rates of modern technologies such as mobile-based advisory services, precision farming tools and digital marketplaces. Statistical analysis shows a strong positive correlation ($r = 0.71$) between technopreneurial competencies and food security outcomes. However, challenges such as inadequate infrastructure, limited access to finance and low digital literacy hinder adoption. The study concludes that strengthening technopreneurship education can significantly improve food security in Nigeria. It recommends integrating technopreneurship into educational curricula, promoting public-private partnerships and increasing investment in agritech innovation ecosystems. This research contributes to existing literature by providing empirical evidence on the nexus between education, technology and food security in Nigeria.

Keywords: Technopreneurship, Technology Adoption, Innovation, and Food Security

Abstract No. 052

THE IMPACT OF ARTIFICIAL INTELLIGENCE ADOPTION ON FOOD SECURITY AMONG SMALLHOLDER FARMERS IN KWARA STATE, NIGERIA

KADIR, Mumini
Department of Business Administration and Management, School of Business and Management Studies, The Federal Polytechnic Ede, Nigeria
Email: muminikadir@gmail.com; 08038312673

ABSTRACT

Food insecurity remains a multidimensional problem globally, particularly in Sub-Sharan African countries in which Nigeria is no exception where low agricultural productivity, post-harvest losses, and inefficient resource management continue to threaten livelihoods and economic stability. Despite various agricultural interventions, smallholder farmers often struggle with low yields due to limited access to timely and data-driven decision-making tools. This study examines the role of Artificial Intelligence (AI) applications in enhancing food security through improved agricultural efficiency and productivity. Primary data were collected from a sample of 200 smallholder farmers through purposive sampling technique and structured questionnaires across selected farming communities. Regression analysis was employed to determine the relationship between AI-based agricultural practices, such as predictive weather analytics, precision farming tools, and intelligent pest management and indicators of food security, including yield levels, income, and household food availability. The findings reveal a significant positive relationship between AI adoption and food security outcomes, suggesting that the integration of AI technologies can serve as a catalyst for sustainable agricultural transformation. The study concludes that strategic investment in AI innovation, coupled with farmer education and infrastructural support, can significantly strengthen food systems and ensure long-term food security in the study area.

Keywords: Artificial Intelligence, Food Security, Smallholder farmers, Agriculture, Technology Adoption

Abstract No. 053

TIME SERIES FORECASTING FOR CLIMATE DATA: A STATISTICAL COMPARISON OF ARIMA AND MACHINE LEARNING APPROACHES IN NIGERIA

AJE, Oluranti Grace
Department of Statistics, School of Applied Science, Federal Polytechnic, Ede, Osun State, Nigeria
Email: aje.oluranti@federalpolyede.edu.ng; Phone: +2348035178691

ABSTRACT

Time Series Forecasting for Climate Data: A Statistical Comparison of ARIMA and Machine Learning Approaches in Nigeria Climate forecasting plays a critical role in agricultural planning, disaster preparedness, and economic development, particularly in developing nations like Nigeria where climate variability significantly impacts livelihoods. This study presents a comprehensive comparison of traditional statistical methods and modern machine learning approaches for forecasting climate variables in Nigeria. Specifically, we evaluate the performance of Autoregressive Integrated Moving Average (ARIMA) models against machine learning algorithms including Long Short-Term Memory (LSTM) networks, Random Forest, XG Boost, and Facebook Prophet for predicting monthly rainfall and temperature patterns. The research utilizes three decades (1990-2024) of historical climate data from four geographically diverse Nigerian locations: Lagos (coastal tropical), Kano (semi-arid Sahel), Abuja (central transitional), and Port Harcourt (Niger Delta high rainfall zone). This geographic diversity enables analysis across different climatic regimes within Nigeria. Data were obtained from the Nigerian Meteorological Agency (NiMet) and supplemented with NASA POWER satellite-based observations to ensure comprehensive coverage and data quality. Our methodology employs rigorous statistical procedures including stationarity testing using Augmented Dickey-Fuller tests, autocorrelation analysis, and Box-Jenkins methodology for ARIMA model identification. For machine learning approaches, we implement feature engineering techniques incorporating lagged values, rolling statistics, and seasonal indicators. Models are evaluated using multiple performance metrics including Root Mean Square Error (RMSE), Mean Absolute Error (MAE), Mean Absolute Percentage Error (MAPE), and coefficient of determination (R^2) across different forecast horizons ranging from one to twelve months ahead.Preliminary findings indicate that while ARIMA models demonstrate competitive performance for short-term forecasts (1-3 months) with relatively low computational requirements, machine learning approaches, particularly LSTM networks, show superior accuracy for medium to long-term predictions (6-12 months) by effectively capturing complex non-linear patterns and seasonal variations in Nigerian climate data. XG Boost exhibits robust performance across all forecast horizons with reasonable computational efficiency, making it a practical choice for operational forecasting. Regional variations reveal that model performance differs significantly between the humid southern regions and the drier northern zones, with ensemble approaches showing promise in handling diverse climate patterns. This research contributes to the growing body of knowledge on climate forecasting in sub-Saharan Africa by providing empirical evidence

for model selection decisions in tropical and semi-arid contexts. The findings have practical implications for Nigerian meteorological services, agricultural extension programs, and policy makers involved in climate adaptation strategies. Our comparative analysis demonstrates that the choice between traditional statistical methods and machine learning approaches should consider factors including forecast horizon, computational resources, data availability, and specific climate variables of interest. The study recommends a hybrid approach that leverages the interpretability of ARIMA for short-term operational forecasts while utilizing machine learning models for strategic long-term climate planning in Nigeria.

Keywords: Time series forecasting, ARIMA, machine learning, LSTM, climate prediction, rainfall forecasting, temperature forecasting, Nigeria, statistical modelling, comparative analysis.

Abstract No. 054

UNIVERSITY STUDENTS' PERCEPTIONS OF AI-BASED EARLY-WARNING SYSTEMS FOR FLOODS AND OTHER ENVIRONMENTAL HAZARDS IN PLATEAU STATE, NIGERIA

Dr. Toma Maina Antip
tomamaina@fuep.edu.ng; 08065393934
Cyril Yilyop Wuyep
Cyrilwuyep4@gmail.com; 08067378441
Yakubu Nehemiah Bello
belloyakubunehemiah@gmail.com; 08155746025
Biology Department, Federal University of Education, Pankshin

ABSTRACT

Floods and other environmental hazards can cause loss of life, damage infrastructure, disrupt livelihoods and affect community safety. Artificial intelligence (AI) may support early-warning activities by helping analyse environmental observations, identify emerging hazard patterns and improve the communication of risk information. However, the effectiveness of warning systems also depends on public awareness, accessibility, trust and preparedness to respond. This proposed study will examine university students' perceptions of AI-supported early-warning systems for floods and other environmental hazards in Plateau State, Nigeria. Specifically, it will assess students' awareness of such systems, examine their perceptions of usefulness, reliability and accessibility, and determine the relationships between awareness, perceived usefulness and self-reported preparedness. A cross-sectional survey design will be employed. A provisional sample of 200 university students will be considered, subject to confirmation of the target population, sampling frame and sample-size requirements. Data will be collected through a structured questionnaire covering awareness of AI-supported warnings, access to warning information, perceived reliability and preparedness practices. Descriptive statistics will summarise the responses, while appropriate inferential analyses will examine relationships among the study variables. The questionnaire will distinguish awareness of AI-supported warning systems from general exposure to weather forecasts and emergency messages. The study is expected to contribute to environmental education, disaster-risk communication and the development of accessible warning initiatives for university communities. No empirical findings are reported because data collection has not commenced.

Keywords: Artificial Intelligence, Early-Warning Systems, Floods, Environmental Hazards, Disaster Preparedness.

Abstract No. 055

UNIVERSITY STUDENTS' PERCEPTIONS OF AI-ENABLED PRECISION AGRICULTURE AND ITS POTENTIAL CONTRIBUTION TO FOOD SECURITY IN PLATEAU STATE, NIGERIA

Sabina Joseph (PhD)
Centre for Educational Technology Unit, Federal University of Education, Pankshin
Sabinajoseph59@gmail.com
Nokshuwan Emmanuel Jidauna
Department of Geography, Federal University of Education, Pankshin
emmyjiddy@gmail.com; 07062671004
Polmi Ibrahim
Department of Social Studies and Civic Education, Federal University of Education, Pankshin
ibropolmi@gmail.com; 08060625853

ABSTRACT

Food security is influenced by agricultural productivity, access to food, the stability of food supplies and the capacity of food-production systems to withstand environmental and economic pressures. Artificial intelligence (AI) may support precision agriculture through crop monitoring, pest and disease detection, soil assessment, irrigation management and data-informed farm decisions. However, the adoption of these technologies depends on awareness, affordability, infrastructure, technical knowledge and perceptions of their practical value. This proposed study will examine university students' perceptions of AI-enabled precision agriculture and its potential contribution to food security in Plateau State, Nigeria. The objectives are to assess students' awareness of AI applications in agriculture, examine their perceptions of the potential contribution of precision agriculture to agricultural productivity and food security, and determine the relationships between perceived usefulness, affordability, accessibility and willingness to adopt or promote these technologies. A cross-sectional survey design will be used. A provisional sample of 200 students from selected universities in Plateau State will be considered, subject to population verification and an appropriate sample-size calculation. Data will be collected using a structured questionnaire addressing awareness, perceived benefits, adoption barriers and willingness to engage with AI-supported agricultural innovations. Descriptive and appropriate inferential statistics will be used to analyse the data. The study will examine perceptions and intentions rather than assume that students' views demonstrate actual improvements in agricultural productivity or food security. Its expected contribution is to inform agricultural education, technology awareness and discussions on responsible AI adoption. No empirical findings are presented because data collection has not yet commenced.

Keywords: Artificial Intelligence, Precision Agriculture, Food Security, Agricultural Innovation, Technology Adoption.

Abstract No. 056

USING ARTIFICIAL INTELLIGENCE (AI) TO IMPROVE FOOD SECURITY THROUGH ETHICAL AGRICULTURE BY USING EDUCATION, CREATIVITY AND RESPONSIBILITY

Dr. Bashiru Musa Sa'id
Department of Education, Waziri Umaru Federal Polytechnic, Birnin Kebbi
Bashmusa66@gmail.com
Dr. Zayyanu Usman Bashar
Department of Agricultural Mechanization, Waziri Umaru Federal Polytechnic, Birnin Kebbi

ABSTRACT

INTRODUCTION

Artificial intelligence (AI) has become one of the most influential technologies of the 21st century. It is transforming industries such as Agriculture, healthcare, education, transportation and manufacturing by improving efficiency and enabling new solutions to complex problems.

Agriculture remain one of the most important sectors of the global economy, providing food, employment and raw materials for industries. However farmers face increasing challenges such as climate change, pest infrastructures, soil degradation, labor shortages and rising production costs. Artificial intelligence (AI) has emerged as a powerful technology capable of addressing many of these challenges. This paper supports the responsible adoption of AI in agriculture while emphasizing the need for equitable access, environmental sustainability, and ethical implementation.

POSITION STATEMENT

This paper supports the responsible development and use of artificial intelligence in agriculture. AI has the potential to improve peoples quality of life through agriculture, but its implementation must prioritize fairness, accountability, human oversight and respect for individual rights. AI should also be widely integrated into agricultural sector because it can improve productivity, enhance resource management, reduce environmental impacts, and strengthen the food security. However, governments, private organizations, and agricultural stakeholders must ensure that AI technologies are affordable, accessible and supported by appropriate policies and training, particularly for small-scale farmers.

SUPPORTING ARGUMENTS

AI improves efficiency and productivity

AI can automate repetitive tasks, allowing workers to focus more creative and strategic responsibilities. Agricultural business can increase, and operational costs can be reduce and it can provide faster services. AI-powered machine learning systems help farmers monitor crop growth, detect diseases early, and optimize planting and harvesting schedules. These technologies enable farmers to make informed decisions, resulting in higher crop yields and reduce losses.

Resilient Climate are Improved

Changes in climate have made farming more and more unpredictable. Artificial Intelligence can be used to analyze weather forecasts and historical climate data to recommend the suitable planting time, irrigation schedules and varieties of crops. Farmers are helped through these predictive capacities that adapt to changing environmental conditions and reduce the risks that are associated with extreme weather events.

Food Security are Enhanced

Increase in world population makes it compulsory for agricultural production to increase sustainable. Artificial Intelligence support efficient farming practices that can boost food production while conserving natural resources. This contributes to improved food availability and supports to reduce hunger.

AI Drivers Economic Growth and Innovation

Artificial intelligent is development creates new agricultural industries, and career opportunities. Companies that invest in AI can become more competitive, contributing to national economic development and technological advancement.

Counter Arguments

Argument are raised by some people that, AI replace human workers, invade privacy and make biased divisions. Those concerns and valid, especially when AI systems are poorly designed or used, without proper oversight. However, these risks can be reduced through regulations, ethical guidelines, transparency and continuous monitoring in all agricultural activities that are related to AI.

Challenges

Although AI has a lot of benefits to mankind, it also presents several challenges in agriculture.

- The equipments and software used are costly which may limit adoption by small holder farmers.
- Lack or limited electricity and internet connectivity in rural communities are hindering the implementation.
- Then is need for training to enable the farmers to effectively use AI technologies.
- Ownership of data and privacy concerns must be protect and addressed the farmers information.

Conclusion

Agricultural activities and society in general can be improve with the adoption of AI which is a powerful tool with enormous potentials. Rather than resisting its development, communities should embrace it while implementing safeguards that protect human right and any product that is harmful to the human existence. With responsible governance and continues innovation, artificial intelligence can become a force for economic growth better agricultural product, improved education and a higher quality of life for everyone.

Recommendations

- There is need for government in every tear (Federal, state or local) to invest in digital infrastructure and rural internet access.
- AI education and technical support for farmer should be provided especially from agricultural extension service providers.
- There is need for financial assistance, grants or subsidizers to be offered to encourage adoption among small-scale farmers.
- Governments, universities, technologies, companies, and farming communities should partner to strengthen to develop affordable AI solutions.
- Clear ethical guidelines for AI should be developed.
- There is need for transparency in AI decision making

Abstract No. 057

WONDERS OF ARTIFICIAL INTELLIGENCE IN SUB-SAHARAN AFRICAN AGRICULTURE: PATHWAYS TO PRECISION FARMING, REDUCED POST-HARVEST LOSS, AND NUTRITION SECURITY

Usman Tukon Ibrahim
Nigerian Army Institute of Science Education and Technology, Sobi Cantonment, Ilorin, Kwara State, Nigeria
Email: mail4raheeem@gmail.com; Phone: 08068138465, 09116717770

ABSTRACT

The persistent mismatch between university artificial intelligence (AI) and agriculture education continues to exacerbate youth unemployment across Sub Saharan Africa, despite the region's rapidly growing AI economy. Existing AI programmes remain largely oriented towards preparing graduates for paid employment, with limited emphasis on entrepreneurship, innovation and technology venture creation especially in agriculture. This paper examines the wonders of AI in Sub Saharan African agriculture and how they can drive precision farming, reduce post-harvest losses, and enhance nutrition security in Sub Saharan Africa. The study highlights context specific AI applications such as machine learning for yield prediction, remote sensing and drone technology for crop monitoring and mobile based advisory platforms delivered in local languages. Despite its potential, adoption faces challenges such as limited rural connectivity, data scarcity, low digital literacy, high costs, and ethical concerns around data ownership. The paper argues that for AI to deliver impact, there must be interdisciplinary research that blends indigenous knowledge with AI models, supportive policies for digital infrastructure and skills, and inclusive models that prioritize small scale farmers. The paper concludes that AI is not a replacement for farmers but to serve as a powerful enabler of their work. By investing in responsible, affordable, and context-relevant AI solutions, Sub African countries can leapfrog traditional barriers and build resilient, productive, and nutrition-secure agricultural systems. The paper proposes stronger collaboration among researchers, scientists, policymakers, and private actors to scale AI innovations across Sub Saharan Africa.

Keywords: Artificial Intelligence, Sub African Agriculture, Precision Farming, Food Security, Post-Harvest Loss, Nutrition Security, Climate Resilience, Sub Saharan Africa.

SUB-THEME 3

ARTIFICIAL INTELLIGENCE IN ENGINEERING, THE BUILT ENVIRONMENT AND COMPUTING

Abstracts 058 – 078

Abstract No. 058

AI AND CYBER SECURITY MANAGEMENT: ENHANCING THREAT DETECTION, INCIDENT RESPONSE AND VULNERABILITY ASSESSMENT IN CONTEMPORARY ENTERPRISE NETWORKS

Abubakar Hassan
Nigerian Army Institute of Science Education and Technology, Sobi Cantonment, Ilorin, Kwara State, Nigeria
Email: abubakarhassan0577@gmail.com; Phone: 08037659657

ABSTRACT

The rapid evolution of modern cyberspace, coupled with the increasing sophistication of multi-vector cyber threats, has rendered conventional security frameworks insufficient for protecting critical digital infrastructure. This paper examines the role of Artificial Intelligence (AI) in transforming Cyber Security Management (CSM) across institutional and enterprise networks. Integrating machine learning algorithms, deep learning models and predictive analytics into security operation centers enables automated real-time threat detection, rapid incident response and continuous vulnerability assessment. By analyzing high-volume network traffic, system logs and user behavioral patterns, AI-driven security architectures identify zero-day vulnerabilities anomaly patterns and advanced persistent threats with unprecedented speed and precision, drastically reducing mean time to detect and mean time to respond. However, deploying AI in cyber security presents significant operational challenges, including high rates of false positives, adversarial AI attacks targeting model training data, foreign hardware integration complexities and technical resource constraints. This study proposes an integrated governance framework combining supervised machine learning algorithms with continuous human-in-the-loop oversight to optimize threat mitigation protocols while minimizing operational downtime. Ultimately, the paper highlights that strategic investment in indigenous AI-driven cybersecurity infrastructure, regulatory compliance frameworks and technical capacity development is essential for building resilient, future-ready defense ecosystems capable of countering emerging cyber threats.

Keywords: Artificial Intelligence, Cyber Security Management, Threat Detection, Predictive Analytics, Anomaly Detection, Enterprise Security Infrastructure.

Abstract No. 059

AI AND ENGINEERING: THE ROLE OF AI IN THE DEVELOPMENT OF THE AUTOMOTIVE INDUSTRY VIA ROBOTICS IN AFRICA, AND NIGERIA IN PARTICULAR

Vakaa Isaac Torkula
Department of Agricultural and Bio-Environmental Engineering Technology, Akperan Orshi Polytechnic, Yandev, P.M.B. 181, Gboko

ABSTRACT

The integration of Artificial Intelligence (AI) and advanced engineering is driving a structural paradigm shift in the global automotive industry. This paper explores the transformative role of AI-powered robotics in developing Africa's automotive sector, focusing on Nigeria's emerging industrial landscape. Internationally, AI reshapes automotive manufacturing via intelligent assembly automation, computer vision quality control, and predictive maintenance. In Africa, where nations seek to leapfrog traditional industrial phases, AI and robotics offer a pathway to transition from manual, completely knocked-down (CKD) vehicle assembly to precise, autonomous manufacturing systems. Focusing on Nigeria, this study examines how indigenous automotive pioneers and technical institutes leverage machine learning algorithms to optimize production workflows, compensate for supply chain inefficiencies, and mitigate human error. However, localized deployment faces severe structural headwinds. This paper analyzes systemic barriers unique to Nigeria, including electrical grid instability, deficits in high-tier AI infrastructure, inadequate local R&D funding, and the absence of a comprehensive national regulatory framework for industrial automation. Ultimately, this study proposes a strategic framework for Nigerian policymakers and engineering stakeholders. It argues that public-private partnerships, targeted investment in specialized robotic training, and localized micro-grid solutions can successfully harness AI-driven robotics to catalyze Nigeria's automotive sector, stimulate economic diversification, and anchor sustainable smart mobility across Sub-Saharan Africa.

Keywords: Artificial Intelligence, Automotive Engineering, Robotics, Smart Manufacturing, Industrial Automation, Nigeria, Strategic Framework.

Abstract No. 060

AI-BASED PREDICTIVE MODELLING AND ANALYSIS OF SOLAR PHOTOVOLTAIC ELECTRICITY GENERATION AND APPLICATION TO ELECTRIC VEHICLES

***Gado A. A.[1], Umar A. B., Gwani M. and Kangiwa U. M.[1]**
[1]*Department of Physics, Abdullahi Fodiyo University of Science and Technology Aliero, Kebbi State, Nigeria*
*abubakarg.abubakar@ksusta.edu.ng

ABSTRACT

Artificial Intelligence (AI) has emerged as one of the defining technologies of the twenty-first century, with

significant implications from technological, economic, environmental, and societal perspectives. The rapid advancement of AI, particularly in machine learning, intelligent automation, data analytics, and predictive modelling, has transformed conventional approaches in the renewable energy potential studies. This study investigates the potential of micro solar photovoltaic electricity generation for application to electric vehicles using AI-based modelling and predictive techniques to analyse energy generation, consumption, and transportation-related data, with the aim of improving system efficiency, reliability, and decision-making.

The AI's based modelling the solar PV system using the technical parameters of the selected solar PV module at Standard Test Conditions established that, 3kWp solar PV system is capable of supplying the total electricity demand of a typical household and the selected electric vehicle modelled for the study, with 0.81kW excess electricity, which is signifying the suitable of the system for Vehicle to Grid applications. The findings demonstrate that AI technologies have significant potential for optimising energy management, predicting electricity demand and renewable energy generation, improving electric vehicle charging strategies, and supporting intelligent transportation systems. The study further establishes that the integration of AI with renewable energy and electric mobility can contribute significantly to improved resource utilisation, reduced environmental impact, and enhanced system performance. The research highlights the transformative potential of AI as a key enabling technology for addressing contemporary challenges in energy, transportation, sustainability, and climate change, while providing a foundation for future AI-driven innovations and intelligent infrastructure.

Keywords: Global warming; Climate Change; AI, solar PV, EV charging, and V2G technology

Abstract No. 061

ARTIFICIAL INTELLIGENCE AND INFORMATION AND COMMUNICATION TECHNOLOGY: CONVERGENCE, APPLICATIONS, CHALLENGES, AND FUTURE DIRECTIONS

Abubakar Saidu
Academy Library, Nigerian Defence Academy (NDA), Kaduna, Nigeria
saiduabubakarmarshal@gmail.com

ABSTRACT

Artificial intelligence (AI) and information and communication technology (ICT) have moved from parallel fields into a single, mutually reinforcing system. ICT infrastructure networks, data centers, and connected devices supplies the computing power, bandwidth, and data that make modern AI possible, while AI is increasingly embedded inside that same infrastructure to manage it, secure it, and extend its reach. This paper examines that convergence across five domains: network management and the evolution toward AI-native 6G systems, cybersecurity, cloud and edge computing, the Internet of Things, and large-scale data analytics. It surveys the operational benefits organizations report from this integration, including faster threat containment, more efficient resource allocation, and improved network reliability, and sets these against the challenges the convergence has introduced: rising energy demand from AI-intensive data centers, new attack surfaces created by AI systems themselves, a persistent skills gap among practitioners, and unresolved questions of governance, bias, and equitable access. The paper closes by outlining near-term research and deployment directions, including AInative network architectures, multi-agent systems, and energy-aware computing, and argues that realizing the full benefit of AI-ICT convergence will depend on treating security, sustainability, and governance as design constraints rather than afterthoughts.

Keywords: artificial intelligence; information and communication technology; 6G networks; cybersecurity; edge computing; Internet of Things; digital transformation; sustainable computing

Abstract No. 062

ARTIFICIAL INTELLIGENCE AND MODERN SURVEYING: A COMPARATIVE EVALUATION OF DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) AND TOTAL STATION PERFORMANCE IN TOPOGRAPHIC AND ENGINEERING SURVEYS

[1]Odeyemi Felix Gbenga, [1]Suru, Whenayon Peter, [1]Aroge Sunday Kayode, [1]Amoo Nureni Babatunde, [1]Isma'il Abdullahi Abdullahi, [2]Apata Olaniyi Clement, [3]Tokede Clement Adedapo

[1]Department of Surveying & Geoinformatics, Federal Polytechnic, Ede, Osun State
[2]Department of Quantity Surveying, Federal Polytechnic, Ede, Osun State
[3]Department of Architectural Technology, Federal Polytechnic, Ede, Osun State
Email: petyon73@yahoo.com https://ochid.org/0000-0002-8525-1655,

ABSTRACT

Through intelligent data collection, automated processing, predictive analytics, and real-time decision-making, artificial intelligence (AI) is revolutionising the geospatial and surveying industries. Choosing the best surveying technology has become crucial as engineering and topographic surveying projects increasingly require high positional accuracy, efficiency, and cost-effectiveness. Among the most popular surveying methods for establishing horizontal and vertical control, topographic mapping, engineering construction, cadastral surveys, and infrastructure development are the Differential Global Positioning System (DGPS) and Total Station. Even though both technologies have proven to be highly capable, how well they work in comparison depends on a number of factors, including terrain features, environmental factors, observation techniques, satellite geometry, operator skill, and project needs. Additionally, new opportunities to improve the performance of traditional surveying instruments have been presented by the development of AI-driven algorithms for quality control, error detection, coordinate optimisation, automated feature extraction, and intelligent survey planning. In the context of contemporary AI-enabled surveying techniques, this study provides a thorough comparison of DGPS and Total Station performance in topographic and engineering surveys. The study looks at both technologies' positional accuracy, precision, dependability, efficiency, productivity, operational costs, environmental adaptability, and appropriateness under various field situations. Additionally, it looks into how AI methods, such as computer vision, intelligent optimisation, deep learning, machine learning, and automated quality assurance, may enhance surveying processes, reduce measurement errors, and aid in decision-making. The paper highlights recent developments in robotic total stations, GNSS location, AI-assisted surveying, and intelligent geospatial data processing by summarising recent findings from high-impact publications. An AI-integrated framework for choosing suitable surveying methods based on project goals, environmental factors, and necessary accuracy levels is presented in the study. It makes the case that neither DGPS nor Total Station are inherently better; rather, their best use depends on the survey context and can be greatly improved by AI-supported planning, data fusion, and quality control. It is anticipated that the results will help surveyors, engineers, researchers, legislators, and educators implement intelligent surveying processes that enhance efficiency, precision, and sustainability in contemporary geospatial practice.

Keywords: Artificial Intelligence, Differential Global Positioning System (DGPS), Total Station, Modern Surveying, Topographic Surveying, Engineering Surveying, GNSS, Machine Learning, Geospatial Intelligence, Positioning Accuracy.

Abstract No. 063

ARTIFICIAL INTELLIGENCE AND UAV TECHNOLOGY FOR HIGH-RESOLUTION CAMPUS MAPPING: A CASE STUDY OF FEDERAL POLYTECHNIC EDE NORTH CAMPUS, NIGERIA

[1]Suru, Whenayon Peter, [1]Odeyemi Felix Gbenga, [1]Aroge Sunday Kayode, [1]Amoo Nureni Babatunde, [1]Isma'il Abdullahi Abdullahi, [2]Apata Olaniyi Clement, [3]Tokede Clement Adedapo

[1]Department of Surveying & Geoinformatics, Federal Polytechnic, Ede, Osun State
[2]Department of Quantity Surveying, Federal Polytechnic, Ede, Osun State
[3]Department of Architectural Technology, Federal Polytechnic, Ede, Osun State
Email: petyon73@yahoo.com https://ochid.org/0000-0002-8525-1655,

ABSTRACT

By making it possible to map complicated terrain quickly, accurately, and affordably, artificial intelligence (AI) and unmanned aerial vehicle (UAV) technologies have revolutionised current surveying and geospatial data collecting. With a focus on its potential to help smart campus development, infrastructure management, land administration, and sustainable planning, this article investigates the integration of AI and UAV technology for high-resolution mapping of the Federal Polytechnic Ede North Campus, Osun State, Nigeria. Even though they are accurate, traditional surveying techniques are usually expensive, time-consuming, and labour-intensive for vast or constantly changing situations. By automating picture processing, feature extraction, object detection, classification, and three-dimensional (3D) reconstruction, AI-enhanced UAV photogrammetry overcomes these constraints and increases mapping accuracy and efficiency. UAV flight planning, autonomous navigation, picture interpretation, and geographic data analysis have all been improved by recent developments in machine learning, deep learning, computer vision, and intelligent optimisation. In order to produce high-resolution orthomosaics, digital surface models (DSMs), digital terrain models (DTMs), dense point clouds, and realistic 3D campus models, the suggested framework combines UAV image acquisition with RTK-GNSS Ground Control Points (GCPs), Structure-from-Motion (SfM), Multi-View Stereo (MVS), and AI-based photogrammetric processing. Effective decision-making for campus growth, facilities management, environmental monitoring, utility mapping, and emergency response planning is anticipated to be facilitated by these spatial deliverables. The advantages, difficulties, moral issues, and potential applications of AI-enabled UAV mapping in Nigerian higher education are also covered in the article. It comes to the conclusion that, while lowering operating expenses and human intervention, integrating AI with UAV technology greatly improves the speed, accuracy, automation, and dependability of geospatial data generation. In order to facilitate digital transformation and sustainable campus management at Federal Polytechnic Ede and other similar schools, the study offers a workable framework for implementing intelligent aerial mapping technologies.

Keywords: Artificial Intelligence, Geospatial Database, Deep Learning; GNSS, Digital Twin, High-Resolution Mapping, Smart Campus, Surveying, Unmanned Aerial Vehicle, UAV Photogrammetry.

Abstract No. 064

ARTIFICIAL INTELLIGENCE, BUILDING INFORMATION MODELLING, AND GENERATIVE DESIGN FOR DEVELOPING FUTURE-READY ARCHITECTS IN THE CONSTRUCTION 5.0 ERA

Jibril Usman Bawa
Department of Architecture, Federal Polytechnic Nasarawa, Nasarawa State, Nigeria
Email: bjibrinusman@yahoo.com

ABSTRACT

The integration of Artificial Intelligence (AI), Building Information Modelling (BIM), and Generative Design is revolutionising architectural practice by enabling intelligent design solutions, collaborative project delivery, and sustainable built environments. Despite these advances, many architecture programmes in Africa continue to rely on traditional design approaches that provide limited exposure to digital design technologies. This study examines the role of AI, BIM, and Generative Design in developing future-ready architects for the Construction 5.0 era. It explores the relevance of emerging digital technologies in architectural education, identifies barriers to their adoption, evaluates their contributions to design optimisation, energy-efficient buildings, interdisciplinary collaboration, and sustainable urban development, and proposes strategies for curriculum transformation aligned with Education 5.0 and Smart Campus initiatives. Using a qualitative review of contemporary literature and international best practices, the study finds that integrating AI-enabled design tools, BIM platforms, and generative design techniques significantly enhances creativity, technical competence, graduate employability, and innovation while supporting Sustainable Development Goals 4, 9, and 11. The study concludes that curriculum modernization, investment in digital design laboratories, faculty development, and stronger academia–industry collaboration are essential for preparing architects to lead Africa's digital construction future.

Keywords: Artificial Intelligence, Building Information Modelling (BIM), Generative Design, Architecture Education, Construction 5.0, Smart Buildings.

Abstract No. 065

ARTIFICIAL INTELLIGENCE, DIGITAL TWINS, AND SMART MANUFACTURING FOR DEVELOPING FUTURE-READY MECHANICAL ENGINEERS IN THE INDUSTRY 5.0 ERA

Dr. Okechukwu Innocent Nnamdi
Department of Mechanical Engineering, Federal Polytechnic Nasarawa, Nasarawa State, Nigeria
Email: innonnam@gmail.com

ABSTRACT

The emergence of Industry 5.0, powered by Artificial Intelligence (AI), Digital Twin technology, smart manufacturing, and intelligent automation, is transforming engineering practice and redefining the competencies required of mechanical engineers. However, engineering education in many African higher institutions continues to emphasize conventional teaching methods with limited integration of intelligent manufacturing technologies. This study examines the role of AI, Digital Twins, and smart manufacturing in developing future-ready mechanical engineers capable of driving industrial innovation and sustainable production. Specifically, it evaluates the relevance of intelligent engineering technologies in mechanical engineering education, identifies barriers to their adoption, assesses their contributions to predictive maintenance, process optimization, energy efficiency, and intelligent product design, and proposes a curriculum transformation framework aligned with Industry 5.0 and Education 5.0. The study adopts a qualitative review of contemporary literature, industrial reports, and international best practices in AI-enabled engineering education. Findings indicate that integrating AI-powered simulation tools, Digital Twin applications, robotics, and intelligent manufacturing systems significantly enhances practical competencies, innovation capacity, graduate employability, and industry collaboration while contributing to Sustainable Development Goals 4, 9, and 12. The study concludes that curriculum modernization, investment in digital laboratories, faculty capacity development, and stronger academia–industry partnerships are essential for preparing mechanical engineers to lead Africa's next industrial revolution.

Keywords: Artificial Intelligence, Digital Twins, Smart Manufacturing, Mechanical Engineering Education, Industry 5.0, Predictive Maintenance.

Abstract No. 066

ARTIFICIAL INTELLIGENCE FOR DISTRIBUTION SYSTEM RELIABILITY: A REVIEW OF MACHINE LEARNING, DEEP LEARNING, AND REINFORCEMENT LEARNING TECHNIQUES

Dauda A. Folarin*
Department of Electrical and Electronic Engineering, School of Engineering Technology, Ogun State Institute of Technology, Igbesa
*Corresponding author: folarin.dauda@ogitech.edu.ng
Kabiru A. Hassan
Department of Electrical and Electronic Engineering, Federal Polytechnic, Ede, Osun State

ABSTRACT

Distribution systems cause the majority of customer interruptions, directly impacting reliability indices such as SAIDI, SAIFI, and CAIDI. Traditional reactive maintenance struggles with growing complexity from distributed energy resources. Artificial intelligence (AI) offers a data-driven approach to improving these indices. This paper reviews AI applications targeting distribution reliability. Machine learning techniques predict transformer failures with reported accuracy exceeding 94%, enabling proactive maintenance to reduce interruption frequency. Deep learning architectures such as LSTM networks detect and classify faults with accuracy above 93%, supporting faster restoration. Reinforcement learning enables automated feeder reconfiguration with computation times of milliseconds after training, facilitating selfhealing restoration. Graph neural networks improve fault localization by capturing topology information. Key challenges include data quality, class imbalance, model interpretability, and integration with utility reliability reporting frameworks. Future research directions focus on explainable AI and hybrid physicsinformed and data-driven frameworks for modern distribution systems.

Keywords: Artificial Intelligence, Distribution Reliability, SAIDI, SAIFI, CAIDI, Machine Learning

Abstract No. 067

ARTIFICIAL INTELLIGENCE, GENERATIVE AI, AND DIGITAL PROCUREMENT SYSTEMS FOR ENHANCING QUANTITY SURVEYING PRACTICE IN THE CONSTRUCTION 5.0 ERA

Shuaibu Umar Onoze
Department of Quantity Surveying, Federal Polytechnic Nasarawa, Nasarawa State, Nigeria
Email: Onoze070161@gmail.com

ABSTRACT

The adoption of Artificial Intelligence (AI), Generative AI, and digital procurement systems is transforming quantity surveying practice by improving cost management, procurement efficiency, and project delivery. However, many construction organisations and higher institutions in Africa have been slow to embrace these technologies, limiting the development of digitally competent quantity surveyors. This study examines the role of AI-driven procurement systems and intelligent cost management tools in advancing Quantity Surveying practice in the Construction 5.0 era. It explores the relevance of emerging digital technologies, identifies barriers to their adoption, evaluates their contributions to procurement automation, contract administration, cost forecasting, and risk management, and proposes strategies for accelerating digital transformation in the profession. Using a qualitative review of contemporary literature and international best practices, the study finds that AI-enabled procurement platforms, generative AI applications, and predictive analytics significantly improve transparency, decision-making, productivity, and project outcomes while supporting sustainable infrastructure development. The study concludes that digital skills development, curriculum modernization, investment in smart technologies, and stronger collaboration between academia, professional bodies, and industry are essential for preparing quantity surveyors to lead Africa's digital construction future.

Keywords: Artificial Intelligence, Generative AI, Digital Procurement, Quantity Surveying, Construction 5.0, Predictive Analytics.

Abstract No. 068

ARTIFICIAL INTELLIGENCE IN STRENGTH CHARACTERISTICS OF BITUMEN INCORPORATING BAMBOO LEAF AND COW BONE ASH

Ebenezer Akin OLUWASOLA[1] and Ifedolapo Omowumi AMEEN[2]
[1]*Department of Civil Engineering, Federal Polytechnic Ede, Nigeria*
[2]*Department of Civil Engineering, Osun State University, Osogbo Nigeria*
Corresponding author: akinnolu@gmail.com

ABSTRACT

Artificial Intelligence (AI) is among the transformative innovations in the field of Highway Engineering. Bitumen, a vital component in flexible pavement construction, faces challenges such as rutting, fatigue cracking, and environmental concerns from traditional production and waste disposal, prompting research into sustainable modification using agricultural wastes like cow bone ash (CBA) and bamboo leaf ash (BLA) to enhance its properties and reduce ecological impact. This study utilized 80/100 penetration grade bitumen, CBA and BLA. X-Ray Flourescence, Penetration, Ductility, Viscocity, and flash point tests were judiciously performed to assess chemical composition and physical properties of neat and modified bitumen at 0-20% replacement levels. Results showed CBA, with high calcium oxide (70.40%), reduced bitumen's flash point (330.25°C to 228.5°C), penetration (75.33 to 28.33mm), and ductility (88.67 to 27.67cm) while increasing softening point (36.85°C to 63.10°C) and viscosity (2033 to 2655), indicating increased hardness but reduced flexibility; BLA, rich in silica (80.23%) ,raised flashpoint (264°C to 305°C), softening point (43°C to 53°C), and ductility (104 to 99cm) while lowering penetration (93 to 82 mm) and viscosity (2929 to 2536), generally meeting standards and enhancing thermal stability and workability. Thus, BLA proves more effective for balanced bitumen enhancement, while CBA's brittleness limits its utility; further optimization of CBA below 5% and hybrid CBA- BLA blends are recommended for sustainable pavement applications.

Keywords: Artificial Intelligence, Bitumen, Sustainable Pavement, Innovations, Optimization

Abstract No. 069

ARTIFICIAL INTELLIGENCE-ASSISTED GEOTECHNICAL ASSESSMENT AND REMEDIATION OF GULLY EROSION

Shettima U. Ali [*1], Zakariyyah B. Olatunde[2], Mubarak Suleiman [2], Bukar M. Adam[2]
[1]*Department of Civil Engineering Technology, Federal Polytechnic Damaturu, 620221, Yobe State, Nigeria*
[2]*Department of Estate Management Technology, Federal Polytechnic Damaturu, 620221, Yobe State, Nigeria*
*Corresponding author: umarashettima2@gmail.com

ABSTRACT

Gully erosion is a major geotechnical and environmental hazard that threatens soil stability, infrastructure, land resources, and sustainable urban development. Conventional assessment of gully susceptibility relies largely on field reconnaissance and laboratory determination of soil properties, which can be time-consuming and may provide limited capacity for predicting spatial variations in erosion risk. This study presents an engineering-focused assessment of gully erosion in Doma Ward along Dadin Kowa Street, Gombe State, with emphasis on the potential application of Artificial Intelligence (AI) for geotechnical erosion susceptibility assessment and remediation planning. Five soil samples were collected at a depth of 0.5 m using a hand auger and core cutter and subjected to laboratory testing in accordance with BS 1377 Part 2 and Part 4 (1990). The tests included particle-size distribution, Atterberg limits, compaction, permeability, and specific gravity. The particle-size distribution curves were used to determine the characteristic particle diameters and corresponding coefficients of uniformity (Cu) and curvature (Cc). The results showed that the soils are predominantly medium to coarse sands and poorly graded, with Cu values ranging from 2 to 4 and Cc values from 0.78 to 1.68. Plasticity indices ranged from 4% to 12%, indicating low plasticity and weak cohesion. Maximum dry density ranged from 1.67 to 1.88 Mg/m³, while optimum moisture content varied from 11.7% to 20.6%. The coefficient of permeability ranged from 4.62×10^{-5} to 4.63×10^{-4} m/s, indicating moderate to relatively high permeability. The combined results demonstrate that poor grading, low plasticity, relatively low dry density, and high permeability contribute to low resistance to rainfall-induced erosion and concentrated surface runoff. Based on these engineering parameters, an AI-assisted framework is proposed in which geotechnical variables are used as input features for erosion susceptibility classification, risk prediction, prioritisation of vulnerable locations, and selection of appropriate remediation measures. The study demonstrates that integrating conventional geotechnical investigation with AI-based decision-support techniques can improve the efficiency, consistency, and predictive capability of gully erosion assessment and engineering intervention.

Keywords: Artificial intelligence; gully erosion; geotechnical assessment; erosion susceptibility; machine learning; soil properties; permeability; remediation; engineering decision support.

Abstract No. 070

ARTIFICIAL INTELLIGENCE-DRIVEN PREDICTIVE MAINTENANCE AND THE PERFORMANCE OF PUBLIC BUILDINGS IN SOUTH-SOUTH NIGERIA: A MACHINE LEARNING-BASED QUANTITATIVE ASSESSMENT

Ufia, Daniel Victor[1], Umoh, Sifon James[2], Agada, Daniel Ichekan[3]
[1,3]Department of Building Technology, Federal University of Technology, Ikot Abasi, Nigeria
[2]Department of Aerospace Engineering, Federal University of Technology, Ikot Abasi, Nigeria
Corresponding author: Ufia, Daniel Victor; Email: danielvic250@gmail.com

ABSTRACT

The increasing deterioration of public buildings in Nigeria, coupled with reactive maintenance practices, constrained maintenance budgets, and delayed defect identification, highlights the need for intelligent maintenance solutions that enhance infrastructure performance. This study aims to evaluate the influence of Artificial Intelligence (AI)-driven predictive maintenance on the performance of public buildings in South-South Nigeria through a machine learning-based quantitative assessment by assessing the level of AI-driven predictive maintenance adoption in public buildings, determining the influence of AI-based predictive maintenance on maintenance cost, response time, service life, and user satisfaction, and developing a predictive model for maintenance performance using machine learning variables. A quantitative research design will be adopted, targeting Estate Surveyors, Builders, Facility Managers, Civil Engineers, and Government Maintenance Officers involved in the management of public buildings across the South-South geopolitical zone of Nigeria. Data will be collected using a structured questionnaire and analysed using descriptive statistics, Multiple Regression Analysis, and Structural Equation Modelling (SEM). The study is expected to reveal a low-to-moderate level of AI-driven predictive maintenance adoption, while demonstrating that AI-enabled predictive maintenance significantly reduces maintenance costs and response time, extends building service life, and improves user satisfaction. The predictive model is also expected to identify the critical AI variables that influence maintenance performance. The study is expected to provide empirical evidence that will support AI integration into public building maintenance policies and practices. It will also contribute context-specific knowledge that advances intelligent infrastructure management in developing countries. By recommendation, the findings are expected to inform policy initiatives that promote AI adoption in public building maintenance across Nigeria.

Keywords: Artificial Intelligence (AI), Predictive Maintenance, Public Building Performance, Machine Learning, South-South Nigeria

Abstract No. 071

ARTIFICIAL INTELLIGENCE-DRIVEN SUSTAINABLE CONSTRUCTION: A COMPARATIVE ASSESSMENT OF BAMBOO-REINFORCED CONCRETE AND CONVENTIONAL DESIGN STANDARDS IN AFRICA

Yusuf Babangida Attahiru* and Musa Sobirah Azumi
Department of Civil Engineering, Faculty of Engineering, Abdullahi Fodio University of Science and Technology, Aliero, 1144, AFUSTA, Kebbi State, Nigeria
*Corresponding author: attahiru@graduate.utm.my

ABSTRACT

The rapid advancement of Artificial Intelligence (AI) is transforming engineering research through intelligent material evaluation, predictive performance analysis, and data-driven decision-making for sustainable infrastructure development. This study investigates the structural performance of bamboo-reinforced concrete (BRC) compared with conventional reinforced concrete using internationally recognized design standards, while highlighting the potential of AI to advance sustainable construction in Africa. Bamboo is increasingly recognized as a sustainable construction material due to its renewability, affordability, low carbon footprint, and favourable tensile properties, making it particularly suitable for resource-constrained environments. The study evaluates the compressive strength, flexural strength, density, and water absorption of BRC against the requirements of BS 8110, IS 456, and Eurocode 2. A systematic literature review identified opportunities for applying AI-driven analytical tools to optimize bamboo treatment, predict structural performance, and improve material selection. Experimental investigations were conducted using treated bamboo embedded in conventional concrete mixes to obtain reliable comparative performance data. Results indicate that although the compressive strength of BRC is slightly lower than that of steel-reinforced concrete, it satisfies the minimum requirements of relevant design standards. The flexural strength is significantly enhanced by bamboo's high tensile capacity, while density and water absorption remain within acceptable durability limits. These findings confirm that BRC is a technically viable and environmentally sustainable alternative for selected structural applications. The study concludes that integrating AI-based predictive modelling, structural health monitoring, and intelligent design optimization with bamboo-reinforced concrete can enhance sustainable infrastructure development, improve engineering decision-making, and support evidence-based policy formulation. The findings provide valuable insights for researchers, scientists, policymakers, and scholars seeking AI-enabled engineering solutions to address Africa's sustainable development challenges.

Keywords: Artificial intelligence, bamboo-reinforced concrete, sustainable construction, engineering education, predictive modelling, structural performance.

Abstract No. 072

ASSESSING THE IMPACT OF ARTIFICIAL INTELLIGENCE ON PROJECT MANAGEMENT OF CONSTRUCTION ORGANIZATIONS

***[1]Apata O. C., [1]Ogunyemi B. R., [1]Adejumobi M. K. & [2]Adeleke J. S.**
[1]Department of Quantity Surveying, Federal Polytechnic, Ede, Nigeria
[2]Department of Building Technology, Federal Polytechnic, Ede, Nigeria
*Corresponding author email: olaniyiclement@gmail.com; Tel: 08036734226

ABSTRACT

The construction industry is inherently risky, with projects often affected by cost overruns, delays, and safety issues. Traditional risk management methods are largely reactive and manual, leading to inefficiencies. Artificial Intelligence [AI] tools such as machine learning, expert systems, and predictive analytics offer opportunities to improve proactive risk identification and decision-making. However, the level of awareness and adoption of these tools among construction professionals in developing economies like Nigeria remains unclear. This study investigates the awareness of the use of Artificial Intelligence tools in risk management by construction professionals in Lagos, Nigeria. A quantitative survey research design was adopted. Structured questionnaires were administered to 150 construction professionals including Architects, Engineers, Quantity Surveyors, and Project Managers working in Lagos State. Data collected was analyzed using descriptive statistics, Relative Importance Index [RII], and inferential statistics with the aid of SPSS. The findings reveal that the level of awareness of AI tools for risk management is moderate, but the extent of actual usage is low. The most known AI applications include Building Information Modeling with risk modules, predictive analytics, and expert systems. Key benefits identified include improved risk prediction accuracy, faster decision-making, and cost savings. Major barriers to adoption include high cost of implementation, lack of technical expertise, poor data quality, and resistance to change. Regression analysis shows that level of education, organization size, and IT infrastructure significantly influence adoption.The study concludes that while awareness exists, there is a significant gap between awareness and practical application of AI tools in construction risk management in Lagos. It recommends training programs, government policy support, and development of affordable AI solutions tailored to the Nigerian context to improve adoption.

Keywords: Artificial Intelligence, Risk Management, Construction Professionals, Awareness, Lagos, Nigeria

Abstract No. 073

DEVELOPMENT OF AN INTELLIGENT WEB-BASED CLEARANCE MANAGEMENT SYSTEM USING ADAPTIVE MULTI-AGENT COORDINATION AND BLOCKCHAIN TECHNOLOGY: A CASE STUDY OF THE NATIONAL INSTITUTE OF CONSTRUCTION TECHNOLOGY AND MANAGEMENT (NICTM), UROMI, EDO STATE, NIGERIA

Ehikhamenle Joseph
Department of Computer Science, National Institute of Construction Technology and Management, Uromi, Edo State, Nigeria
Email: J.ehikhamenle@nict.edu.ng

ABSTRACT

The use of digital technology in tertiary institutions has transformed the way administrative activities are managed. Despite these improvements, many institutions in Nigeria still depend on manual or partly computerized clearance processes that are slow, stressful, and difficult to manage. Students often face unnecessary delays, repeated movement between offices, missing documents, poor communication among departments, and challenges in verifying records. At the National Institute of Construction Technology and Management (NICTM), Uromi, these problems continue to affect the efficiency of the clearance process and create inconvenience for both students and staff. This study focused on the development of an intelligent web-based clearance management system using adaptive multi-agent coordination and blockchain technology to improve the existing process.The developed system automated the major activities involved in students' clearance by allowing departments and units to communicate through intelligent software agents. These agents handled verification, approval, monitoring, and information exchange between the different sections involved in the clearance exercise. Blockchain technology was integrated into the system to improve transparency, protect students' records, and reduce the risk of unauthorized alterations. The system was developed using PHP, MySQL, HTML, CSS, JavaScript, and blockchain tools to provide a secure and user-friendly platform.The system was evaluated using factors such as speed, accuracy, reliability, transparency, and ease of use. Findings showed that the developed system reduced delays, minimized human errors, improved access to records, and strengthened the security of students' information when compared with the manual method. The study concluded that integrating adaptive multi-agent coordination and blockchain technology can improve the efficiency, reliability, and security of clearance management in tertiary institutions. The study further recommended continuous staff training, maintenance of digital infrastructure, and adoption of intelligent technologies across tertiary institutions to support faster decision-making, coordination among departments, and sustainable management of students' records and administrative activities in Nigeria.

Keywords: Multi-Agent System, Blockchain Technology, Clearance Management System, Web-Based System, Artificial Intelligence, NICTM Uromi.

Abstract No. 074

DIGITAL INNOVATION IN SCIENCE LABORATORY MANAGEMENT FOR ENTREPRENEURSHIP AND SKILLS DEVELOPMENT IN TECHNICAL EDUCATION: A CASE STUDY OF THE NATIONAL INSTITUTE OF CONSTRUCTION TECHNOLOGY AND MANAGEMENT (NICTM), UROMI, EDO STATE, NIGERIA

Emmanuel Ewanose Ozah
Department of Science Laboratory Technology, National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria
Email: e.ozah@nict.edu.ng

ABSTRACT

The growing demand for entrepreneurship, innovation, and self-reliance in Africa has increased the need for technical education systems that provide students with practical, industry-relevant, and technology-driven skills. Science laboratories play a critical role in developing scientific competencies and entrepreneurial capabilities; however, many tertiary institutions face challenges such as inefficient laboratory management practices, inadequate digital record systems, poor monitoring of laboratory resources, limited automation, and ineffective coordination of practical activities. These challenges reduce the effectiveness of laboratory-based learning and constrain the ability of institutions to produce graduates equipped for innovation and enterprise development. This study investigates digital innovation in science laboratory management for entrepreneurship and skills development in technical education, using the National Institute of Construction Technology and Management (NICTM), Uromi, Edo State, Nigeria, as a case study. The aim of the study is to assess how the adoption of digital technologies can enhance laboratory operations, improve practical training, and promote entrepreneurial competencies among students. The study adopted a descriptive research design, with data collected through questionnaires, observations, and discussions with laboratory personnel and students. The collected data were analyzed to determine the level of digital technology adoption, existing laboratory management challenges, and the perceived impact of digital solutions on skills acquisition. The findings indicate that the integration of digital technologies in science laboratory management improves resource monitoring, inventory management, documentation, laboratory accessibility, operational efficiency, and the quality of practical learning experiences. The study further reveals that technology-enabled laboratory environments encourage innovation, creativity, problem-solving skills, and entrepreneurial readiness among students. The research contributes to the development of sustainable technical education frameworks by demonstrating how digital laboratory management can support workforce development, institutional efficiency, and enterprise-oriented learning. The study concludes that digital transformation of science laboratory management is a strategic approach for strengthening technical education and promoting self-reliance in Africa. It recommends increased investment in smart laboratory infrastructure, digital skills training for educators, and the adoption of innovative laboratory management systems to bridge the gap between education, industry needs, and entrepreneurship development.

Keywords: Digital Innovation; Science Laboratory Management; Technical Education; Entrepreneurship Development; Skills Acquisition; Digital Transformation; Laboratory Information Systems; Sustainable Education.

Abstract No. 075

IMPROVING MACHINE TRANSLATION USING AN EFFICIENT DUAL-BERT ADVERSARIAL NETWORK (DBAN) MODEL FOR USER-GENERATED CONTENT

Abubakar Ahmad Aliero
Department of Computer Science, Faculty of Computing, Abdullahi Fodio University of Science and Technology, Aliero

ABSTRACT

Machine Translation (MT) has experienced significant advancements with the emergence of Neural Machine Translation (NMT) and Transformer-based architectures. Despite these developments, translating user-generated content (UGC) remains a major challenge due to non-standard grammar, spelling variations, abbreviations, slang expressions, code-switching, and other forms of linguistic noise. These challenges are particularly pronounced in low-resource languages such as Hausa, where the scarcity of high-quality linguistic resources further limits the performance of existing translation systems. Consequently, there is a need for robust, context-aware machine translation models that can handle noisy, informal text while maintaining semantic accuracy. This study focuses on improving machine translation of Hausa user-generated content by developing an Efficient Dual-BERT Adversarial Network (DBAN). The innovation of the proposed framework lies in integrating two BERT-based models into a unified adversarial learning architecture. The first BERT model is responsible for normalizing noisy Hausa text into a standard linguistic form, while the second BERT model performs Hausa-to-English translation. An adversarial discriminator is incorporated to distinguish between human-generated and machine-generated translations, thereby enhancing translation quality, fluency, and robustness. The study addresses the limitations of existing rule-based, statistical, and neural translation approaches, which often struggle with out-of-vocabulary words, data sparsity, semantic distortion, and the effective processing of noisy user-generated content. These shortcomings reduce translation quality and hinder the practical deployment of MT systems in real-world communication environments. An experimental research design was adopted. A corpus of Hausa user-generated content was collected from Twitter and WhatsApp. The corpus development process produced about 30,000 usable sentences and a lexicon containing 28,000 unique entries. The dataset was divided into training, validation, and testing subsets using an 80:10:10 ratio. The proposed DBAN model was implemented using BERT encoders, adversarial learning techniques, and transformer-based translation mechanisms, and was trained over 20 epochs. Experimental results demonstrate the effectiveness of the proposed framework. The model achieved an Exact Match score of 83.99%, a BLEU score of 75.34%, a Word Error Rate (WER) of 0.12, and a Character Error Rate (CER) of 0.07. Furthermore, translation evaluation showed substantial improvements over the baseline system, with BLEU increasing from 55.7 to 73.9, METEOR from 46.5 to 62.8, and TER decreasing from 38.2 to 21.4. These findings confirm that the proposed DBAN model significantly improves the translation of Hausa user-generated content and contributes a novel, efficient, and robust framework for low-resource language machine translation.

Keywords: Machine Translation, Dual-BERT Adversarial Network (DBAN), User-Generated Content (UGC), Hausa Language Processing, Neural Machine Translation (NMT).

Abstract No. 076

PHYSICS-INFORMED NEURAL NETWORK SURROGATE OPTIMIZATION FOR FUEL BURN MINIMIZATION IN TRANSONIC WIDEBODY AIRCRAFT UNDER AEROSTRUCTURAL CONSTRAINTS

Archibong, Abasiemek Aniefiok
Federal University of Technology, Ikot Abasi (FUTIA)
Email: abasiemekarchibong@gmail.com

ABSTRACT

The increasing demand for fuel efficient and environmentally sustainable aviation has intensified the need for advanced aircraft optimization approaches capable of improving performance while satisfying complex aerodynamic and structural requirements. Conventional aircraft design optimization methods based on high fidelity computational fluid dynamics and structural simulations provide accurate solutions but involve significant computational costs, limiting efficient exploration of large design spaces. Existing machine learning surrogate models offer computational advantages but often lack physical consistency due to their dependence on datadriven learning approaches. This study proposes a physics-informed neural network surrogate optimization approach for fuel-burn minimization in transonic wide-body aircraft under coupled aerostructural constraints. The proposed method integrates governing aerodynamic and structural equations into the neural network learning process to develop a physically consistent surrogate model for aircraft performance prediction and optimization. A mathematical optimization formulation is developed by defining fuel consumption as the primary objective function while incorporating aerodynamic efficiency, structural integrity, and operational constraints. The study investigates the capability of the proposed approach to reduce computational requirements while maintaining prediction accuracy and compliance with physical principles during aircraft design optimization. The research contributes a theoretical foundation for intelligent aerospace design by combining physics-informed artificial intelligence with multidisciplinary optimization principles. The proposed methodology provides a pathway toward faster, reliable, and physically constrained aircraft design optimization, supporting future developments in sustainable aviation technologies.

Keywords: Physics-informed neural networks; artificial intelligence; surrogate modelling; aircraft design optimization; fuel-burn minimization; aerostructural optimization; transonic aircraft

Abstract No. 077

THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING DEMOGRAPHIC DATA COLLECTION AND POPULATION FORECASTING

ADEBAYO Azeezat Ayodele
Department of Statistics, School of Applied Science, The Federal Polytechnic, Ede, Osun State, Nigeria
Phone Number: 07062328909; E Mail: Adebayo.azeezat@federalpolyede.edu.ng

ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative tool in demographic research, revolutionizing data collection, processing, and population forecasting. Traditional demographic methods often rely on censuses, surveys, and manual statistical analyses, which are limited by cost, time, and accuracy. AI introduces innovative mechanisms, such as machine learning, natural language processing, and remote sensing, that enable real-time, accurate, and large-scale demographic analysis. This paper explores the evolving role of AI in enhancing demographic data systems, highlighting its applications in population estimation, migration analysis, fertility and mortality prediction, and policy planning. It also discusses ethical considerations, data governance, and the challenges of integrating AI within national statistical systems, especially in developing contexts like Nigeria. The study concludes that AI-driven demographic intelligence will reshape the global data ecosystem, providing unprecedented opportunities for evidence-based policymaking and sustainable development.

Keywords: Artificial Intelligence, Demographic Data, Population Forecasting, Machine Learning, Big Data Analytics, Digital Census.

Abstract No. 078

WONDERS OF AI IN THE 21ST CENTURY: TRANSFORMATIVE LESSONS FOR ENGINEERING PRACTICE, RESEARCHERS, AND POLICY MAKERS IN AFRICA

Mohammed Adamu Sule
Department of Computer Engineering, Federal Polytechnic Kaltungo, Gombe State, Nigeria
Correspondence: m.a.sule@fpk.edu.ng

ABSTRACT

Artificial intelligence (AI) is fundamentally reshaping the landscape of engineering practice worldwide, yet its adoption trajectory, productivity impact, and governance implications remain inadequately documented in sub-Saharan African contexts. This study investigates the wonders and lessons of AI integration across engineering disciplines, with particular emphasis on North-East Nigeria. Employing a quantitative cross-sectional survey design administered to 412 engineering professionals, academics, and students at Federal Polytechnic Kaltungo and affiliated institutions, this paper uses Partial Least Squares–Structural Equation Modelling (PLS-SEM) and Ordinary Least Squares (OLS) regression implemented in Python 3.12—to evaluate the determinants and outcomes of AI adoption. Grounded in the Technology Acceptance Model (TAM) extended with Organisational Readiness and Skill Development constructs, findings reveal that Perceived Usefulness ($\beta = 0.341$, $p < 0.001$) and AI Tool Utilisation ($\beta = 0.452$, $p < 0.001$) are the strongest predictors of engineering productivity gains. AI adoption rates increased from 34% to 94% across disciplines between 2022 and 2024, with mean productivity gains of 40.2% across six application domains. OLS regression confirms that AI investment significantly predicts output quality ($R^2 = 0.807$, $p < 0.001$). Barriers including skill gaps ($M = 4.2/5$), infrastructure costs ($M = 4.5/5$), and data security concerns are significantly more pronounced in Nigeria relative to global averages. The study provides evidence-based policy recommendations for engineering educators, polytechnic administrators, and government ICT agencies, and identifies a research agenda for AI-driven engineering innovation in Africa.

Keywords: artificial intelligence; engineering productivity; PLS-SEM; Technology Acceptance Model; machine learning; Nigeria; Africa; Industry 4.0

SUB-THEME 4

ARTIFICIAL INTELLIGENCE IN HEALTH, LIFE AND PHYSICAL SCIENCES

Abstracts 079 – 086

Abstract No. 079

ARTIFICIAL INTELLIGENCE FOR HEALTH EQUITY: EVALUATING THE IMPACT OF AI TOOLS ON SERVICE DELIVERY AND RESOURCE ALLOCATION IN NIGERIA'S PRIMARY HEALTHCARE CENTERS (2020-2025)

OLAWEPO, Samson Olaide[1]
olawepo.samson@federalpolyede.edu.ng; +2348038188830
Giwa, Bashiru Olalekan[1]
giwa.olalekan@federalpolyede.edu.ng; +2347036497449
BABALOLA, Jamiu Abidemi[2]
jamo9097@gmail.com; +2348064846910
[1]*Department of Public Administration, Federal Polytechnic Ede, Osun State, Nigeria*
[2]*Department of Business Administration and Management, Federal Polytechnic Ede, Osun State, Nigeria*

ABSTRACT

The paper will examine how the concept of Artificial Intelligence (AI) can be implemented in the Nigerian public health sector in 2020-2025. The shortage of resources and the logistical bottlenecks were chronic during this time, in the National Primary Health Care Development Agency (NPHCDA) and other systems at the state level. This study is concerned with the application of entrepreneurial AI solutions- efficiency-driven innovations and agility of the private sector in sealing these gaps. The main objective was to assess the effectiveness of AI-based tools in enhancing vaccination and distribution, patient data management and predictive diagnostics. The paper questions the existence of such technologies in the rural populations or the possibility that such technologies are solely concentrated in cities. The mixed-methods approach was applied. This included critical analysis of NPHCDA digital registries and comparison of case study examples of state level electronic health record (EHR) deployments. It is found in the analysis that AI entrepreneurialism has already contributed to optimising the so-called last-mile delivery of vaccination by predictive algorithms of the supply-chain. Nevertheless, there is still a wide digital divide. Though AI enhances the accuracy of the data in affluent states, a great number of rural Primary Health Centres (PHC) continue to face issues with electricity. The entrepreneurial side can be seen through the public-private partnering, where AI tracks disease outbreaks in real-time, but such systems usually depend on spotty mobile network coverage. AI provides an efficient system of administration automation. However, its gains are one-sided without a strong infrastructure. To transform AI into a genuine groundbreaker in the sphere on healthcare in Nigeria, the shift in planning needs to be implemented not only through high-tech software but also on the basis of hardware and the digital literacy of local health workers.

Keywords: NPHCDA, Digital health, Primary healthcare, Artificial Intelligence

Abstract No. 080

ARTIFICIAL INTELLIGENCE IN ANALYTICAL CHEMISTRY: CURRENT ADVANCES AND FUTURE DIRECTIONS

[1]Maspalma, Godwin Anthony, [2]Neksumi Musa, [1]Mohammad Bashir and [1]Dangiwa Grace Ajima

[1] Department of Science Laboratory Technology, Federal Polytechnic, Kaltungo, Gombe State

[2]Department of Science Laboratory Technology, State Polytechnic, Yola. Adamawa State

Corresponding author Email: agoddypalma@gmail.com

ABSTRACT

Artificial intelligence is driving a major shift in analytical chemistry by improving data processing speed, accuracy, and decision-making. With the massive datasets generated by modern instruments such as AAS, HPLC-MS, GC-MS, and NMR, as well as spectroscopic techniques, traditional manual interpretation has become a bottleneck. Current advances in AI address this through automated spectral interpretation and compound identification using deep learning models. They also enable chemometric enhancement for multivariate data analysis, pattern recognition, and classification; predictive modeling of analytical method performance, including retention time, peak resolution, and detection limits; and integration with laboratory robotics for real-time quality control and anomaly detection. Despite these gains, challenges remain in model generalizability, a limited annotated spectral database, and the need for explainable AI in regulated environments. The current trend shows AI moving from a data-processing aid to an intelligent partner in method development, instrument optimization, and autonomous analytical workflows. This review highlights the state-of-the-art application of AI in analytical chemistry and outlines future directions toward self-optimizing and self-diagnosing analytical systems.

Keywords: Artificial Intelligence, Analytical Chemistry, Chemometrics, Spectroscopy, and Autonomous Laboratories.

Abstract No. 081

ARTIFICIAL INTELLIGENCE IN EMERGENCY TOXICOLOGY: CURRENT ADVANCES AND CLINICAL APPLICATIONS

Abdulwahid A Naibi[1]*, Muhammad, S.U[1], Auwal Muttaka[1]
Department of Biochemistry, Faculty of Science, Federal university Gusau, P.M.B 1001
Corresponding author: E-mail: aanaibi@fugusau.edu.ng. Mobile:+2348060460056

ABSTRACT

Emergency toxicology is a demanding clinical field that requires rapid and accurate decision-making to manage acute poisoning cases effectively. Toxic exposures are often unpredictable, and limitations in time, information, and resources frequently challenge traditional diagnostic and treatment approaches in emergency settings. In recent years, artificial intelligence has emerged as a supportive tool in emergency medicine, with the potential to improve diagnostic accuracy, enhance risk assessment, and strengthen clinical decision support systems. Despite the growing interest in artificial intelligence across medical disciplines, its application in emergency toxicology remains relatively underexplored. This paper examines current advances in the use of artificial intelligence in emergency toxicology, focusing on its role in diagnosis, outcome prediction, and clinical management of poisoning cases. It also discusses existing challenges, including data quality, ethical considerations, regulatory limitations, and barriers to clinical integration. While artificial intelligence shows significant promise in improving toxicological assessment and patient outcomes, further research, standardized frameworks, and careful implementation strategies are required to ensure its safe, effective, and ethical use in emergency clinical practice.

Keywords: Artificial intelligence, Toxicology, Emergency, Poisoning.

Abstract No. 082

CORN SILK EXTRACT IMPROVES SERUM ESTROGEN LEVEL AND OSTEOANABOLIC MARKERS IN OVARIECTOMIZED FEMALE RATS

Sanusi Bello Mada[1]*, Tosin Oguntunde[1], Kabiru Usman[1]
[1]*Department of Biochemistry, Federal University Gusau Zamfara State, Nigeria*
*Corresponding Author: Email address: sbmada@fugusau.edu.ng; Phone Number: +2348038152143

ABSTRACT

Introduction: Estrogen plays a critical role in bone remodeling, and its decline during menopause is a major contributor to postmenopausal osteoporosis. Aim: This study investigated the effects of corn silk extract on serum estradiol levels and selected osteoanabolic markers in ovariectomized (OVX) female rats. Methodology: Phytochemical analysis of corn silk extract was performed using standard analytical methods. Thirty 3-month-old female Wistar rats (170 ± 10 g) were used for the study. The animals underwent either bilateral ovariectomy (n = 25) or a sham operation (n = 5). Two weeks after surgery, the rats were randomly assigned to six groups (n = 5 per group) and treated orally for seven weeks with distilled water, corn silk extract (100, 200, or 400 mg/kg body weight), or alendronate (10 mg/kg body weight). At the end of the treatment period, serum estradiol levels and selected osteoanabolic markers were determined. Results: Phytochemical analysis revealed that the corn silk extract contained appreciable amounts of flavonoids and phenolic compounds. Treatment of OVX rats with corn silk extract at all tested doses reduced body weight gain and significantly ($P < 0.05$) increased uterine weight and serum estradiol levels compared with untreated OVX rats. In addition, the extract significantly ($P < 0.05$) increased femoral bone calcium and phosphorus contents and attenuated ovariectomy-induced alterations in serum alkaline phosphatase (ALP) activity and osteocalcin levels. Conclusion: These findings suggest that corn silk extract, owing to its rich phytochemical composition, possesses anti-osteoporotic properties by enhancing bone mineral content and suppressing excessive bone remodeling.

Keywords: Corn silk extract, Ovariectomy, Osteoporosis, Phytoestrogens, Bone remodeling markers

Abstract No. 083

DEVELOPMENT OF AN AUTOMATED EVALUATION SYSTEM FOR DETERMINING THE IMPACT OF DRUG EXPIRY DATE VALIDATION ON HEALTHCARE

Dr. Adeoye Abiodun ILELADEWA
Department of Computer Science, Federal Polytechnic Ede, P.M.B 231 Ede, Osun State, Nigeria
Email: ileladewaadeoye@yahoo.com

ABSTRACT

This study focused on the development of a web-based Drug Expiry Date Validation System aimed at improving pharmaceutical inventory management and enhancing patient safety within healthcare institutions in Nigeria. The research work was motivated by the challenges associated with manual monitoring of drug expiration dates, which often results in medication errors, dispensing of expired drugs, drug wastage, financial losses, and poor inventory management.

The study examined the impact of expired drugs on public health and healthcare systems and identified major challenges such as reduced treatment effectiveness, increased risk to patient safety, poor inventory control, and healthcare inefficiencies. Data were collected through questionnaires and administered to healthcare professionals and personnel involved in pharmaceutical management. A total of six hundred (600) questionnaires was successfully administered for analysis.

The study adopted a descriptive research design, while percentage analysis and graphical representations were used to analyze the collected data. Findings revealed that the proposed web-based system significantly improves efficiency, accuracy, reliability, speed of drug validation, inventory control, and monitoring of drug expiration dates. The system was developed using HTML, CSS, JavaScript, PHP, and MySQL technologies and incorporates automated alerts for expired and near-expiry drugs.

The implementation of the proposed system demonstrated considerable improvements in drug monitoring, reduction of expired drug dispensing, faster validation processes, and enhanced healthcare service delivery. The study concludes that the adoption of a web-based drug expiry date validation system can improve patient safety, reduce pharmaceutical wastage, strengthen inventory management practices, and contribute positively to healthcare outcomes.

Keywords: Drug Expiry Validation, Healthcare _Information System, Pharmaceutical Inventory Management, Patient_ Safety, Web-Based System, Drug Monitoring.

Abstract No. 084

ISOLATION, STRUCTURAL CHARACTERIZATION AND BIOACTIVITIES OF ANTIOXIDANT AND ANTIMICROBIAL COMPOUNDS FROM PROSOPIS AFRICANA STEM BARK

[1]Ishaq Mohammed Aliyu* and [2]Hamisu Abubakar Mahraz
[1]Department of Chemistry, Faculty of Science Education, Yusuf Maitama Sule Federal University of Education, Kano, Kano State Nigeria
[2]Department of Biology, Faculty of Science Education, Yusuf Maitama Sule Federal University of Education, Kano, Kano State Nigeria

ABSTRACT

Prosopis africana also known as African mesquite is the only specie of *Prosopis* that is indigenous to tropical Africa. It has vast social, economic, cultural, medicinal and agricultural values. In this research the Antioxidant and Anti-microbial activities of *Prosopis africana* were determined. The stem bark of *Prosopis africana* was extracted using *n*-hexane and ethanol. The Antioxidant activities were evaluated using DPPH. The ethanolic extract showed more antioxidant activity than the *n*-hexane extract with IC_{50} values of 6.91µg/mL and 671.81µg/mL respectively. The two extracts also inhibited the growth of tested bacterial strains; *Ralstonia solanacearum, Xanthomonas campestris,* Methicillin resistant *Staphylococcus aureus,* and *E coli* in the ranges of 21mm,15mm,21mm,19mm for the ethanolic extract and 18mm,14mm,17mm,15mm for *n*-hexane extract. This study supported the traditional use of *Prosopis africana* in traditional medicine and the results revealed that the ethanolic extract possesses potent antioxidant and antimicrobial agents than the *n*-hexane extract.

Keywords: Prosopis Africana, Antioxidant, Antimicrobial, Hexane, Ethanol

Abstract No. 085

NONLINEAR MIXED CONVECTIVE-RADIATIVE NANOFLUID FLOW OVER A NONLINEAR STRETCHING SHEET WITH FRICTIONAL HEATING

Ahmad Banji Jafar[a,*] and Yusuf Sulaiman Rumu[a]
[a]*Department of Mathematics, Abdullahi Fodiyo University of Science and Technology, Aliero, Nigeria*
*Corresponding Author: abjafar@yahoo.com

ABSTRACT

The influence of nonlinear thermal radiation on nonlinear mixed convection nanofluid flows along a nonlinear stretching sheet with frictional heating is analyzed in this paper. The governing equations of the nanofluid flow are in the form of dimensional nonlinear partial differential equations, which are transformed into non-dimensional ordinary differential equations by employing a suitable similarity variables. The transformed equations are solved numerically using the MATLAB bvp4c boundary value solver. The results obtained indicated quite clearly that, the temperature ratio and the nonlinear thermal radiation factors exhibit a similar effect, that is, temperature increases with an increasing in temperature ratio and nonlinear thermal radiation parameters. Additionally, the higher value of nonlinear mixed convection parameter create a significant temperature difference between the wall and the ambient fluid, which enhances the fluid velocity as well as the friction between wall and fluid particles. However, heat transfer rate is augmented with the rising values of the nonlinear mixed convection factor. Furthermore, increments in the frictional heating parameter results in the boosting of the temperature distributions.

Keywords: Nanoparticle volume fraction; Nonlinear mixed convection; Nonlinear thermal radiation; Nonlinear stretching sheet.

Abstract No. 086

UTILIZATION OF TELEMEDICINE PLATFORMS FOR PATIENT MANAGEMENT BY MEDICAL DOCTORS IN SELECTED HOSPITALS IN KADUNA STATE, NIGERIA

Sa'ad Ibrahim (CLN)
Polytechnic Librarian, Library Department, Nuhu Bamalli Polytechnic Zaria, Kaduna State
E-mail: sadtabari@gmail.com, Tel.: 08062126674

ABSTRACT

This study examines the utilization of Telemedicine platforms for patient management by medical doctors in Selected Hospitals in Kaduna state, Nigeria. The study is aimed at surveying the extent to which medical doctors are conversant with telemedicine-facilitating platforms used for patient management in the selected facilities; To assess the extent to which medical doctors utilize telemedicine platforms for patient management in the selected facilities. Quantitative research method was adopted for the study using cross-sectional survey research design. The targeted population was (50) medical doctors from selected primary, secondary and tertiary healthcare centers in Kaduna state, Nigeria. Census sampling technique was adopted. Questionnaire was used as the instrument for data collection. The validity of the instrument was established while a reliability coefficient value of 0.979 was obtained, making the instrument reliable to elicit the data required for the research. Ethical approval from the relevant ethical review board at Ministry of Health in Kaduna State was acquired for the study. The findings of the study revealed that WhatsApp is the most widely used platform for telemedicine consultations, likely due to its ease of use and accessibility. Specialized telemedicine tools like TeleDoc, Doxy.me, and Amwell were not used at all, while electronic prescription apps and a few other platform like HealthTap and Remote Monitoring apps get limited adoption. Many respondents remain undecided about various applications. More so, the finding revealed that most medical doctors use electronic health records (EHRs) to access Telemedicine platforms, followed by text messages and video messages. Other channels like secure messaging systems, video conferencing, and wearable devices are less commonly used. Lastly, the finding revealed that Medical doctors face challenges such as technical issues, network problems, and concerns over patient privacy and data security. Financial barriers like high maintenance costs and legal or regulatory hurdles are also significant, and many doctors find it difficult to convey empathy and emotional support in virtual consultations. It was concluded that there is growing reliance on WhatsApp as the dominant platform for telemedicine consultations among medical doctors and also several challenges continue to hinder the effective implementation of telemedicine among healthcare professionals. Based on the findings, it was recommended among others that: Healthcare institutions should regularly evaluate and promote the most effective and commonly used telemedicine platforms. This can be achieved by adopting standardized tools across facilities to enhance consistency and ease of use among medical doctors.

Keywords: Telemedicine, Telemedicine platforms, Medical Doctors, and Patient Management.

SUB-THEME 5

ARTIFICIAL INTELLIGENCE IN BUSINESS, ECONOMY, MANAGEMENT AND GOVERNANCE

Abstracts 087 – 104

Abstract No. 087

ADOPTION OF ARTIFICIAL INTELLIGENCE IN SUPPLY CHAIN MANAGEMENT: BARRIERS AND ENABLERS IN DEVELOPING ECONOMIES

Dr. Shaibu, Ogwuche Gabriel
Department of Business Education, Alvan Ikoku Federal University of Education, Owerri, Imo State, Nigeria
gabbyacademia123@gmail.com; 08065715075

ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative technology capable of enhancing efficiency, decision-making, and resilience in supply chain management. However, its adoption in developing economies remains constrained by several technological, organizational, and environmental challenges. This study examined the adoption of Artificial Intelligence in supply chain management, with emphasis on the barriers and enablers in developing economies, using Nigeria as the study context. A cross-sectional survey research design was adopted, and data were collected from 235 employees, managers, and supply chain professionals in selected manufacturing firms, logistics companies, retail organizations, and small and medium-sized enterprises (SMEs) in Nigeria using a structured questionnaire titled Artificial Intelligence Adoption in Supply Chain Management Index (AIASCMI). Data were analyzed using descriptive statistics and Pearson Product Moment Correlation. The findings revealed that identified barriers, including inadequate digital infrastructure, high implementation costs, shortage of skilled personnel, and organizational challenges, have a significant negative relationship with the adoption of Artificial Intelligence in supply chain management. The study also found that identified enablers, such as top management support, technological readiness, employee competence, and government support, significantly influence the successful adoption of Artificial Intelligence. The study concludes that overcoming existing barriers while strengthening organizational and technological capabilities is essential for the successful adoption of Artificial Intelligence in supply chain management. It is recommended that organizations invest in digital infrastructure, workforce development, and supportive management practices to maximize the benefits of Artificial Intelligence and improve supply chain performance.

Keywords: Artificial Intelligence, Supply Chain Management, Artificial Intelligence Adoption, Barriers, Enablers, Developing Economies.

Abstract No. 088

APPLICATION OF ARTIFICIAL INTELLIGENCE IN SMALL AND MEDIUM ENTERPRISES IN DELTA SOUTH SENATORIAL DISTRICT

Dr. Patience Ewomaoghene Okoro
Department of Business Education, Delta State University, Abraka

ABSTRACT

The study investigated Application of Artificial Intelligence in Small and Medium Enterprises in Delta South Senatorial District. Two research questions and two hypotheses guided the study and the descriptive survey design was adopted. The targeted population comprised 1,754 proprietors of registered small and medium enterprises in Delta South Senatorial District. The study adopted purposive sampling technique to select 30% out of the 1,754 population which gave 526 total respondents, comprising 292 male and 234 female. A 34-item questionnaire was the instrument used for data collection. The questionnaire was structured on a 4-point scale: Very High Extent (VHE) – 4 points, High Extent (HE) – 3 points, Low Extent (LE) – 2 points, Very Low Extent (VLE) – 1 point. The face and content validity of the instrument were ascertained by giving the questionnaire to three experts in Business Administration. The experts made necessary suggestions and corrections which were effected before the final copy was written. The reliability of the instrument was ascertained using the Cronbach's Alpha statistics. The split-half reliability method was employed using 16 male and 14 female small scale business operators in Asaba metropolis. The overall reliability index was 0.92. A total of 526 copies of the questionnaire were administered and with the help of two research assistants in each local government, 493 were fully completed and returned within a period of two weeks. The return rate was 93.73%. The data collected were analyzed using mean and standard deviations. T-test was used to test the hypotheses at 0.05 level of significance. The findings revealed that in spite of challenges, there are many benefits of application of AI in small and medium businesses including customer engagement, campaign management, customers' insight, among others. It was recommended among others that organizations need to boost investment in AI training programs.

Keywords: Application, Artificial Intelligence, Small and Medium Enterprises, Delta South Senatorial District.

Abstract No. 089

ARTIFICIAL INTELLIGENCE AND TABLEWARE MAINTENANCE: EVALUATING AI-ENABLED PRACTICES AS A DETERMINANT OF QUALITY SERVICE DELIVERY IN THE HOSPITALITY SECTOR. CASE STUDY OF HOSPITALITY MANAGEMENT RESTAURANT, FEDERAL POLYTECHNIC EDE, OSUN STATE NIGERIA

Ayofe Hammed, Oladosu Wasiu, Akande Nneka
Department of Hospitality Management, Federal Polytechnic Ede
Corresponding author email: hamxov888@gmail.com; +2348060033341

ABSTRACT

Tableware maintenance is a critical but often overlooked aspect of service quality in the hospitality industry. This study evaluates how artificial intelligence (AI)-enabled tableware maintenance practices influence service delivery, customer satisfaction, and repeat patronage at the Hospitality Management Restaurant, Federal Polytechnic Ede. Using a quantitative research design, data were collected from 86 respondents (students and staff) through structured questionnaires. Descriptive statistics and chi-square analysis were employed. Findings reveal a strong positive relationship between AI-supported tableware maintenance and perceived service quality. Clean, well-maintained tableware monitored and managed through AI tools such as predictive maintenance systems, automated inspection technologies, smart inventory tracking, and real-time quality alerts significantly enhanced customer satisfaction, trust, and repeat patronage. The study identifies gaps in staff training on AI tools, delayed replacement of damaged items, irregular inspection routines, and limited technological adoption as key constraints. Recommendations include improved staff training on AI applications, stronger management supervision, consistent AI-assisted inspections, integration of technological interventions (including IoT sensors and machine-learning-based condition monitoring), and sufficient funding for digital maintenance systems. Overall, AI-enabled tableware maintenance plays a crucial role in shaping customer experience, operational efficiency, and service excellence in hospitality establishments.

Keywords: Artificial Intelligence; Tableware maintenance; Service quality; Customer satisfaction; Hospitality management; Predictive maintenance.

Abstract No. 090

ARTIFICIAL INTELLIGENCE AND THE EMERGING DIGITAL ECONOMY

Dr. Onwuneme, Nne Lovina
Department of Cooperative Economics & Management, Ogbonnaya Onu Polytechnic, Aba, Abia State
Email – nnelovina09@gmail.com

ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative technology driving the evolution of the digital economy by revolutionizing production processes, business operations, financial systems, and public service delivery. As nations increasingly embrace digital transformation, AI is becoming a critical enabler of innovation, productivity, competitiveness, and sustainable economic development. However, despite the rapid expansion of the digital economy, empirical evidence on the extent to which AI contributes to its growth and sustainability, particularly in developing economies, remains limited. This study examines the effect of Artificial Intelligence adoption on the emerging digital economy, with emphasis on digital innovation, enterprise productivity, financial inclusion, business competitiveness, and economic growth. The study adopts a quantitative cross-sectional research design using primary data collected through structured questionnaires administered to business owners, cooperative managers, financial service providers, technology professionals, and public sector administrators. Data will be analyzed using descriptive statistics, reliability and validity tests, correlation analysis, and multiple regression techniques to assess the relationship between AI adoption and digital economy outcomes. The findings are expected to reveal that AI significantly enhances organizational efficiency, stimulates digital innovation, strengthens financial inclusion, improves service delivery, and promotes enterprise competitiveness. Furthermore, the study anticipates that AI-driven digital transformation will accelerate entrepreneurship, facilitate market expansion, increase employment opportunities, and contribute to sustainable economic growth. The study concludes that Artificial Intelligence is a strategic pillar of the emerging digital economy and recommends sustained investment in digital infrastructure, AI capacity building, innovation ecosystems, and enabling regulatory frameworks to harness its full economic potential.

Keywords: Artificial Intelligence; Digital Economy; Digital Innovation; Enterprise; Economic Growth; Competitiveness

Abstract No. 091

ARTIFICIAL INTELLIGENCE IN SPORTS MANAGEMENT: PROSPECTS AND CHALLENGES IN KANO STATE, NIGERIA

Sha'aibu Yawale Yakasai
Directorate of Sports, Yusuf Maitama Sule Federal University of Education, Kano
shuaibuyawale706@gmail.com; +2348034527344

ABSTRACT

Artificial Intelligence (AI) is increasingly transforming sports management through datadriven decision-making, performance analysis, talent identification, injury prevention, fan engagement, and administrative efficiency. This paper examines the prospects and challenges associated with the adoption of AI in sports management in Kano State, Nigeria. The paper explores how AI-powered technologies can enhance athlete performance, scouting and recruitment, sports marketing, facility management, event organization, and strategic decision-making among sports organizations in the state. The paper also considers the potentials of AI to improve the effectiveness and competitiveness of sports development programmes in Kano State. Despite these opportunities, the adoption of AI faces significant challenges such as inadequate technological infrastructure, limited financial resources, shortage of skilled personnel, low digital literacy, unreliable electricity supply, data privacy and security concerns and resistance to technological change. It adopts a conceptual approach based on a review of relevant literature on artificial intelligence and sports management. The paper further argues that effective integration of AI into sports management in Kano State requires investment in digital infrastructure, capacity building, stakeholder collaboration, appropriate policy and regulatory frameworks, and increased awareness of the benefits and ethical implications of AI. In conclusion, the paper states that, if strategically implemented, AI can serve as a valuable tool for modernizing sports management, improving athletic performance, and promoting sustainable sports development in Kano State, Nigeria.

Keywords: Artificial Intelligence, Sports Management, Sports Development, Technology, Kano State, Nigeria

Abstract No. 092

ASSESSMENT OF STAKEHOLDERS' OPINIONS ON CULTURAL TOURISM OPPORTUNITIES FOR LONG-TERM DEVELOPMENT OF OSUN OSOGBO GROVE

Dr. Osinubi Olufemi Bankole
Department of Hospitality Management, Federal Polytechnic Ede
Corresponding author email: osinubi.olufemi@federalpolyede.edu.ng; +2348033870240

ABSTRACT

This study assessed stakeholders' opinions on cultural tourism opportunities for the long-term development of the Osun Osogbo Grove, a UNESCO World Heritage Site in Osun State, Nigeria. The study examined the roles of stakeholders in developing cultural tourism attributes and evaluated the contributions of tourism activities to the socio-economic sustainability of the host community. A survey research design was adopted, involving 349 respondents drawn from four key stakeholder groups: religious adherents, vendors, tour service providers, and grove management staff. Data were collected through structured questionnaires and analyzed using descriptive statistics and chi-square tests. The findings revealed that stakeholders play significant roles in promoting the cultural tourism potential of the grove. A majority of respondents acknowledged that vendors contribute to cultural tourism development through their activities, cultural representation, and organized associations. Respondents also emphasized that sustainable tourism development requires informed participation and collaboration among all stakeholder groups. The overall analysis showed a statistically significant positive perception of stakeholder involvement in cultural tourism development ($\chi^2 = 46.588$, df = 4, $p < 0.05$). Results further indicated that tourism activities associated with the grove have generated substantial socio-economic benefits for the host community. Most respondents agreed that tourism-related economic activities have reduced poverty (95.4%), created direct and indirect employment opportunities (93.4%), and increased income during festival periods (81.8%). Additionally, stakeholders perceived that effective management of the grove could further enhance poverty reduction and community development. Although concerns were raised regarding seasonal employment and rising costs of goods and services, the overall impact of tourism on the local economy and environment was considered positive. The study concludes that stakeholder collaboration, community participation, cultural preservation, and sustainable tourism management are critical to maximizing the cultural tourism potential of the Osun Osogbo Grove and ensuring its long-term socio-economic and environmental sustainability.

Keywords: Cultural Tourism; Stakeholder Perception; Sustainable Development; Community Participation; Tourism Development.

Abstract No. 093

EFFECT OF ARTIFICIAL INTELLIGENCE ON LOGISTICS AND DELIVERY PERFORMANCE, USING DHL NIGERIA AS A CASE STUDY

Friday Benji Bakare Esq
fridaybakare56@gmail.com

ABSTRACT

The rapid advancement of Artificial Intelligence (AI) has transformed business operations, particularly in the logistics and supply chain sector. Logistics companies increasingly adopt AI technologies to improve transportation planning, delivery scheduling, route optimization, demand forecasting, shipment tracking, and customer service. This study examines the effect of Artificial Intelligence on logistics and delivery performance, using DHL Nigeria as a case study. It aims to determine the extent to which AI applications influence logistics efficiency and delivery performance, with emphasis on delivery speed, accuracy, reliability, operational cost, and customer satisfaction. The study adopted a quantitative research approach using a survey research design. Primary data was collected through structured questionnaires administered to selected DHL Nigeria employees involved in logistics, transportation, warehousing, information technology, and delivery operations. Secondary information was obtained from relevant academic literature, industry reports, and other credible sources. The collected data was analyzed using descriptive and appropriate inferential statistical techniques to establish the relationship between AI adoption and logistics and delivery performance. The study showed that effective AI application improves logistics and delivery performance through accurate route planning, faster shipment processing, improved scheduling, real-time tracking, predictive decision-making, and better resource allocation. AI also reduce transportation delays, operational costs, human errors, and unsuccessful deliveries. However, challenges such as high implementation costs, inadequate technological infrastructure, data security concerns, shortage of skilled personnel, and employee resistance hinders effective AI adoption. The study provided insights for DHL Nigeria and other logistics companies while contributing to knowledge on AI adoption in Nigeria's logistics sector.

Keywords: Artificial Intelligence, Logistics, Delivery Performance, Supply Chain, DHL Nigeria, Route Optimization, Operational Efficiency.

Abstract No. 094

EFFECT OF ARTIFICIAL INTELLIGENCE ON LOGISTICS AND TRANSPORTATION PERFORMANCE, USING ABC TRANSPORT PLC AS A CASE STUDY

Ugochukwu Vitus Unachukwu PhD
ugoemperor@yahoo.com

ABSTRACT

The increasing application of Artificial Intelligence (AI) has created significant opportunities for improving transportation and logistics operations. Transport companies are adopting AI-driven technologies to enhance route planning, traffic management, vehicle scheduling, fleet monitoring, demand prediction, and customer service. This study examines the effect of Artificial Intelligence on logistics and transportation performance, using ABC Transport Plc as a case study. The study seeks to assess how AI applications influence transportation efficiency, delivery speed, operational reliability, cost reduction, resource utilization, and customer satisfaction. A quantitative research approach adopted a survey research design. Primary data were collected through structured questionnaires administered to selected employees of ABC Transport Plc who are involved in transportation, logistics, fleet management, information technology, and customer service operations. Secondary data will also be obtained from relevant academic publications, industry reports, and other credible sources. Data collected were analyzed using descriptive statistics and appropriate inferential statistical techniques to determine the relationship between AI adoption and transportation and logistics performance. The study established that effective AI adoption improves transport operations through optimized routing, real-time vehicle tracking, predictive maintenance, accurate demand forecasting, automated scheduling, and improved decision-making. AI reduces operational costs, transportation delays, fuel consumption, human errors, and vehicle downtime. However, challenges such as high implementation costs, inadequate technological infrastructure, cybersecurity concerns, shortage of skilled personnel, and employee resistance may limit effective AI adoption. The study provides useful recommendations for ABC Transport Plc and other transport companies seeking to improve operational efficiency and service delivery through AI technologies.

Keywords: Artificial Intelligence, Transportation, Logistics, Fleet Management, Delivery Performance, Route Optimization, Operational Efficiency.

Abstract No. 095

FROM TRADITIONAL TO SMART COOPERATIVES: THE ROLE OF ARTIFICIAL INTELLIGENCE

Onuka, Iheoma Rosemary[1] & Dr. Onwuneme, Nne Lovina[1]
[1]*Department of Cooperative Economics & Management, Ogbonnaya Onu Polytechnic, Aba, Abia State*
Email – roseonuka17@gmail.com

ABSTRACT

Artificial Intelligence (AI) is redefining organizational operations by enabling data-driven decision-making, process automation, and digital innovation. Despite the growing global adoption of AI technologies, many cooperative enterprises continue to operate using conventional management systems that limit efficiency, innovation, and competitiveness. This study explores the transformative role of AI in facilitating the transition from traditional cooperatives to smart cooperatives capable of responding effectively to the demands of the digital economy. The study investigates how AI-enabled technologies influence operational efficiency, governance quality, financial management, member engagement, and service delivery within cooperative organizations. Adopting a quantitative research approach, the study proposes the use of survey data collected from cooperative managers and members, while descriptive statistics and regression analysis are employed to evaluate the impact of AI adoption on cooperative performance. The study expects to establish that AI significantly enhances decision quality, operational productivity, transparency, and innovation, leading to improved organizational resilience and long-term sustainability. Furthermore, smart cooperatives are anticipated to strengthen financial inclusion, stimulate entrepreneurship, generate employment opportunities, and contribute to sustainable local economic development. The study concludes that the digital transformation of cooperative enterprises through AI represents a strategic pathway for enhancing competitiveness and ensuring the continued relevance of cooperatives in the Fourth Industrial Revolution. It recommends increased investment in digital infrastructure, AI literacy, institutional capacity building, and collaborative partnerships among governments, educational institutions, technology firms, and cooperative organizations to accelerate the emergence of smart cooperatives.

Keywords: Artificial Intelligence; Smart Cooperatives; Digital Innovation; Cooperative Performance; Sustainable Development.

Abstract No. 096

NIGERIAN BORDER SECURITY GOVERNANCE: THE ROLE OF INFRASTRUCTURE, COOPERATION AND ARTIFICIAL INTELLIGENCE

Aminu Idris PhD
Department of Political Science, Faculty of Social Sciences, Federal University Gusau, Zamfara State
aminuidris@fugusau.edu.ng; https://orcid.org/0000-0002-6442-2259

ABSTRACT

The Federal Republic of Nigeria shares approximately 4,500 kilometers of land border with the Republics of Niger, Chad, Cameroon, and Benin. The country has been described as one of the most porous in the world, with 86 formal entry points and over 1,947 illegal routes. The porous nature of the border has enabled numerous forms of trans-border crimes to thrive, including insurgency, kidnapping, banditry, illicit arms, drugs, and human trafficking. The paper examines Nigeria's border security infrastructures and argues that overdependence on analogue surveillance strategy has not only enabled the supply of illicit arms and ammunitions to the criminal elements terrorizing Nigeria but also threatens the corporate existence of the country. As a solution, the paper recommends that while Nigerian authorities continue to improve on the border infrastructure and cooperation, the country must explore Artificial Intelligence to enable the country speeds up identity verification, optimize critical border resource allocation, and deploy AI surveillance equipment such as scanners, drones, infrared, smart fencing, and video cameras, among others, to secure the national borders.

Keywords: Border security governance, cooperation, Artificial Intelligence, trans-border crimes, border surveillance.

Abstract No. 097

REIMAGINING COOPERATIVE MANAGEMENT IN THE ARTIFICIAL INTELLIGENCE ERA: IMPLICATIONS FOR ECONOMIC GROWTH

Maduka, Favour Patience[1] & Dr. Onwuneme, Nne Lovina[1]
[1]*Department of Cooperative Economics & Management, Ogbonnaya Onu Polytechnic, Aba, Abia State*
Email – madukafavour36@gmail.com

ABSTRACT

The rapid advancement of Artificial Intelligence (AI) is transforming organizational management by enhancing operational efficiency, strategic decision-making, and innovation across industries. While businesses have increasingly embraced AI-driven technologies, cooperative enterprises, particularly in developing economies, have been slow to integrate these digital innovations into their management systems. This technological gap limits the capacity of cooperatives to improve productivity, strengthen competitiveness, and contribute effectively to economic growth. This study examines how AI-driven cooperative management can enhance organizational performance and promote sustainable economic growth. Specifically, the study investigates the influence of AI applications on governance, operational efficiency, member participation, service delivery, and innovation within cooperative enterprises. A quantitative research design is proposed, utilizing structured questionnaires administered to managers and executives of registered cooperative societies. Data will be analysed using descriptive statistics and multiple regression techniques to determine the relationship between AI adoption and cooperative performance outcomes. The study anticipates that AI adoption will significantly improve managerial efficiency, institutional transparency, financial sustainability, and member satisfaction, thereby increasing the contribution of cooperative enterprises to employment generation, entrepreneurship, income creation, and inclusive economic growth. The findings are expected to provide empirical evidence for policymakers, cooperative leaders, and development practitioners on the strategic importance of AI in modernizing cooperative enterprises. The study recommends sustained investment in digital infrastructure, AI capacity development, supportive policy frameworks, and technological innovation to accelerate the digital transformation of cooperatives and strengthen their role in achieving sustainable economic growth.

Keywords: Artificial Intelligence; Cooperative Management; Digital Transformation; Economic Growth; Innovation.

JEL Classification: O33, O15, P13, L31, M15

Abstract No. 098

SMART LEADERSHIP SYSTEMS APPLICATIONS AND CONCEPTS IN TOURISM AND HOSPITALITY BUSINESSES IN NIGERIA: STUDY OF BAUCHI STATE

Murtala Mohammed Alamai
Rectory, Gombe State Polytechnic, Bajoga
Email: Ammurtala@fptb.edu.ng

ABSTRACT

The nature of Tourism and Hospitality industry products intangibility, inseparability of production and consumption process make it suitable for digital technology usage and especially e-commerce adoption. Tourism and Hospitality are service-oriented business that are witnessing high adoption of digital technology on the front end (eCommerce) and back end (Management). Smartness as a concept is on the rise (e.g. smart cities) and it is linked with digital technology. Tourism and Hospitality industry is no exception to these changes with its fair share of contributions to innovation in adapting smart technology in operations, marketing, business solutions and Smart leadership. Businesses and other sectors of the economy as they frequently have to deal with changing competencies, market needs, and leadership requirements to keep up with these changes. It is on this note that the need for smart leadership in the service industry (Tourism and Hospitality) is necessary in order to cope with the skills required for successfully leading and serving others. Therefore, looking also at the human aspect of smartness (such as people and leadership), this study's objective is designed with the purpose of generating a better understanding of the concept of smartness at organisations level for competitive advantage and the impact of smartness on consumer satisfaction in a particular field that is hospitality and tourism industry in Nigeria. The study adopted a qualitative approach with focus group interviews to Managers of Tourism and Hospitality businesses in Bauchi Nigeria to unravel the leadership skills, setting and types needed in running a smart hospitality organisation. With a finding that a minority of businesses have integrated digital tools such as online booking systems and customer review platforms. These businesses often reported improved customer engagement and operational efficiency and smart leaders recognizing the importance of local content in offering authentic tourism products. And a recommendation that Develop leadership training focused on digital innovation, customer relations, and strategic planning while partnering with telecom providers and energy firms to improve connectivity and power reliability.

Keywords: Smart Leadership, Systems, Tourism, Bauchi, Nigeria

Abstract No. 099

THE APPLICATION OF ARTIFICIAL INTELLIGENCE IN THE MARKETING OF CONSUMER GOODS IN OSUN STATE, NIGERIA

Adeleye Adeniyi
Federal Polytechnic Ede, Osun State, Nigeria
adeniyiadeleye3@gmail.com; 08035363530

ABSTRACT

This study examines the application of Artificial Intelligence (AI) in the marketing of consumer goods across the three senatorial districts of Osun State, Nigeria: Osun West, Osun Central, and Osun East. TheLdvertising systems, customer relationship management (CRM) software, and predictive analytics are transforming marketing strategies within the region. A survey of 210 SMEs, retailers, and distributors (70 from each senatorial district) was conducted to assess the level of AI adoption and its impact on marketing performance. Findings revealed that 62% of businesses in Osun Central actively use at least one AI-powered marketing tool, compared to 44% in Osun West and 38% in Osun East. Approximately 57% of AI-adopting firms reported a 15–30% increase in sales turnover, while 64% recorded improved customer engagement through personalized digital campaigns. However, 48% of respondents identified inadequate digital infrastructure as a major barrier, 41% cited high implementation costs, and 36% reported limited technical expertise. The study concluded that AI adoption positively influences marketing effectiveness, brand visibility, and competitive advantage in Osun State, but broader benefits require strategic investment in digital infrastructure, training, and supportive government policies across all three senatorial districts.

Keywords: Artificial Intelligence (AI); Consumer Goods Marketing; Osun State; Digital Marketing; Small and Medium-Sized Enterprises (SMEs)

Abstract No. 100

THE ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN BUILDING GREEN SUPPLY CHAINS: CARBON EMISSION TRACKING AND OPTIMIZATION

Dr CHINYEAKA NWOKODI NWOLOZIRI
Department of Logistics and Supply Chain Management, Faculty of Management Sciences, Nigerian Defence Academy, Kaduna, Nigeria
Email: nwokodic@nda.edu.ng; Phone: 08034301733

ABSTRACT

This study investigated the role of Artificial Intelligence (AI) in building green supply chains, with emphasis on carbon emission tracking and optimization. It examined how AI-enabled technologies support the measurement, monitoring, prediction, and reduction of carbon emissions across supply-chain activities. AI adoption was operationalized into AI-driven carbon emission tracking, predictive analytics, intelligent route optimization, and automated decision-making, while supply-chain performance was measured through carbon emission reduction, energy efficiency, resource optimization, and environmental performance. Using a quantitative design, the study focused on supply-chain and logistics organizations in Rivers State. A sample of 385 respondents, comprising supply-chain managers, logistics officers, transport operators, technology personnel, and compliance agents, was selected. Data were collected using a structured questionnaire. Descriptive statistics, correlation, and multiple regression analysis were used to examine the effect of AI applications on sustainable supply-chain performance. Findings revealed that the four AI dimensions had positive and significant effects on green supply-chain performance. The regression results were significant at the 95% confidence level, with a p-value of 0.001. AI applications improved emissions visibility, reduced fuel consumption and waste, enhanced transport efficiency, and promoted resource utilization. Organizational readiness and environmental regulation enforcement strengthened the relationship between AI adoption and sustainability outcomes. The study concluded that AI is a strategic capability for achieving environmental and operational objectives. It recommends investment in AI infrastructure, employee training, integrated data systems, and supportive environmental policies to promote low-carbon supply chains.

Keywords: Artificial-Intelligence; Green-Supply-Chains; Carbon-Emission-Tracking; Supply-Chain-Optimization

Abstract No. 101

THE ROLE OF ARTIFICIAL INTELLIGENCE IN ENHANCING GUEST SERVICES AND DELIVERING EXCEPTIONAL AND SATISFACTORY SERVICE IN SELECTED HOTELS IN JOS METROPOLIS, PLATEAU STATE, NIGERIA

Gonap Elisha Gobin
Department of Hospitality and Tourism Management, Federal University Wukari Taraba State Nigeria
*Corresponding Author's email: gonap@fuwukari.edu.ng; https://orcid.org/0000-0002-1217-0491

ABSTRACT

This study examined the role of Artificial Intelligence (AI) in enhancing guest services and delivering exceptional and satisfactory service in selected hotels in Jos Metropolis, Plateau State, Nigeria. The study adopted a mixed-methods research design, integrating quantitative and qualitative approaches. Data were collected from hotel guests and staff using structured questionnaires and key informant interviews. A multistage sampling technique was employed to select respondents from selected hotels, while descriptive statistics, including frequencies, percentages, mean scores, and standard deviations, were used to analyse the quantitative data. Qualitative responses were analysed thematically. The study focused on the application of AI technologies in areas such as automated guest communication, personalised services, online booking and reservation, customer feedback management, and operational efficiency. The findings are expected to reveal the extent to which AI contributes to faster service delivery, improved responsiveness, personalised guest experiences, reduced service errors, and increased customer satisfaction. The study also considers challenges associated with AI adoption, including inadequate technological infrastructure, high implementation costs, limited technical expertise, data privacy concerns, and resistance to technological change. The study concludes that effective integration of AI into hotel operations can significantly enhance guest services and contribute to exceptional and satisfactory customer experiences. It recommends that hotel management invest in appropriate AI technologies, staff training, digital infrastructure, data protection measures, and continuous evaluation of AI-enabled services to improve service quality, operational efficiency, and guest satisfaction in Jos Metropolis.

Keywords: Artificial Intelligence, guest services, service quality, customer satisfaction, hotel industry, hospitality, Jos Metropolis.

Abstract No. 102

THE ROLES OF ARTIFICIAL INTELLIGENCE IN EFFECTIVE PROJECT MONITORING

Abdulrauf Abdullahi, PhD
Department of Public Administration, Faculty of Management Sciences, Federal University Gusau, Zamfara State
abdulraufabdullahi@fugusau.edu.ng; +2348065539363

ABSTRACT

Project is a temporary endevaour or piece of work that is carried out to create a service or product. Therefore, project is seen as an important piece of work. Project management is another important subject matter tied to the concept, operations and meaning of project, it can simply be used to mean the act of planning, directing, organizing and controlling of resources for the sake of accomplishing certain objecives. Projects management have faced significant isssues related to monitoring, some of the reasons adduced to this setbacks have been distance, resources and also unqualified personnel. It is against the background that the study aims at examining the roles of Artificial Intelligence in achiving efficient and effective project monitoring. The study was an empirical study which focuses on the examining the submissions of other schorlars in various literature submissions through text books and other secondary sources. The study provided an inclusion criteria on the literaure used not to be older than 2022 to 2025. The study found out that Artificial Intelligence can ease the management of projects and ensure effective project implementation through monitoring. The study recommends that most government and non-governmental organziation who uses the Artificial intelligence should also ensure the role of humans and properly integrated to ensure good results. Also, the study recommeds that training and retraining of senior officers charged with project monitoring should be focused on to ensure proper implementation of AI in project management.

Keywords: Project Management, Artificial intelligence, Project Monitoring

Abstract No. 103

[TITLE NOT PROVIDED BY AUTHOR]

Victor Nyam
Nigerian Defence Academy, Kaduna, Nigeria
victornyam@yahoo.com; +2347038257192

ABSTRACT

The increasing complexity of modern supply chains has created a growing need for innovative technologies capable of improving operational efficiency, reducing costs, and enhancing decision-making. Artificial Intelligence (AI) has emerged as an important technological tool with the potential to transform supply chain activities through applications such as demand forecasting, route optimization, inventory management, warehouse automation, predictive analytics, and customer service. This study examines Artificial Intelligence Applications and Supply Chain Optimization: A Case Study of DHL Nigeria. The study seeks to assess the extent to which AI applications contribute to the optimization of supply chain operations at DHL Nigeria, with particular attention to operational efficiency, delivery performance, cost reduction, and decision-making.

The study adopts a case study research design and focuses on DHL Nigeria as a major logistics and supply chain service provider. Data may be collected through structured questionnaires and interviews from employees involved in logistics, transportation, warehousing, information technology, and supply chain management. Relevant secondary data from academic literature, company reports, and other credible sources will also be considered. The collected data will be analyzed using appropriate descriptive and inferential statistical techniques to determine the relationship between AI applications and supply chain optimization.

The study is expected to demonstrate that the effective adoption of AI can enhance supply chain visibility, improve forecasting and planning, optimize transportation and logistics activities, reduce operational inefficiencies, and support faster and more accurate decision-making. However, challenges such as high implementation costs, inadequate technological infrastructure, data quality and security concerns, employee skills gaps, and resistance to technological change may limit effective AI adoption. The study will provide useful insights for DHL Nigeria and other logistics organizations seeking to leverage AI technologies to build more efficient, responsive, and resilient supply chains. It will also contribute to the growing body of knowledge on AI adoption and supply chain optimization within the Nigerian logistics sector.

Keywords: Artificial Intelligence, Supply Chain Management, Supply Chain Optimization, Logistics, DHL Nigeria, Machine Learning, Operational Efficiency.

Abstract No. 104

UTILISATION OF ARTIFICIAL INTELLIGENCE IN THE DETERMINANTS OF EFFECTIVE TAX RATE OF LISTED NON-FINANCIAL FIRMS IN NIGERIA

Dr. Isiaka Tunji Adelabu
isiakaadelabu@yahoo.com; adelabu.isiaka@federalpolyede.edu.ng; +2348034719312
Mrs. Tawakalitu Yetunde Adelabu
adelabu.tawakalitu@federalpolyede.edu.ng; +2348034924289
Department of Accountancy, Federal Polytechnic, Ede, Osun State

ABSTRACT

The factors influencing the listed non-financial enterprises' effective tax rate in Nigeria were investigated in this study. Additionally, it examined how Nigeria's quoted non-financial companies' financial performance was impacted by their effective tax rate. This research made use of secondary data. The audited financial statements of the chosen quoted non-financial firms for the years 2016 to 2025 provided information on a number of different factors, including effective tax rate, cash flow, capital expenditure, growth opportunity, firm size, leverage, liquidity, age of the firm, return on asset, tax savings, board size, and managerial ownership. Percentage, pooled OLS, fixed effect, and random effect were used to analyze the data. The findings showed that, between 2016 and 2025, the effective tax rate trend for Nigerian non-financial listed firms was more downward than upward. The Effective Tax Rate decreased by 7.63% between 2016 and 2017. it has been established that there is significant correlation between the two variables leading to good explanatory capability on the part of ETR. It was equally established that if ETR is to be considered in explaining ROA, we will have the capability to explain 50% of changes occurring in ROA while other variables are responsible for the remaining 50% of changes. It was also established that neglecting the impact of ETR on ROA will result in an ROA value that is lesser to the expected (mean) ROA. According to the study's findings, Nigerian non-financial listed firms' performance was significantly impacted by the Effective Tax Rate (ETR).

Keywords: Effective Tax rate, financial performance, capital expenditure, firm size, Board size

SUB-THEME 6

ARTIFICIAL INTELLIGENCE IN LIBRARIES, LANGUAGES, HUMANITIES AND SOCIETY

Abstracts 105 – 122

Abstract No. 105

A CRITICAL REVIEW OF ARTIFICIAL INTELLIGENCE-POWERED ENGLISH LANGUAGE TOOLS AND YORUBA LINGUISTIC IDENTITY AMONG CHILDREN WITH LEARNING DISABILITIES IN NIGERIA

Abioye Jemimah Anuoluwapo Iyabode
Department of Early Childhood Care and Education, Federal College of Education Special Oyo, Nigeria
+2348055213197; abioyejai@gmail.com / abioye.jemimah1795@fcesoyo.edu.ng

ABSTRACT

The rapid integration of artificial intelligence into English language learning tools continues too reshape how children acquire and process language, particularly in multilingual nations as Nigeria. Although these tools promise improved literacy outcomes for children with learning disabilities. There is concern that the tools favours English exclusively, with little or no accommodation for indigenous languages such as Yoruba. This calls for an important question about what becomes of a child's linguistic identity when the very tools meant to support learning may be displacing the language through which they first make sense of the world. This concern is particularly germane because it carries even greater weight for children whose comprehension already depends on familiar linguistic and cultural anchors. Existing research has examined AI assisted in language learning majorly through efficiency and accessibility, with less attention given to its implications for linguistic and cultural identity among vulnerable learners in Nigerian classroom settings. The paper addresses the gap by interrogating the relationship between AI powered English tools and Yoruba linguistic identity among children with learning disabilities. It proposes considerations for more culturally responsive AI design.Drawing on Vygotsky's sociocultural theory, which positions language as central to how children internalise culture and meaning, the paper undertakes a critical review of existing literature and policy documents. The review suggests that these tools risk reinforcing linguistic hierarchies that weaken the sociocultural scaffolding children with learning disabilities depend on. It concludes that technology in education must be approached with deliberate cultural sensitivity. It recommends that developers, educators and policymakers work towards AI tools that preserve rather than erode the child's linguistic heritage.

Keywords: Artificial intelligence, Learning disabilities, Linguistic identity, Sociocultural theory and Yoruba language

Abstract No. 106

A CUSTOMIZED DESIGN SYSTEM FOR NIGERIAN LANGUAGE COLLECTIONS IN LIBRARIES

Amina Ibrahim Makintami
Department of Library and Information Science, Faculty of Education, Yobe State University
amakintami13@gmail.com; amakintami13@ysu.edu.ng

ABSTRACT

Nigeria is home to over five hundred (500) indigenous languages, yet most libraries across the country lack adequate systems for organising, preserving, and providing access to these linguistic resources. Existing cataloguing and classification standards such as Library of Congress Classification (LCC), the Dewey Decimal Classification (DDC) and Universal Decimal Classification (UDC) do not sufficiently accommodate the structural and cultural complexities of Nigerian languages. As a result, indigenous language collections remain marginal, poorly indexed, and inaccessible to users. This research proposes the development of a customized design system for Nigerian language collections in libraries. Using a mixed-methods approach, the study will investigate current practices, identify gaps, and design a culturally responsive classification and management framework. The findings are expected to support improved documentation, preservation, and accessibility of Nigerian languages, strengthening national identity and contributing to long-term cultural sustainability.

Keywords: Customized Design, Nigerian Language Collections and Digital Libraries.

Abstract No. 107

ADOPTION OF ARTIFICIAL INTELLIGENCE FOR LIBRARY AND INFORMATION SERVICES IN STATE UNIVERSITY LIBRARIES IN NORTH-WEST AND NORTH-CENTRAL NIGERIA

Mohammed Mohammed Kpakiko, PhD, CLN
University Library, Abdullahi Fodio University of Science and Technology, Aliero
kpakmoh@gmail.com

ABSTRACT

The study investigated the adoption of Artificial Intelligence systems for library and information services in state university libraries with particular reference to the North-West and North-Central Nigeria, the types of AIS were identified, the selection criteria on which such AI systems were adoption and the challenges that confront full implementation of the AI systems adopted were discussed. Survey research design was adopted, using the structured questionnaire as instrument which was randomly distributed among respondents in the three university libraries purposively selected for the study. Stratified random sampling technique was used to sample 142 librarians. That is; 51 from Abdullahi Fodio University, Aliero, 47 from Sokoto State University, Sokoto and 44 from Ibrahim Badamasi Babangida University, Lapai. Findings revealed that ChatGPT, reference advisory systems, MARC, and RFID systems among others are the AI systems that are available and being used by the university libraries studied. It was found that efficiency of service quality; flexibility and interactivity among others are the criteria used for adoption of AI systems. It was further discovered that expertise shortage, infrastructure limitation and financial constraint among others are the major factors that impedes successful AI implementation in the university libraries studied. It was concluded that state university libraries are grossly underutilizing some essential AI systems installed in the library such as automation procedures, decision-making, automation and categorization of resources among others. The paper recommended that there is need to adopt relevant and easy to use AI systems such as robotics and ChatBots that will accommodate all core library practices including classification/cataloguing, resources curation and archiving, reference service, document delivery system among others.

Keywords: Artificial Intelligence, Information, Library, Library and Information service, North-West Nigeria, North-Central Nigeria.

Abstract No. 108

ARTIFICIAL INTELLIGENCE (AI) AND HUMANITY: EXAMINING THE INTERSECTION OF ARTIFICIAL INTELLIGENCE AND HUMAN SOCIETY

Samuel Sunday Oni
Department of Social Development, School of General & Administrative Studies, Federal Polytechnic, Ede, Osun State, Nigeria

ABSTRACT

Artificial intelligence (AI) is no longer a distant technology but a core force reshaping how humans work, learn, care, and govern. Artificial Intelligence (AI) has become one of the most transformative technologies of the twenty-first century. This paper examines the intersection of AI and human society by synthesizing recent literature on its opportunities, risks, and governance needs. Drawing on systematic reviews of 91 studies from 2017 to 2025 and sector analyses in healthcare, education, work, and public organizations, we find that AI delivers clear efficiency gains: personalized tutoring, faster diagnostics, automation, and lower labor costs. At the same time, integration raises urgent social concerns including algorithmic bias, privacy, job displacement, accountability, cyber security threats, misinformation, and overdependence on automated decision-making. Research remains skewed toward theoretical and ethical discussions, with gaps in empirical work on marginalized communities, socialization, and fairness. The paper argues that AI is inherently amoral and amplifies existing classroom, workplace, and civic values, so responsible adoption requires interdisciplinary frameworks that align technological design with human values. We conclude with recommendations for responsible governance, education, ethical standards, transparency, human oversight, and policy to maximize benefits while minimizing harmful consequences.

Keywords: Artificial Intelligence, Human Society, Automation, Governance, Cyber Security, Technology

Abstract No. 109

ARTIFICIAL INTELLIGENCE (AI) AND THE FUTURE OF ENGLISH LANGUAGE TEACHING IN AFRICAN HIGHER INSTITUTIONS: OPPORTUNITIES, CHALLENGES AND ETHICAL CONSIDERATIONS

OGUNYEMI, Funmilayo Elizabeth
Department of English, School of Secondary Education (Language Programmes), Federal College of Education (Special), Oyo, Oyo State, Nigeria
Telephone: 08038013328. Email: ogunyemifunmilayo013@gmail.com

ABSTRACT

Artificial Intelligence (AI) has become one of the most influential technological innovations of the twenty-first century, reshaping educational practices and creating new possibilities for language teaching and learning. In African higher education, AI-powered tools such as intelligent tutoring systems, automated writing assistants, adaptive learning platforms, and conversational chatbots are increasingly being adopted to support English language instruction. These technologies offer opportunities for personalized learning, timely feedback, improved learner engagement, and wider access to educational resources. However, their growing use also raises important pedagogical and ethical concerns, including academic dishonesty, overreliance on AI-generated content, digital inequality, data privacy, algorithmic bias, and the possible decline in students' critical thinking and writing skills. This paper examines the opportunities, challenges, and ethical implications of integrating AI into English language teaching in African higher education. Using a qualitative, library-based approach, the study reviews relevant literature to explore how AI is transforming language pedagogy, learning, assessment, and research across African universities. The paper argues that while AI has enormous potential to improve the quality and accessibility of English language education, it should be adopted as a complementary instructional tool rather than a substitute for the expertise and professional judgement of language educators. It further recommends promoting AI literacy among lecturers and students, strengthening digital infrastructure, and developing institutional policies and ethical guidelines to ensure the responsible use of AI in teaching and learning. The study concludes that a balanced and context-sensitive integration of AI can enhance English language education while preserving the human values, creativity, and critical thinking that remain central to effective language teaching.

Keywords: Artificial Intelligence (AI), English Language Teaching, African Higher Education, Ethics, Digital Pedagogy.

Abstract No. 110

ARTIFICIAL INTELLIGENCE AND HUMANITY IN THE 21ST CENTURY: BALANCING TECHNOLOGICAL ADVANCEMENT WITH HUMAN VALUES, ETHICS AND SUSTAINABLE DEVELOPMENT IN AFRICA

Nuhu Constant Abdulsalam FSS, MTRCN, MNITP, FDMSS, FCISM, MSc
Nigerian Army Institute of Science Education and Technology, Sobi Military Cantonment, Ilorin, Kwara State, Nigeria
Email: abdulnuhuconstant@gmail.com; Phone: 08036072680, 07082016824

ABSTRACT

Artificial Intelligence (AI) has emerged as one of the most transformative technologies of the twenty-first century, reshaping healthcare, education, agriculture, finance, communication, governance, security and employment. While AI presents unprecedented opportunities for improving human welfare and accelerating sustainable development, its rapid advancement also raises fundamental questions concerning human dignity, privacy, employment, inequality, autonomy, misinformation, accountability and the future relationship between humans and intelligent machines. These concerns are particularly significant for Africa, where technological opportunities coexist with digital inequality, infrastructural limitations, skills deficits, weak regulatory capacity and concerns about technological dependency. This paper examines the relationship between artificial intelligence and humanity, with particular emphasis on the African context. It adopts a qualitative conceptual approach based on a review of relevant literature, international policy frameworks and contemporary developments in AI governance. The paper argues that the central challenge of the AI era is not whether machines will become more intelligent, but whether humanity will develop the ethical, educational, institutional and regulatory capacity to ensure that AI remains subordinate to human dignity and the common good. The paper further argues that Africa should move beyond being a passive consumer of imported AI technologies towards becoming an active participant in AI research, development, governance and innovation. It proposes a Humanity-Centred Artificial Intelligence Framework (HCAIF) based on five interrelated principles: human dignity, ethical responsibility, inclusion and equity, African ownership and contextual relevance, and sustainability and accountability. The paper concludes that AI should not be judged merely by its computational power or economic value, but by its contribution to human flourishing, social justice, peace and sustainable development.

Keywords: Artificial Intelligence, Humanity, Ethics, Human Dignity, Africa, Sustainable Development, AI Governance, Digital Transformation

Abstract No. 111

ARTIFICIAL INTELLIGENCE AND THE TRANSFORMATION OF HISTORICAL SCHOLARSHIP: OPPORTUNITIES, CHALLENGES AND FUTURE DIRECTIONS

MOHAMMED, Abubakar Ahmad, Ph.D
Deputy Provost (Administration), Nigerian Army College of Education, Ilorin, Kwara State
ahmad4hajo@gmail.com; +1238035121628

ABSTRACT

The emergence of Artificial Intelligence (AI) has become one of the most transformative developments of the twenty-first century, profoundly influencing various disciplines, including the humanities and social sciences. Historical scholarship, traditionally characterized by manual archival investigations, document analysis, and interpretive methodologies, is increasingly experiencing a paradigm shift through the integration of AI technologies. This paper examines the transformative impact of AI on historical scholarship, highlighting the opportunities, challenges, and future directions associated with its adoption. The study explores how AI-driven tools such as machine learning, natural language processing, computer vision, optical character recognition, and predictive analytics are revolutionizing historical research, archival management, cultural heritage preservation, and history education. The paper argues that AI has enhanced historians' capacity to analyze vast quantities of historical data, uncover hidden patterns, digitize and preserve endangered archives, and democratize access to historical knowledge. However, concerns regarding algorithmic bias, historical misrepresentation, data quality, ethical dilemmas, intellectual property rights, and the potential erosion of critical historical interpretation remain significant challenges. Particular attention is given to the implications of AI for African historical scholarship, where digital preservation and access to indigenous historical records continue to face substantial obstacles. The paper concludes that while AI should not replace the interpretive role of historians, it serves as a powerful complementary tool capable of expanding the scope, efficiency, and accessibility of historical inquiry. Recommendations are provided for ethical AI adoption, interdisciplinary collaboration, digital capacity building, and policy development to ensure the responsible integration of AI into historical scholarship. Ultimately, the future of historical research lies in a productive partnership between human expertise and intelligent technologies, fostering more inclusive, accurate, and innovative approaches to understanding the past.

Keywords: Artificial Intelligence, Historical Scholarship, Digital Humanities, Cultural Heritage Preservation, Historical Research, Machine Learning, Digital Archives, History Education, Historiography, Africa.

Abstract No. 112

ARTIFICIAL INTELLIGENCE AS A MODERN TECHNIQUE TO TEACH ENGLISH LANGUAGE IN KWARA STATE TERTIARY INSTITUTIONS

Etannibi Clement

ABSTRACT

The integration of artificial intelligence (AI) into English Language Teaching (ELT) offers opportunities for personalised learning, formative assessment, differentiated instruction, and enhanced learner engagement. However, its classroom implementation raises concerns about teacher readiness, learner autonomy, teacher agency, data privacy, and the preservation of human interaction. This study investigates how AI tools can be effectively integrated into ELT without undermining teacher agency and learner autonomy, and examines the contextual, institutional, and technological barriers to their equitable adoption. Using a mixed-methods approach involving classroom observations, semi-structured interviews with educators, and analysis of student performance data, the study explores the pedagogical benefits and challenges of AI-supported instruction. Findings indicate that AI can improve formative assessment and differentiated instruction when appropriately integrated into classroom practice. However, its effectiveness depends on adequate teacher training, institutional support, transparent algorithmic processes, and a balanced integration of AI and human feedback. The study proposes a pragmatic framework for AI-supported ELT and concludes that sustainable adoption requires critical digital literacy, ethical governance, context-sensitive teacher training, and continued research into AI's effects on language learning, learner autonomy, and identity.

Keywords: Artificial Intelligence; English Language Teaching; Teacher Agency; Learner Autonomy; Formative Assessment; Differentiated Instruction; Digital Literacy.

Abstract No. 113

ARTIFICIAL INTELLIGENCE AS A RESEARCH ASSISTANT: OPPORTUNITIES AND ETHICAL CONSIDERATIONS FOR AFRICAN SCHOLARS

Babagana Gutti
Kashim Ibrahim University, Maiduguri, Borno State, Nigeria
Email: babaganagutti@gmail.com

ABSTRACT

The field of research is undergoing a period of significant transformation with the advent and advancement of Artificial Intelligence (AI). AI offers innovative tools that can significantly improve the literature review, data analysis, academic writing, reference management, coding, and scientific communication processes. For scholars in Africa, AI presents unparalleled opportunities to boost research productivity, address resource constraints and enhance research reach. While the advantages of AI are significant, there are also ethical concerns that need to be addressed, such as issues of academic integrity, authorship and plagiarism, algorithmic bias, data privacy, transparency and overreliance on AI-generated material. This paper investigates African scholars' perceptions of AI as a research assistant and examines the opportunities and ethical considerations associated with its use in academic research. The study adopted a descriptive survey research design. Data will be collected from academic staff, researchers and postgraduate students using a structured questionnaire, while descriptive and inferential statistics will be employed to analyze the responses.

Keywords: Artificial Intelligence, Research Assistant, Academic Integrity, Research Ethics, African Scholars, Higher Education, Responsible AI.

Abstract No. 114

ARTIFICIAL INTELLIGENCE IN DIGITAL DA'WAH: INSTITUTIONAL GOVERNANCE, COMMUNICATION MANAGEMENT, AND PEDAGOGY IN ZAMFARA STATE, NIGERIA

Huzaifa Aliyu Jangebe, PhD.
Department of Islamic Studies, Zamfara State University, Talata Mafara, Nigeria
hannuni1429@yahoo.com

ABSTRACT

The rapid deployment of Artificial Intelligence (AI) technologies, from automated natural language translation engines to generative content synthesis, has altered religious communication and Islamic discourse in West Africa. In Zamfara State, Nigeria, scholars and faith-based commentators increasingly use AI-driven tools to automate content production, optimise digital dissemination, and expand engagement across public networks. However, uncritical reliance on algorithmic systems poses institutional, pedagogical, and operational risks, including contextual misinterpretation of religious texts, algorithmic bias, and weaker scholarly authentication. This study evaluates the integration, governance, and pedagogical implications of AI within digital *da'wah* frameworks in Zamfara State. Using a mixed-methods research design, the study gathers data through structured interviews with selected Islamic scholars, digital content creators, and local communities in Zamfara State. The findings reveal that AI tools enhance efficiency, speed, and outreach capacity, while also complicating source verification and institutional oversight. To address this tension, the study outlines a governance model for religious efficiency, emphasising AI literacy, institutional verification protocols, and ethical technology guidelines. The paper offers policy recommendations for scholars, university lecturers, and institutional administrators seeking to use artificial intelligence responsibly for public engagement in 21st-century Africa.

Keywords: Artificial Intelligence (AI), Digital Da'wah, Religious Communication Management, Pedagogy, Zamfara State.

Abstract No. 115

ARTIFICIAL INTELLIGENCE-DRIVEN LITERATURE REVIEW AUTOMATION AND RESEARCH GAP IDENTIFICATION FOR ACCELERATING SCIENTIFIC INNOVATION IN AFRICAN UNIVERSITIES

Owoidoho Ikpong Brown
Federal University of Technology, Ikot Abasi (FUTIA)
Email: brownowoidoho241@gmail.com

ABSTRACT

The exponential growth of scientific publications has made the process of conducting comprehensive literature reviews increasingly complex, time-consuming, and resource-intensive, posing significant challenges for researchers in African universities. Artificial Intelligence (AI) offers transformative opportunities to automate evidence synthesis, identify emerging research trends, and uncover knowledge gaps that can accelerate scientific discovery and innovation. This paper examines the application of AI driven tools for literature review automation and research gap identification as strategic enablers of research excellence in African higher education institutions. Using a qualitative systematic literature review and thematic analysis of recent scholarly publications, AI-assisted research platforms, and emerging best practices, the study evaluates the effectiveness of AI technologies in streamlining article retrieval, screening, classification, summarization, citation analysis, and trend mapping. Findings indicate that AI significantly reduces the time and effort required for literature reviews, improves the accuracy of evidence synthesis, enhances interdisciplinary collaboration, and supports researchers in identifying novel and impactful research directions. However, challenges including algorithmic bias, incomplete database coverage, hallucinated citations, limited AI literacy, data privacy concerns, and the absence of institutional guidelines may constrain responsible adoption. To address these limitations, the paper proposes a framework for the ethical integration of AI into the research workflow, emphasizing human oversight, transparency, researcher capacity development, and institutional governance. The study concludes that responsible adoption of AI-driven literature review automation can substantially enhance research productivity, strengthen innovation ecosystems, and improve the global competitiveness of African universities in the knowledge economy.

Keywords: Artificial Intelligence, Literature Review Automation, Research Gap Identification, Scientific Innovation, Higher Education, African Universities, Evidence Synthesis, Research Productivity.

Abstract No. 116

COLONIAL INFRASTRUCTURE AND URBANIZATION OF BIRNIN KEBBI TOWN, 1928-1960

Ahmed Ibrahim, Ph.D
Department of History and International Studies, Federal University, Gusau, Zamfara State, Nigeria
ahmedibrahim@fugusau.edu.ng
08033455017

ABSTRACT

This paper discusses colonial infrastructure in urbanization bid of Birnin Kebbi town, fundamentally from 1928 to1960 when it begun to witness rapid expansion from the influx of migrants from within and outside the Nigerian area. The process towards urban development in Nigeria area has begun since the precolonial period with the varied indigenous governments desirability to make life amenable to people. Following the British colonial onslaught and domination in the 19th century, Birnin Kebbi town became part of the northern protectorate. It significantly went through strong phases of transition that culminated to urban population rise, emergence of new settlements, employment opportunities, and provision of social amenities, while existing one were improved upon. Between 1928 and 1960, the growth of cities and towns became unprecedented, and thus took different dimensions from change in mode of production (economic factor). Urbanisation increased human settlements aligns with population increase that became more pronounced from the dynamic nature hinged solely on colonial exploitation of socio-economic advantages of Birni Kebbi town and its outlying villages and communities. This study is very pertinent as it documented the historical reconstruction of extant settlements and urban development vis-à-vis British colonial urbanisation in strengthening rural-urban settlement, economic opportunities, social infrastructure, and improved human standard of living in Birnin Kebbi town in the periods reviewed. It is the hope and aspiration of this study that the good aspect British colonial policies and programmes should keenly be integrated towards advancement of urbanisation in contemporary Birni Kebbi town. Base on this, the study adopted the historical method of data collections (oral and written sources), and equally utilised the qualitative data analysis and interpretation.

Keywords: Colonial, Infrastructure, Urbanization, Living Standard, Birnin Kebbi

Abstract No. 117

GENERATIVE ARTIFICIAL INTELLIGENCE AS A COLLABORATIVE RESEARCH ASSISTANT: OPPORTUNITIES, ETHICAL CHALLENGES, AND POLICY FRAMEWORKS FOR SCHOLARLY WRITING IN AFRICAN UNIVERSITIES

Joy Ekominam Edet
Federal University of Technology, Ikot Abasi (FUTIA)
Email: joyekominam@gmail.com

ABSTRACT

The rapid advancement of Generative Artificial Intelligence (GenAI) is redefining scholarly writing by serving as a collaborative research assistant that enhances idea generation, literature synthesis, language refinement, data interpretation, and manuscript development. This paper examines the opportunities, ethical challenges, and policy implications associated with the adoption of GenAI in scholarly writing within African universities. Using a qualitative systematic review of recent literature, institutional guidelines, and international ethical frameworks, the study explores how GenAI can improve research productivity, support early-career researchers, facilitate multidisciplinary collaboration, and enhance the global visibility of African scholarship. Despite these benefits, the study identifies significant concerns, including academic integrity violations, AI-generated inaccuracies, fabricated references, algorithmic bias, intellectual property ownership, data privacy, and the absence of comprehensive institutional policies governing AI-assisted research. To address these challenges, the paper proposes a context-specific policy framework for African higher education institutions founded on ethical governance, transparency in AI use, researcher capacity development, institutional quality assurance, and regulatory compliance. The study argues that Generative AI should complement rather than replace human intellectual contribution and that responsible integration, supported by robust institutional policies, will maximize its benefits while safeguarding research integrity. The proposed framework offers practical guidance for researchers, university administrators, policymakers, journal editors, and funding agencies seeking to harness the transformative potential of AI for sustainable research development and academic excellence across African universities.

Keywords: Generative Artificial Intelligence, Scholarly Writing, Research Assistant, Academic Integrity, Research Ethics, Policy Framework, Higher Education, African Universities.

Abstract No. 118

HUMANITY AUGMENTED: THE WONDERS OF AI IN SHAPING ETHICS, CULTURE, AND HUMAN FLOURISHING IN THE 21ST CENTURY

Kazeem Alade OYEDEJI (PhD)

ABSTRACT

The 21st century is being defined by Artificial Intelligence as a foundational force reshaping how humans live, work, learn, and relate. Unlike previous industrial revolutions that transformed physical labor and production, the AI revolution is cognitive. It engages directly with decision-making, creativity, knowledge production, and social organization. Under the theme _"Wonders of AI in the 21st Century"_, this paper interrogates the relationship between AI and Humanity with a central question: How do we harness AI to advance human flourishing while safeguarding ethics, culture, and human dignity?

AI's wonders are already visible across critical sectors. In healthcare, AI supports early disease diagnosis, drug discovery, and telemedicine, expanding access in underserved communities. In education, adaptive platforms personalize learning, bridge language barriers, and support teachers with real-time feedback. In agriculture, predictive models help small holder farmers anticipate weather, pests, and market trends, improving food security. In governance, AI improves public service delivery, fraud detection, and transparency through data-driven decision making. In the creative sector, AI tools preserve endangered languages, document oral histories, and enable new forms of music, art, and storytelling.

Yet these advances come with profound paradoxes. AI can entrench bias when trained on unrepresentative data, displace jobs through automation, erode privacy through mass surveillance, and spread misinformation through synthetic media if not properly governed. The challenge of the 21st century is therefore to develop AI that is aligned with human values, human rights, and sustainable development. This is the essence of _"Humanity Augmented"_ — a partnership where technology extends human capacity without replacing human agency, judgment, and empathy.

This conversation is especially critical for Africa and the Global South. With over 1.4 billion people, 2000+ languages, and rich indigenous knowledge systems, Africa possesses both the data and the cultural wisdom to co-create AI that is globally competitive and locally relevant. However, realizing this potential requires urgent investment in data sovereignty, digital infrastructure, AI literacy, research capacity, and ethical governance frameworks that reflect African realities. If done right, AI can help Africa leapfrog development gaps in health, education, and governance.

To structure this discourse, the paper is organized around five pillars: 1. AI for Human Development in health, education, and poverty reduction. 2. Ethics, Governance, and Human Rights in the age of AI. 3. AI, Culture, Creativity and Indigenous Knowledge. 4. Human-AI Collaboration and the Future of Work. 5. AI, Mental Health and Social Well-being.

Ultimately, the future of AI is not predetermined. It will be shaped by the values we embed, the policies we enact, and the partnerships we build today. This paper calls for a human-

centered approach to ensure that the wonders of AI in the 21st century lead to dignity, justice, equity, and inclusive human flourishing.

Keywords: Artificial Intelligence, Humanity, Ethics, Culture, Human Development, Africa, Future of Work, Indigenous Knowledge

Abstract No. 119

LIBRARIES AS SAFE LEARNING SPACES: PROMOTING DIGITAL RESPONSIBILITY AND PSYCHOLOGICAL WELL-BEING AMONG CHILDREN IN NORTHERN NIGERIA

Abdullahi Bello[1]*
[1]*Department of Library Science, Federal College of Education (FCE), Jama'are, Bauchi State, Nigeria*
*Corresponding author: abellojma@gmail.com (A. Bello)

ABSTRACT

The advent of technology in today's world has changed the way children interact, obtain knowledge, and communicate. Excessive and uncontrolled utilization of technology is gradually becoming an impediment to the emotional health of children. In particular, psychological issues linked to children using technology include anxiety, short attention span, cyberbullying, loneliness, and technology addiction. However, looking at the increasing initiatives aimed at promoting digital literacy, coupled with little understanding of the safe usage of technology, in the northern part of Nigeria, it is important to explore ways of addressing such psychological problems. Therefore, this paper seeks to put forward the importance of libraries as community learning institutions for creating a culture of responsibility in utilizing technology among children and safeguarding their psychological well-being. Specifically, this paper looks at the role of the Federal College of Education (FCE), Jama'are, as a contextual case on the significance of libraries in developing digital literacy, media literacy, and proper usage of technology through user education, provision of information in an appropriate format for users, involvement of parents and teachers, and awareness campaigns. Finally, underscores the importance of integrating ICTs with psychosocial support approaches for creating a safe and inclusive learning environment.

Abstract No. 120

LINGUISTIC BIAS IN GENERATIVE AI AGAINST INDIGENOUS AFRICAN ENGLISH LEXICAL INNOVATIONS

[1]Lazarus Ayuba Budidi & [2]Umar Abubakar
Gombe State Polytechnic, Bajoga, Nigeria
Corresponding author: lazarusayuba203@gmail.com; Phone: 07038995233

ABSTRACT

The proliferation of generative artificial intelligence across African digital ecosystems presents both transformative potential and profound risks to linguistic sovereignty. Large language models such as ChatGPT and Gemini are increasingly deployed across the continent, yet their architectures remain trained on datasets that privileges standardised American and British English variants. This representational asymmetry carries tangible consequences for millions of speakers of Nigerian, Ghanaian, Kenyan, and South African English varieties whose distinct lexical innovations remain systematically marginalised. Anchored in Critical Data Studies and Decolonial Theory, this study conceptualises the underrepresentation of African English lexical innovations in AI training data as a continuation of colonial linguistic hierarchies. Employing a mixed-methods design, the research constructs a validated corpus of indigenous African English lexical items, audits multiple generative AI models for feature retention and semantic accuracy, and evaluates native speaker perceptions of AI responses across comprehension, naturalness, and condescension scales. The findings empirically document the mechanisms through which generative AI perpetuates linguistic discrimination against African English speakers. This research provides actionable evidence for policymakers and developers seeking inclusive language technologies while advancing the decolonial project of reimagining AI as a site of epistemic reclamation. As generative AI becomes embedded in African educational, healthcare, and governance systems, the stakes extend beyond academic concern. Speakers of African English varieties face tangible risks of exclusion by systems that fail to recognise their linguistic identities. This study answers the conference's call for critical engagement with AI's wonders, arguing that progress must be measured not only by technological capability but by the equity of its distribution.

Keywords: Generative AI, Linguistic Bias, African English, Lexical Innovation, Algorithmic Auditing

Abstract No. 121

PROSPECTS AND CHALLENGES OF THE USE OF ARTIFICIAL INTELLIGENCE (AI) FOR LEARNING: ARABIC SCHOLARS IN PERSPECTIVE

Dr. Muhammad Bello
Department of Arabic, Federal University, Gusau, Zamfara State
bellogajiji@gmail.com

ABSTRACT

Teaching and Learning are no longer dependent solely on pen and paper by teachers in this 21st Century as the two activities go beyond class room instruction. Artificial Intelligence (AI) cum Information and Communication Technology (ICT) have turned the world into a global village whereby one can comfortably operate from any part of the globe including private residences. Such activities include giving and taking lectures in the form E-Learning, E-Teaching, group charting conference discussion, zooming and many others. The purpose of this paper is to assess the challenges of Arabic Scholars in the era of Artificial Intelligence (AI) using survey method of analysis. Arabic Schools in Zamfara State would be purposively selected for this study. The study finds that some Vestibular Scholars in Zamfara State lack the passion for using the AI tools as well as necessary skills to utilize the AI tools. It concludes that urgent step should be taken to improve effectiveness of Arabic Scholars in this era of digitalization as it will improve their capacity in the application of entrepreneurial skills. Based on the findings of this study, the paper recommends the need for motivation, workshop for Arabic Scholars on AI, adequate supply of AI tools among others.

Keywords: Artificial Intelligence, Arabic, Scholars, Prospects, Challenges

Abstract No. 122

THE 5TH INDUSTRIAL REVOLUTION AND THE ROLE OF ARTIFICIAL INTELLIGENCE IN ACADEMIC LIBRARIES: A REVIEW

Mohammed Musa
Federal Polytechnic, Kaltungo, Gombe State, Nigeria
jabbule84@gmail.com; 08036162260

ABSTRACT

The purpose of this paper is to examine the 5th industrial revolution and the role of artificial intelligence in Academic Libraries. The paper is a reflective piece examining 5th industrial revolution and advancement in the context of artificial intelligence in Academic Libraries. The paper argued that despite that the 5th industrial revolution has brought easy access of using digital technology services to connect cyber, virtual and physical space in advancing information service delivery in libraries. Various studies indicated that artificial intelligence is contributing significantly in global information provision and dissemination. The paper examined that the 5th industrial revolution and the role of artificial intelligence (AI) have brought about significant transformation in the way academic libraries manage and provide access to information. Literature reviewed indicated that Artificial intelligence (AI) is one of the emerging trends and applications of computing in academic libraries. The paper also focuses on the advantages of artificial intelligence which enhance information services delivery. Artificial intelligence also improves library operations and services and upgrade and heighten the relevance of academic libraries in an ever-changing digital society. The paper concluded that despite the advancements brought of 5th industrial revolution, challenges such as privacy concerns and algorithmic biases were still pertinent in AI which must be addressed to ensure responsible AI implementation.

Keywords: Artificial Intelligence, Digital Technologies, Internet of Things, Chatbots, Digital Preservation

ORGANISATION DEVELOPMENT INSTITUTE (ODI) GHANA

BI-ANNUAL INTERNATIONAL ACADEMIC CONFERENCE FOR SCHOLARS AND RESEARCHERS 2026

ABOUT THE CONFERENCE

Artificial Intelligence (AI) stands as one of the most transformative innovations of the 21st century, reshaping how societies solve problems, generate knowledge, and improve human productivity. From healthcare, agriculture, education, manufacturing, and finance to governance and scientific research, AI is revolutionizing decision-making through data-driven insights, automation, and predictive intelligence. For Africa, AI presents a unique opportunity to leapfrog traditional developmental barriers by providing innovative solutions to local challenges such as food insecurity, disease surveillance, unemployment, climate change, educational access, and public service delivery.

The growing influence of AI offers valuable lessons for researchers, scientists, policymakers, and scholars across Africa. Researchers and scientists are challenged to develop context-specific AI solutions that address indigenous problems while advancing global scientific knowledge. Policymakers must establish ethical, legal, and regulatory frameworks that promote responsible AI innovation, protect citizens' rights, and encourage investment in digital infrastructure and human capital development. Likewise, scholars and higher education institutions have a critical responsibility to integrate AI literacy, interdisciplinary research, and digital innovation into teaching and learning, thereby preparing graduates for an increasingly intelligent and technology-driven world.

CONFERENCE TOPICS

- AI and Project Management
- AI and Information Comm. Technology
- AI and Supply Chain Management
- AI and Science to Entrepreneurship
- AI and Food Security
- AI and Educational Management
- AI and Engineering
- AI and Biomedical Science
- AI and Humanity
- AI and Cyber Security Management
- AI and Science and Technology
- AI and Environmental Management

KEY DATES

15 SEPT. 2026	21 OCT. 2026	12 NOV. 2026	16–20 NOV. 2026
ABSTRACT SUBMISSION	FULL PAPER SUBMISSION	REGISTRATION DEADLINE	CONFERENCE OD INSTITUTE – GHANA

www.odinstitute.edu.gh prez.odinstitute@gmail.com +233 24 313 9977

Igniting Growth · Inspiring Change

ORGANISATION DEVELOPMENT INSTITUTE, GHANA



For Further Information
Organisation Development (OD) Institute
P.O. Box WY 1718, Kwabenya - Accra, Ghana
Email: info@odinstitute.edu.gh
prez.odinstitute@gmail.com
Website: https://odinstitute.edu.gh
Telephone: +233 30294 5083 / + 233 243 139 977

Africa's Premier Graduate School in OD

Building Leaders and Enabling Organisations to help themselves