



Leadership for Innovation and Impact: The Role of NOUN's Leadership in Advancing Digital Excellence through ACETEL

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Introduction

The Africa Higher Education Centres of Excellence (ACE) initiative, launched by the World Bank in partnership with African governments, was designed to strengthen higher education through specialised centres focused on Science, Technology, Engineering, and Mathematics (STEM), as well as Agriculture, Environment, Health, and Applied Social Sciences. In Nigeria, seventeen Centres of Excellence were established across two phases of the programme, reflecting national priorities for innovation-led development.

Within this framework, the Africa Centre of Excellence on Technology Enhanced Learning (ACETEL) at the National Open University of Nigeria (NOUN), approved in February 2019, represents a unique institutional response to Africa's digital education challenges. As the only ACE Centre dedicated exclusively to Open and Distance Learning (ODL), ACETEL was strategically positioned to serve as both a national and continental hub for digital pedagogy, educational technology innovation, and human capital development.

However, the rapid evolution of ACETEL from a funded project into a sustainable institutional innovation hub did not occur by chance. It was the product of deliberate leadership decisions, strategic alignment with university systems, and purposeful investment in digital infrastructure, policy reform, human capacity development, and partnership ecosystems. NOUN's leadership recognised that digital transformation



requires more than technology acquisition; it demands institutional re-engineering, cross-directorate coordination, regulatory alignment, and sustained commitment to innovation as a core academic value.

This paper, therefore, examines not only what ACETEL has achieved but, more importantly, how leadership actions, governance choices, and institutional strategies at NOUN enabled these achievements. It argues that ACETEL's success offers a replicable leadership-driven model of digital transformation for African universities seeking to harness technology for inclusive and sustainable education.

ACETEL Strategic Institutional Integration

From inception, NOUN's leadership ensured that ACETEL was not treated as a parallel project unit but was fully embedded within the university's academic and administrative architecture. The Vice-Chancellor provided strategic direction that aligned ACETEL with the Postgraduate School calendar and operationalised collaboration with critical directorates such as the Directorate of Learning Content Management System (DLCMS), Directorate of Examination and Assessment (DEA), Directorate of Academic Planning (DAP), Directorate of Research Administration, Learner's Support Services, University Library Resources, Directorate of Entrepreneurship and General Studies and Directorate of Works and Services.

These decisions ensured that academic programmes, assessment systems, research governance, and infrastructure development were synchronised with existing institutional frameworks. By mainstreaming ACETEL into core university systems, leadership avoided the fragmentation that often undermines externally funded projects and ensured continuity beyond donor funding cycles.

This governance approach transformed ACETEL into a living institutional laboratory for digital reform across NOUN, enabling pilot innovations to be tested, refined, and scaled university-wide. Figure 1 presents a schematic diagram of the Centre



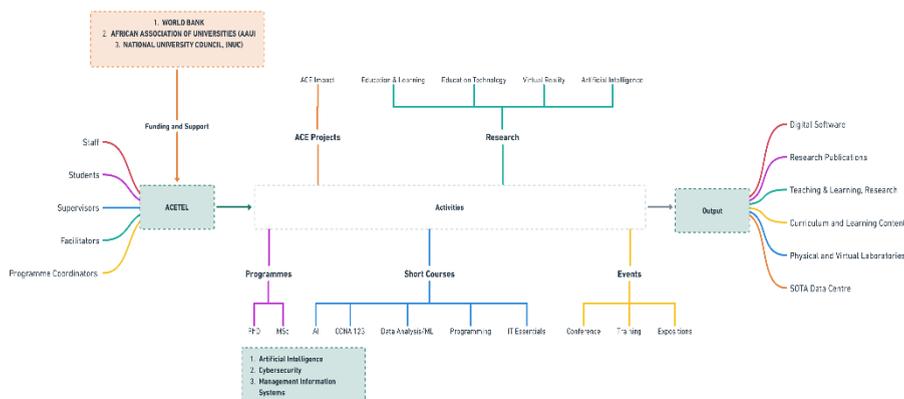


Figure 1: ACETEL at a Glance

Expansion of Postgraduate Digital Programmes and Regional Access

Through leadership support for curriculum innovation and regulatory engagement, NOUN successfully launched postgraduate programmes in Artificial Intelligence, Cybersecurity, and Management Information Systems at MSc and PhD levels. These programmes received National Universities Commission (NUC) accreditation in 2021 and international AQAS accreditation in 2025 for the MSc streams, reinforcing global quality assurance standards.

Leadership investment in marketing, diaspora outreach, and international partnerships enabled enrolment from several African countries and the diaspora, positioning ACETEL as a regional postgraduate destination for digital skills development. Student admission trends between 2021 and 2024 are presented in Table 2. The diversity and reach of ACETEL's programmes are evident in the enrolment figures, which show consistent growth, with a marked increase in 2024 reflecting enhanced visibility and programme maturity.

Gender and regional participation data further inform leadership strategies for enhancing inclusion. While national male participation remains predominant, deliberate efforts are underway to boost female participation and increase cross-border enrolment through scholarships



and data support for international students, demonstrating leadership's commitment to data-driven governance and fairness.

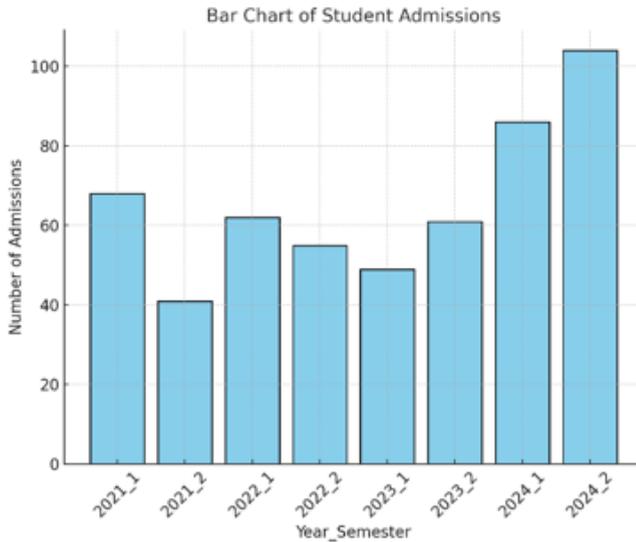


Figure 2: Trends in Student Admissions at ACETEL 2021-2024

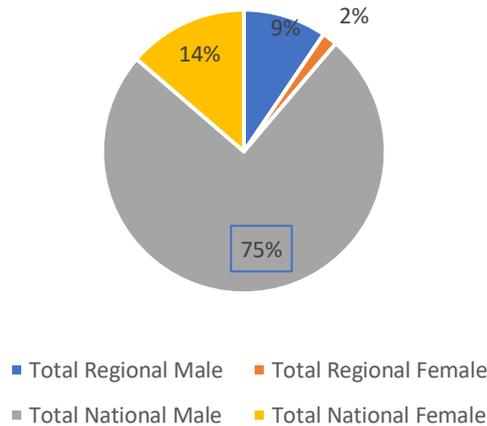


Figure 3: Distribution of ACETEL Students by Region and Gender



Partnership Strategy for Sustainable Innovation

Recognising that digital transformation requires ecosystem collaboration, NOUN's leadership prioritised strategic alliances with industry, government agencies, and international organisations. Partnerships with CISCO, Coursera, the Commonwealth of Learning (COL), the African Digital Education Network (ADEN), and the Digital Science and Technology Network (DSTN) were deliberately aligned with institutional objectives of quality assurance, employability, and global benchmarking.

National collaborations with the National Information Technology Development Agency (NITDA), National Agency for Artificial Intelligence and Robotics (NAAIR), and the ICT-Driven Knowledge Park at Obafemi Awolowo University, among others, facilitated access to digital infrastructure, curriculum co-development, joint supervision, and applied research. These partnerships enabled the co-creation of solutions aligned with national digital policy priorities, including assistive technologies and cybersecurity workforce development.

Leadership-driven partnership governance ensured that collaborations translated into operational programmes, trained staff, infrastructure support, and joint research outputs rather than symbolic memoranda of understanding.

Support for Inclusive Innovation and Assistive Technologies

ACETEL's portfolio of learner-centred innovations demonstrates leadership commitment to equity and inclusion. Solutions such as the Vision Link Mouse for visually impaired learners, ACETEL Mob-Aid mobility support devices, the iResearchPro Hub for AI-driven supervision allocation, Immersive STEM Virtual Labs for Remote Learners and remote field supervision platforms emerged from leadership prioritisation of applied research addressing accessibility challenges in ODL contexts.

By funding research and encouraging interdisciplinary teams, leadership fostered a research ecosystem and innovation culture at the



university focused on real-world problem-solving rather than abstract experimentation. These technologies demonstrate how leadership values shape research direction, institutional relevance, and social impact. Table 1 below shows the ongoing University Funded Research in ACETEL.

Table 1: Ongoing University Funded Research in ACETEL

S/N	Ongoing Research	Expected Outcome
1.	Innovations for Enhanced Access to Education for the Visually Impaired.	Developing adaptive technologies for better access to educational content for visually impaired learners.
2.	Remote Supervision of Field Courses for Practical Skills and Proficiency Development in University Education.	Creating a system for remote supervision to ensure practical skills are developed in field courses.
3.	Smart Tutoring Systems for Enhanced Personalised Learning Experiences.	Developing AI-driven tutoring systems for personalised student learning experiences.
4.	Immersive STEM Virtual Labs for Remote Learners.	Creating virtual labs to provide hands-on STEM learning for remote students.
5.	An AI-Based Course Recommendation and Academic Performance Tracking	Using AI to recommend courses and track academic performance for personalised learning support.
6.	Readiness for Technology-driven Teaching and Learning.	Assessing and improving the readiness of educators to integrate technology into teaching.

Investment in Digital Laboratories and Data Architecture

The establishment of seven advanced laboratories and a centralised on-premises and cloud-based Data Centre reflects leadership recognition

that infrastructure is foundational to digital transformation. These laboratories support artificial intelligence research, cybersecurity simulations, virtual laboratories, digital content production, and data analytics.

The integrated Data Centre consolidates previously siloed institutional data across faculties and directorates, enabling evidence-based planning, predictive analytics, and improved service delivery. Leadership further ensured sustainability by providing targeted training for ICT staff, system administrators, and end-users, embedding technical competence within institutional human resources rather than relying on external consultants. This infrastructure strategy positions NOUN for long-term digital resilience and institutional scalability.

Strategic Framework for Digital Transformation at NOUN through ACETEL

ACETEL's institutionalisation reflects a structured leadership strategy built on five interdependent pillars:

Vision-Driven Institutional Alignment

Vision-driven institutional alignment has been central to ACETEL's successful integration into NOUN's core mandate. University leadership deliberately positioned digital education not as a peripheral innovation activity but as a strategic pillar of academic delivery, research, and outreach. This vision was translated into institutional policies, programme approval processes, and performance benchmarks. By embedding ACETEL's objectives within the university's strategic plans, postgraduate regulations, and academic calendars, leadership ensured coherence between innovation initiatives and routine university operations. This alignment enabled rapid institutional adoption of digital tools and pedagogies, reduced resistance to change, and fostered a shared sense of ownership of digital transformation across the university community.



Systems Integration and Process Re-engineering

Leadership recognised that sustainable digital transformation requires re-engineering institutional processes rather than merely digitising existing workflows. Consequently, ACETEL served as a platform for integrating key academic and administrative systems, including digital admissions, online assessment, virtual internship management, learner support services, project supervision, and learning content development. These reforms eliminated operational silos, reduced manual bottlenecks, and improved service delivery efficiency across the student lifecycle. Through this systemic approach, leadership converted fragmented digital interventions into coherent, institution-wide digital ecosystems.

Capacity Development and Talent Retention

Human capital development has been prioritised as a key success factor in ACETEL's institutionalisation. Leadership supported ACETEL's investment in ongoing professional development through initiatives such as the Centre of Competence in Digital Education (C-CoDE), digital masterclasses, pedagogical training, and industry certification programmes. Faculty members were equipped with instructional design skills, learning analytics competencies, and digital assessment techniques, while ICT staff received training in cybersecurity, network management, and data centre operations. This intentional investment reduced reliance on external consultants and built resilient internal expertise capable of sustaining innovation beyond project funding cycles. Additionally, targeted career development opportunities increased staff motivation and retention, creating a stable talent pool that supports long-term digital transformation.

Partnership and Ecosystem Development

Strategic partnerships have served as a key leadership tool for expanding ACETEL's innovation capacity and institutional relevance. Collaborations with industry leaders such as CISCO and Coursera enhanced curriculum relevance and certification pathways, while engagements with regulatory agencies and international networks



facilitated access to infrastructure, technical expertise, and global best practices. Leadership organised these partnerships around clear institutional objectives, ensuring alignment with teaching, research, and workforce development goals. This ecosystem approach enabled joint supervision of research, co-development of digital solutions, and scaling of capacity-building programmes. By positioning ACETEL as a central hub within a broader innovation ecosystem, NOUN leadership increased the university's visibility, credibility, and contribution to national and regional digital agendas.

Sustainability and Resource Mobilisation

From inception, leadership adopted a forward-looking sustainability strategy to reduce long-term reliance on donor funding. Revenue-generating services such as professional training programmes, consultancy, modular courses, and laboratory services were recognised as part of ACETEL's operational model. In parallel, leadership pursued diverse funding streams through competitive research grants, innovation financing mechanisms like iDICE, and structured endowment planning. By integrating sustainability planning into institutional governance rather than treating it as a post-project concern, leadership ensured that ACETEL's capacity for innovation remains financially viable and strategically scalable.

Together, these pillars form a leadership framework that converts innovation into institutional capability rather than isolated project success.

Skills Development and Regional Workforce Transformation

Leadership commitment to regional development is demonstrated by ACETEL's extensive range of short-course programmes in AI, IoT, Cybersecurity, CCNA, Data Analytics, and Digital Forensics. These programmes were developed in response to labour market intelligence and national digital economy strategies.

Specialised training for refugees, francophone learners, and security agencies demonstrates leadership that is sensitive to social inclusion



and national security needs. By institutionalising continuous professional development, NOUN has positioned itself as both an academic institution and a national digital capacity builder.

Scholarly Output and Research Governance as Leadership Instruments

Leadership funding for interdisciplinary research in ACETEL and support for industry-linked postgraduate supervision have resulted in numerous SCOPUS-indexed publications and practical innovations. These articles, which examine intersections between artificial intelligence, cybersecurity, management information systems, and digital pedagogy, are pertinent to current educational trends.

By aligning research funding with institutional digital priorities, leadership ensured policy relevance, the operational adoption of research outputs, and the continuous improvement of academic delivery systems.

Achievement of Positive Gap Analysis for NOUN Institutional Accreditation - Leadership Implications

As part of NOUN's preparations for institutional accreditation by the Quality Assurance Agency (QAA), the university conducted a comprehensive gap analysis to assess disparities in student performance, progression, retention, policy availability, awareness levels, compliance, and learning outcomes across different demographic groups, programmes, and modes of delivery. This diagnostic process enabled leadership to move from merely ensuring compliance to pursuing evidence-based institutional improvements. ACETEL played a crucial role by providing digital infrastructure, learning management analytics, examination management systems, and integrated data platforms that supported real-time monitoring of student engagement, assessment trends, and academic progression across faculties and study centres. These systems improved the university's capacity to identify at-risk learners early, evaluate the effectiveness of learner support interventions, and implement targeted academic remediation strategies.



By systematically identifying gaps related to digital access, academic preparedness, instructional design, and assessment practices, leadership was able to prioritise institution-wide reforms, including enhanced online tutoring, inclusive assessment frameworks, strengthened virtual internship supervision, and expanded student support services. Importantly, the gap analysis repositioned quality assurance as a continuous institutional learning process rather than a periodic accreditation exercise, fostering a culture of accountability, reflection, and improvement across academic and administrative units. Leadership commitment to embedding learning analytics and data governance within routine decision-making processes further strengthened institutional responsiveness and policy coherence.

Beyond internal quality enhancement, the QAA-driven positive gap analysis has important strategic implications for NOUN's global competitiveness and institutional reputation. International accreditation standards require clear evidence of student-centred learning, equitable outcomes, and systematic quality improvement processes. Through leadership-led reforms, NOUN is not only improving accreditation readiness but also positioning itself as a reputable global ODL institution.

Conclusion

ACETEL's trajectory demonstrates that sustainable digital transformation in higher education is fundamentally a leadership challenge rather than a technological one. Through strategic institutional integration, infrastructure investment, partnership governance, and human capacity development, NOUN's leadership converted an externally funded project into a durable innovation ecosystem.

By embedding digital transformation into governance structures and academic culture, leadership ensured that innovation became a routine practice rather than an episodic intervention. The ACETEL experience illustrates that when leadership combines vision with operational discipline, universities can simultaneously expand access, improve quality, and strengthen relevance in the digital age.



For African higher education systems confronting rapid technological change, ACETEL offers a leadership-driven model of how policy alignment, institutional reform, and partnership ecosystems can translate innovation into measurable development impact. The continued success of ACETEL remains inseparable from the enabling leadership environment that prioritises innovation as a strategic asset for national and continental development.

