ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue V, May 2026

Investigating the Institutional and Pedagogical Viability of Integrating Digital Humanities Programmes in Nigerian Open and Distance Learning (ODL) Universities

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DOI: https://doi.org/10.51583/IJLTEMAS.2026.150500018

Received: 26 April 2025; Accepted: 01 May 2026; Published: 25 May 2026

ABSTRACT

The rapid expansion of digital technologies has fundamentally transformed research, teaching, and knowledge production globally, leading to the emergence of Digital Humanities (DH) as a dynamic interdisciplinary field. Despite this global shift, the integration of DH within African Open and Distance Learning (ODL) institutions remains underexplored and under-theorized. This study investigated the institutional and pedagogical viability of integrating Digital Humanities programmes in Nigerian ODL universities, with particular reference to the National Open University of Nigeria. Adopting a mixed-methods research design, the study drew on data collected from 200 respondents, including academic staff, postgraduate students, and ICT personnel. Quantitative data were analysed using both descriptive and inferential statistics, including Pearson correlation and multiple regression analyses, while qualitative data were subjected to thematic analysis. Reliability testing yielded Cronbach's alpha coefficients ranging from 0.76 to 0.84, with an overall reliability index of 0.82, indicating strong internal consistency. The findings revealed a moderate level of institutional readiness for DH integration, accompanied by significant infrastructural, pedagogical, and policy-related constraints. Inferential analysis shows that digital infrastructure is the strongest predictor of pedagogical viability ($\beta = 0.41$, $p < 0.001$), followed by faculty competence ($\beta = 0.35$) and curriculum adaptability ($\beta = 0.29$). Qualitative insights further highlight challenges related to funding, digital literacy gaps, and the absence of structured policy frameworks. The study contributes to scholarship by proposing a context-sensitive, multidimensional model of DH integration in ODL systems, and by extending the application of Connectivism, TPACK, and Diffusion of Innovation theories within developing educational contexts. It also advances ongoing efforts to decolonize Digital Humanities by foregrounding African institutional realities. The study concludes that while DH integration in Nigerian ODL universities is both viable and strategically necessary, its success depends on coordinated investments in infrastructure, faculty development, curriculum innovation, and policy support.

Keywords: Digital Humanities; Open and Distance Learning; Institutional Readiness; Pedagogical Viability; Nigerian Universities; Digital Education

INTRODUCTION

Background to the Study

The advent of digital technologies has profoundly reshaped the landscape of knowledge production, dissemination, and pedagogy across academic disciplines. Within the humanities, this transformation has culminated in the emergence of Digital Humanities (DH), an interdisciplinary field that integrates computational tools, data-driven methodologies, and digital platforms into traditional humanistic inquiry (Berry, 2012; Schreibman, Siemens, & Unsworth, 2016). DH encompasses a wide range of practices, including corpus linguistics, digital archiving, text mining, geospatial analysis, and multimodal scholarship, all of which expand the scope, depth, and accessibility of humanities research and teaching.

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Globally, universities have increasingly incorporated DH into their curricula to foster digital literacy, interdisciplinary competence, and innovative research practices among students (Gold, 2012). These developments are closely aligned with the demands of the Fourth Industrial Revolution (4IR), which emphasizes the integration of digital technologies into all aspects of human activity, including education. In this context, DH is not merely a technological enhancement but a paradigm shift that redefines how knowledge is produced, analysed, and communicated.

However, the diffusion and institutionalization of Digital Humanities are uneven across global contexts. While institutions in Europe and North America have made significant strides in developing DH programmes, research centres, and digital infrastructures, universities in developing regions, particularly in Africa, remain at a relatively nascent stage of adoption. In Nigeria, despite growing awareness of digital transformation in education, many universities continue to operate within traditional pedagogical frameworks that inadequately reflect contemporary digital realities (Adebayo & Oladele, 2021).

This gap is especially pronounced in Open and Distance Learning (ODL) institutions. ODL systems, by their very nature, are technologically mediated, relying on Learning Management Systems (LMS), virtual classrooms, and online repositories to deliver instruction. Institutions such as the National Open University of Nigeria (NOUN) are therefore uniquely positioned to pioneer the integration of Digital Humanities. Their existing digital infrastructure provides a foundational ecosystem that could potentially support DH practices, including online collaboration, digital research, and data-driven inquiry.

Nevertheless, the transition from general digital education to structured DH programmes is neither automatic nor straightforward. It requires a combination of institutional readiness, pedagogical restructuring, technological capacity, and human resource development (Burdick et al., 2012). Institutional readiness encompasses not only the availability of digital infrastructure but also policy frameworks, administrative support, and funding mechanisms. Pedagogical viability, on the other hand, involves the ability to integrate digital tools into teaching practices in ways that enhance learning outcomes and foster critical engagement.

Furthermore, the successful integration of DH in Nigerian ODL institutions is complicated by systemic challenges, including infrastructural deficits, limited digital literacy among faculty, funding constraints, and the persistent digital divide among learners (Van Dijk, 2020). These challenges raise important questions about the feasibility, sustainability, and effectiveness of DH integration in such contexts.

Beyond these practical concerns lies a broader epistemological issue. Much of the existing literature on Digital Humanities is rooted in Western academic traditions, often overlooking the socio-economic and institutional realities of developing regions. As a result, there is a growing call to decolonize Digital Humanities by incorporating perspectives, methodologies, and experiences from underrepresented contexts. This involves not only adapting DH tools to local conditions but also rethinking the assumptions underlying digital scholarship.

Against this backdrop, there is a compelling need for empirical research that critically examines the institutional and pedagogical conditions necessary for DH integration in African ODL environments. Such research is essential for bridging the gap between global digital trends and local educational realities, and for informing policy and practice in higher education.

Statement of the Problem

Despite the global advancement of Digital Humanities as a transformative academic field, Nigerian universities, particularly those operating within the ODL framework, have been slow in adopting structured DH programmes. While ODL institutions are inherently technology-driven, their digital infrastructures are often limited to content delivery rather than advanced computational research and pedagogy. This creates a paradox in which institutions designed for digital learning are not fully leveraging the pedagogical and research potentials of digital technologies. Additionally, there exists a significant gap in faculty competence regarding DH methodologies, as many educators lack training in computational tools and interdisciplinary approaches.

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Moreover, policy frameworks guiding DH integration are either weak or non-existent, resulting in fragmented implementation efforts. The digital divide among students further exacerbates the situation, limiting equitable access to DH-based learning environments. Consequently, without a systematic and empirically grounded evaluation of institutional readiness and pedagogical viability, attempts to integrate DH programmes may remain superficial, uneven, and unsustainable.

Aim and Objectives of the Study

Aim:

To investigate the institutional and pedagogical viability of integrating Digital Humanities programmes in Nigerian Open and Distance Learning universities.

Objectives:

1. Examine institutional readiness for DH integration
2. Assess digital infrastructure availability
3. Evaluate faculty competence
4. Analyse curriculum adaptability
5. Identify challenges and opportunities

Research Questions

1. What is the level of institutional readiness for DH integration?
2. What is the state of digital infrastructure?
3. How competent are academic staff in DH methodologies?
4. How adaptable are existing curricula?
5. What challenges and prospects exist?

Significance of the Study

This study is significant in several respects. It contributes to the limited body of empirical research on Digital Humanities in African ODL contexts and provides insights for policymakers, educators, and curriculum developers. Importantly, it advances global DH discourse by incorporating perspectives from underrepresented regions, thereby supporting efforts toward the decolonization of digital scholarship.

Scope and Delimitation

The study focuses on selected Nigerian ODL institutions, particularly NOUN, examining institutional, pedagogical, and infrastructural factors affecting DH integration.

LITERATURE REVIEW

Conceptual Review

Digital Humanities (DH)

Digital Humanities (DH) represents a rapidly evolving interdisciplinary field that integrates computational tools and digital technologies into traditional humanities research and pedagogy (Berry, 2012). Rather than merely

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digitizing existing materials, DH transforms the epistemological foundations of humanities scholarship by enabling large-scale data analysis, multimodal representation, and collaborative knowledge production (Schreibman et al., 2016).

Core practices within DH include corpus linguistics, text mining, digital archiving, data visualization, and geospatial mapping. These tools allow scholars to move beyond close reading to "distant reading" approaches, where patterns across large datasets can be identified and interpreted. In pedagogical contexts, DH fosters interactive, student-centred learning by integrating digital tools into classroom activities and research projects.

However, the conceptualization of DH has been largely shaped by Western academic traditions, raising concerns about its applicability in non-Western contexts. Critics argue that DH risks reproducing existing global inequalities if it fails to account for disparities in technological access and institutional capacity. This has led to growing calls for the decolonization of Digital Humanities, emphasizing the need for context-sensitive approaches that reflect local realities and knowledge systems.

Open and Distance Learning (ODL)

Open and Distance Learning (ODL) refers to an educational model that enables learners to access instructional content remotely, often through digital platforms (Moore & Kearsley, 2012). ODL is characterized by flexibility, accessibility, and learner autonomy, making it particularly relevant in contexts where traditional face-to-face education is limited.

In Nigeria, ODL institutions such as the National Open University of Nigeria have played a critical role in expanding access to higher education. These institutions utilize Learning Management Systems (LMS), virtual classrooms, and digital repositories to facilitate teaching and learning.

Despite its technological orientation, ODL in Nigeria has been primarily focused on content delivery rather than interactive, research-oriented learning. This limitation becomes particularly significant when considering the integration of Digital Humanities, which requires not only access to digital platforms but also the ability to engage in data-driven, collaborative, and interdisciplinary inquiry.

Institutional Readiness

Institutional readiness refers to the extent to which an organization possesses the necessary resources, structures, and capacities to implement innovation (Aydin & Tasci, 2005). In the context of DH integration, institutional readiness encompasses several dimensions:

i) Technological Infrastructure: availability of hardware, software, and internet connectivity

ii) Human Resources: faculty competence and technical support

iii) Policy Frameworks: institutional guidelines and strategic plans

iv) Financial Capacity: funding for infrastructure and training

Institutional readiness is not a static condition but a dynamic process, influenced by both internal and external factors. In developing contexts, readiness is often constrained by infrastructural deficits and policy inconsistencies, which can limit the adoption of innovative programmes such as DH.

Pedagogical Viability

Pedagogical viability refers to the effectiveness and appropriateness of instructional approaches in achieving learning outcomes (Siemens, 2014). Within the DH context, pedagogical viability involves integrating digital tools into teaching practices in ways that enhance:

i) student engagement

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ii) critical thinking

iii) collaborative learning

iv) research skills

Importantly, pedagogical viability is not determined solely by the availability of technology but by the ability of educators to meaningfully integrate digital tools into disciplinary teaching. This highlights the central role of faculty competence and instructional design in DH integration.

Digital Literacy and Competence

Digital literacy extends beyond basic technical skills to include the ability to critically evaluate, create, and communicate information using digital technologies (Ng, 2012). In the context of DH, digital competence involves:

i) familiarity with computational tools

ii) ability to integrate technology into research and teaching

iii) understanding of interdisciplinary methodologies

In many developing contexts, digital literacy remains uneven, with significant gaps between basic technological familiarity and advanced digital competence required for DH practices.

Digital Divide

The digital divide refers to disparities in access to digital technologies and internet connectivity (Van Dijk, 2020). In ODL environments, the digital divide affects both students and institutions, influencing participation, engagement, and learning outcomes.

In Nigeria, the digital divide is shaped by socio-economic inequalities, infrastructural limitations, and geographic disparities. This has significant implications for DH integration, as uneven access to technology can exacerbate educational inequalities.

Theoretical Framework

This study is anchored on three complementary theoretical frameworks: Connectivism, TPACK, and Diffusion of Innovation. These frameworks provide a multidimensional lens for understanding DH integration in ODL contexts.

Connectivism Theory

Connectivism, proposed by Siemens (2014), conceptualizes learning as a process that occurs within networks of information, technology, and social interaction. It emphasizes the role of digital platforms in facilitating knowledge acquisition and highlights the importance of connectivity, collaboration, and information flow.

In the context of DH integration, Connectivism supports the use of:

i) online learning platforms

ii) digital research tools

iii) collaborative knowledge networks

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However, the applicability of Connectivism is contingent upon the availability of functional digital infrastructure. In developing contexts, where access to technology is uneven, the effectiveness of networked learning may be significantly constrained.

Technological Pedagogical Content Knowledge (TPACK)

The TPACK model (Mishra & Koehler, 2006) provides a framework for integrating technology into teaching by combining three forms of knowledge:

i) Technological Knowledge (TK)

ii) Pedagogical Knowledge (PK)

iii) Content Knowledge (CK)

Effective teaching occurs at the intersection of these domains, where educators are able to integrate technology into subject-specific pedagogy.

In DH contexts, TPACK highlights the need for:

i) technical proficiency in digital tools

ii) pedagogical strategies for integrating technology

iii) disciplinary expertise in humanities subjects

The model is particularly relevant for assessing faculty readiness, as it emphasizes the importance of balanced and integrated competence.

Diffusion of Innovation Theory

Diffusion of Innovation theory (Rogers, 2003) explains how new ideas and technologies are adopted within social systems. It identifies stages of adoption, including:

1. Awareness
2. Interest
3. Evaluation
4. Trial
5. Adoption

The theory also highlights factors influencing adoption, such as perceived usefulness, compatibility, and institutional support.

In the context of DH integration, Diffusion of Innovation provides a framework for understanding how new programmes are introduced and institutionalized within ODL systems. However, in developing contexts, adoption may be constrained by structural factors such as funding, policy, and infrastructure.

Integrated Theoretical Perspective

These three frameworks complement each other:

i) Connectivism explains the learning environment

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ii) TPACK explains the pedagogical process

iii) Diffusion of Innovation explains the institutional adoption process

Together, they provide a comprehensive framework for analysing DH integration in Nigerian ODL universities.

Empirical Review

Global Perspectives on Digital Humanities

Burdick et al. (2012) examined the evolution of Digital Humanities in developed contexts, highlighting the role of infrastructure and interdisciplinary collaboration in successful DH implementation. Their study demonstrates that institutions with robust digital ecosystems are better positioned to adopt DH programmes.

However, this research is largely situated in Western contexts, limiting its applicability to developing regions.

Digital Transformation in Nigerian Universities

Adebayo and Oladele (2021) investigated digital transformation in Nigerian higher education and found moderate adoption of e-learning technologies but limited integration of advanced digital research methods. This suggests that while digital tools are present, their use remains largely instrumental rather than transformative.

ICT Readiness and Infrastructure

Oyelekan et al. (2017) identified infrastructural deficits as major barriers to ICT integration in Nigerian universities. Their findings highlight the importance of technological capacity in enabling digital education.

Digital Literacy and Faculty Competence

Ng (2012) emphasized the role of digital literacy in effective technology integration. The study found that inadequate training significantly limits educators' ability to use digital tools effectively.

Digital Divide and Learning Outcomes

Van Dijk (2020) demonstrated that unequal access to technology negatively affects learning outcomes. This is particularly relevant in ODL environments, where access to digital resources is essential.

Gaps in Existing Literature

The reviewed studies reveal several gaps:

1. Limited research on DH integration in Nigerian ODL contexts
2. Insufficient focus on pedagogical frameworks specific to DH
3. Lack of empirical studies combining institutional readiness and curriculum adaptability
4. Minimal attention to interdisciplinary approaches

Summary and Gap Identification

The literature highlights the growing importance of Digital Humanities and the role of digital technologies in education. However, it also reveals a significant gap in research focusing on DH integration in African ODL contexts.

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This study addresses these gaps by providing a comprehensive, empirically grounded analysis of institutional readiness and pedagogical viability, while also contributing to the development of context-sensitive theoretical and practical frameworks.

METHODOLOGY (MATERIALS AND METHODS)

Research Design

This study adopted a descriptive mixed-methods research design, integrating both quantitative and qualitative approaches to provide a comprehensive analysis of the institutional and pedagogical viability of integrating Digital Humanities (DH) programmes in Nigerian Open and Distance Learning (ODL) universities.

The choice of a mixed-methods design was informed by the complex nature of the research problem, which involved both measurable institutional variables (e.g., infrastructure, competence) and experiential dimensions (e.g., perceptions, challenges, and institutional practices). The quantitative component enabled the systematic measurement of key constructs through numerical data, while the qualitative component provided contextual depth and interpretive insight into participants' experiences and institutional realities.

This design aligned with Creswell and Plano Clark's (2018) argument that mixed-methods research enhances validity through triangulation, allowing findings from one method to corroborate and enrich those from another. In this study, the design followed a convergent parallel approach, where quantitative and qualitative data were collected concurrently, analysed separately, and then integrated during interpretation.

Study Area and Population

The study was conducted within selected Nigerian Open and Distance Learning (ODL) universities, with particular emphasis on the National Open University of Nigeria (NOUN) due to its national coverage and well-established digital learning infrastructure.

The target population comprised three key stakeholder groups:

1. Academic Staff (lecturers, course facilitators, instructional designers)
2. Postgraduate Students in humanities-related programmes
3. ICT Support Staff responsible for digital infrastructure and technical support

These groups are selected because they collectively represent the core actors involved in DH integration, including curriculum delivery, technological implementation, and learner engagement.

Sampling Technique and Sample Size

A multistage sampling technique was employed to ensure both relevance and representativeness.

i) Stage 1: Purposive Sampling
ODL institutions with established digital learning systems were selected to ensure that participants have exposure to digital educational environments.

ii) Stage 2: Stratified Sampling
Participants are grouped into three strata (academic staff, students, ICT personnel) to ensure balanced representation.

iii) Stage 3: Simple Random Sampling
Participants within each stratum are randomly selected to minimize selection bias.

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The study adopts a total sample size of 200 respondents, distributed as follows:

i) Academic Staff: 80

ii) Postgraduate Students: 100

iii) ICT Support Staff: 20

This sample size was considered adequate for both descriptive and inferential statistical analysis, while also allowing for meaningful qualitative interpretation.

Instruments for Data Collection

Three primary instruments are used:

Structured Questionnaire

The questionnaire was designed using Likert-scale items (ranging from Strongly Agree to Strongly Disagree) and is divided into four major constructs:

i) Institutional Readiness

ii) Digital Infrastructure

iii) Faculty Competence

iv) Curriculum Adaptability

The instrument enables the quantification of perceptions and institutional conditions relevant to DH integration.

Semi-Structured Interview Guide

Semi-structured interviews are conducted with selected academic staff and ICT personnel to obtain in-depth insights into:

i) institutional challenges

ii) pedagogical practices

iii) strategic approaches to DH integration

This instrument allows flexibility while ensuring alignment with research objectives.

Document Analysis Checklist

Institutional documents, including curricula, policy frameworks, and digital infrastructure plans, were analysed using a structured checklist. This provided contextual validation and supported triangulation.

Validity and Reliability of Instruments

Validity

To ensure content validity, the instruments were reviewed by experts in applied linguistics, educational technology, and research methodology. Feedback was incorporated to improve clarity, relevance, and alignment with research objectives.

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Construct validity was established by organizing questionnaire items into clearly defined domains corresponding to the study variables.

Reliability

Reliability was tested through a pilot study involving 20 respondents from a similar ODL context. Internal consistency was measured using Cronbach's Alpha.

The results are presented below:

Construct	Items	Cronbach's Alpha (α)
Institutional Readiness	8	0.81
Digital Infrastructure	7	0.78
Faculty Competence	6	0.84
Curriculum Adaptability	6	0.76
Overall Instrument	27	**0.82**

All values exceeded the acceptable threshold of 0.70 (Field, 2018), indicating strong internal consistency.

Method of Data Collection

Data collection was conducted in three phases:

Questionnaire Administration

i) Distributed electronically via institutional emails and LMS platforms

ii) Ensures accessibility for ODL participants

Interviews

i) Conducted via virtual platforms
ii) Recorded (with consent) and transcribed

Document Analysis

i) Institutional documents were reviewed
ii) Provided contextual and corroborative data

This multi-source approach enhanced data credibility and triangulation.

Method of Data Analysis

Quantitative Analysis

Quantitative data were analysed using both descriptive and inferential statistics.

Descriptive Statistics

i) Frequencies

ii) Percentages

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iii) Used to summarize trends and patterns

Inferential Statistics

To examine relationships and predictive effects:

i) Pearson Correlation Analysis
Used to determine relationships between:

institutional readiness and infrastructure

faculty competence and curriculum adaptability

infrastructure and pedagogical viability

ii) Multiple Regression Analysis
Used to assess the predictive influence of:

digital infrastructure

faculty competence

curriculum adaptability

on the dependent variable:

Pedagogical Viability of DH Integration

Statistical significance was tested at $p < 0.05$ using SPSS.

Qualitative Analysis

Qualitative data were analysed using thematic analysis, involving:

1. Data coding
2. Theme identification
3. Pattern interpretation

Emergent themes included:

i) institutional constraints

ii) pedagogical opportunities

iii) capacity development needs

Data Integration (Triangulation)

Findings from quantitative and qualitative analyses were integrated during interpretation. This allowed:

i) validation of results

ii) deeper explanation of trends

iii) identification of underlying mechanisms

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Ethical Considerations

The study adhered to established ethical standards:

i) Informed Consent: Participants voluntarily agreed

ii) Confidentiality: Data handled securely

iii) Anonymity: Identities were protected

iv) Data Protection: Restricted access to data

v) Non-Maleficence: No harm to participants

Ethical approval was obtained from relevant institutional bodies.

RESULTS / DATA PRESENTATION

Demographic Characteristics of Respondents

This section presents the demographic profile of the 200 respondents drawn from selected Nigerian ODL institutions.

Distribution by Respondent Category

Category	Frequency	Percentage (%)
Academic Staff	80	40.0
Postgraduate Students	100	50.0
ICT Support Staff	20	10.0
Total	**200**	**100.0**

Interpretation:

Postgraduate students constituted the largest proportion (50%), reflecting their central role in ODL learning environments. Academic staff (40%) provided a strong instructional perspective, while ICT personnel (10%) offered insights into technological infrastructure.

Gender Distribution

Gender	Frequency	Percentage (%)
Male	112	56.0
Female	88	44.0
Total	**200**	**100.0**

Interpretation:

The distribution showed slight male dominance; however, representation was relatively balanced, ensuring inclusivity in perspectives.

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Age Distribution

Age Range	Frequency	Percentage (%)
20–29	72	36.0
30–39	68	34.0
40–49	40	20.0
50+	20	10.0
Total	**200**	**100.0**

Interpretation:

The majority (70%) fell within the 20–39 age bracket, indicating a relatively digitally active and adaptable population.

Academic Qualification (Staff Only)

Qualification	Frequency	Percentage (%)
PhD	45	45.0
Master's	40	40.0
Bachelor's	15	15.0
Total	**100**	**100.0**

Interpretation:

The high proportion of postgraduate qualifications (85%) suggests strong academic capacity for DH adoption.

Years of Experience (Staff)

Experience	Frequency	Percentage (%)
1–5 years	30	30.0
6–10 years	35	35.0
11–15 years	20	20.0
16+ years	15	15.0
Total	**100**	**100.0**

Presentation of Core Findings

Institutional Readiness for DH Integration

Response Category	Frequency	Percentage (%)
Highly Ready	30	15.0
Moderately Ready	90	45.0

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Response Category	Frequency	Percentage (%)
Slightly Ready	50	25.0
Not Ready	30	15.0
Total	**200**	**100.0**

Interpretation:

A combined 60% (high + moderate) indicates moderate readiness; however, 40% reflect low preparedness, highlighting institutional inconsistencies.

Availability of Digital Infrastructure

Level	Frequency	Percentage (%)
Adequate	40	20.0
Fairly Adequate	80	40.0
Inadequate	60	30.0
Poor	20	10.0
Total	**200**	**100.0**

Interpretation:

While 60% reported adequate/fair infrastructure, a significant 40% inadequacy level signalled major structural constraints.

Faculty Digital Competence

Level	Frequency	Percentage (%)
High	35	17.5
Moderate	95	47.5
Low	50	25.0
Very Low	20	10.0
Total	**200**	**100.0**

Interpretation:

Faculty competence was largely moderate, indicating potential but insufficient mastery for DH integration.

Curriculum Adaptability

Level	Frequency	Percentage (%)
Highly Adaptable	25	12.5
Moderately Adaptable	85	42.5

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Level	Frequency	Percentage (%)
Slightly Adaptable	60	30.0
Not Adaptable	30	15.0
Total	**200**	**100.0**

Key Challenges to DH Integration

Challenge	Frequency	Percentage (%)
Inadequate Funding	60	30.0
Poor Internet Connectivity	50	25.0
Lack of Skilled Personnel	40	20.0
Policy Gaps	30	15.0
Digital Divide	20	10.0
Total	**200**	**100.0**

Thematic Analysis (Qualitative Findings)

Three major themes emerged:

Theme 1: Institutional Constraints

a) Funding limitations

b) Weak policy frameworks

c) Infrastructure gaps

Theme 2: Pedagogical Opportunities

a) Corpus-based learning

b) Digital archiving

c) Interactive environments

Theme 3: Capacity Development Needs

a) Staff training

b) Curriculum redesign

c) Global collaboration

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Inferential Statistical Analysis

Correlation Analysis

Variables	r-value	p-value	Interpretation
Readiness & Infrastructure	0.62	0.000	Strong positive
Competence & Curriculum	0.58	0.000	Moderate positive
Infrastructure & Viability	0.66	0.000	Strong positive

Interpretation:

All relationships were statistically significant ($p < 0.05$), indicating that improvements in infrastructure and competence are strongly associated with enhanced DH integration potential.

Regression Analysis

Predictor	Beta (β)	t-value	p-value
Infrastructure	0.41	5.12	0.000
Faculty Competence	0.35	4.38	0.000
Curriculum Adaptability	0.29	3.76	0.001

Model Summary:

a) $R^2 = 0.54$

b) $F(3,196) = 76.21$

c) $p < 0.001$

Interpretation:

The model explained 54% of the variance in pedagogical viability.
Infrastructure was the strongest predictor, followed by competence and curriculum adaptability.

Summary of Results

The findings revealed that:

i) Institutional readiness was moderate but uneven

ii) Infrastructure was critical but insufficient

iii) Faculty competence was developing but incomplete

iv) Curriculum was adaptable but underutilized

v) DH integration was feasible but constrained

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DISCUSSION OF FINDINGS

Analytical Interpretation of Results

The findings of this study provide a nuanced and empirically grounded understanding of the institutional and pedagogical viability of integrating Digital Humanities (DH) programmes in Nigerian Open and Distance Learning (ODL) universities. Moving beyond descriptive observations, the integration of inferential statistical analysis enables a deeper interpretation of the relationships among key variables.

The results indicate that institutional readiness for DH integration is moderate but structurally constrained, with 45% of respondents reporting moderate preparedness. However, the correlation analysis ($r = 0.62$, $p < 0.05$) reveals a strong positive relationship between institutional readiness and digital infrastructure, suggesting that readiness is not merely perceptual but materially grounded in infrastructural capacity.

This finding challenges the assumption that ODL institutions are inherently equipped for advanced digital innovation due to their reliance on online learning platforms. Instead, the evidence demonstrates that existing digital systems are primarily designed for content delivery rather than computational and research-intensive DH practices. Consequently, institutional readiness must be reconceptualized as a function of both technological capability and strategic investment.

Furthermore, the regression analysis identifies digital infrastructure as the most significant predictor of pedagogical viability ($\beta = 0.41$, $p < 0.001$). This underscores the central role of infrastructure as a determinant rather than a supportive factor in DH integration. Without adequate technological resources, such as high-speed internet, specialized software, and digital laboratories, pedagogical innovation remains constrained.

Faculty competence, while moderately rated (47.5%), also emerges as a significant predictor ($\beta = 0.35$). However, qualitative findings reveal that this competence is largely operational rather than integrative, indicating that while educators are familiar with digital tools, they lack the expertise to embed them meaningfully into disciplinary teaching. This distinction highlights a critical gap between digital literacy and pedagogical transformation.

Curriculum adaptability, though moderately high, shows the weakest predictive effect ($\beta = 0.29$), suggesting that curriculum flexibility alone is insufficient to drive DH integration. Instead, effective implementation requires a holistic alignment of curriculum, infrastructure, and human capacity.

Integration of Quantitative and Qualitative Findings (Triangulation)

A key strength of this study lies in its mixed-methods design, which enables the triangulation of quantitative and qualitative data. While quantitative findings indicate moderate readiness and competence, qualitative insights reveal underlying constraints that are not immediately evident in numerical data.

For instance, although 60% of respondents perceive their institutions as moderately or highly ready, interview data suggest that this readiness is often aspirational rather than operational, with institutions lacking the necessary infrastructure for full DH implementation. Similarly, the identification of funding as a major challenge (30%) is reinforced by qualitative narratives describing institutional dependence on unstable funding mechanisms.

This triangulation demonstrates that DH integration is a multidimensional phenomenon, where quantitative trends must be interpreted alongside qualitative context to fully capture institutional realities.

Critical Comparison with Existing Literature

The findings of this study both align with and extend existing scholarship.

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Consistent with Adebayo and Oladele (2021), the study confirms that Nigerian universities exhibit partial digital adoption without deep integration. However, while previous studies frame this as a transitional phase, the present findings suggest a more structural explanation rooted in persistent infrastructural inadequacies.

The results also corroborate Oyelekan et al. (2017), who identified ICT deficits as barriers to digital education. This study extends their findings by demonstrating that infrastructure not only limits access but also shapes pedagogical possibilities, thereby influencing the nature of teaching and learning.

Ng's (2012) work on digital literacy is partially supported, but the present study advances the discourse by showing that competence exists at a moderate level yet remains misaligned with disciplinary application, indicating the need for context-specific training in DH methodologies.

In contrast to global DH scholarship (Burdick et al., 2012), which highlights advanced technological integration, the findings reveal a contextual disparity between developed and developing educational systems. This underscores the necessity of localized approaches to DH integration.

Theoretical Implications

Connectivism

The findings partially validate Connectivist theory, as ODL institutions operate within networked learning environments. However, infrastructural deficits reveal that these networks are uneven and fragmented, limiting their effectiveness.

Thus, Connectivism must be reinterpreted as a context-dependent framework, where its applicability is contingent upon technological access and socio-economic conditions.

TPACK Framework

The findings strongly support the relevance of the TPACK model but reveal an incomplete integration of its components. Faculty possess moderate technological knowledge but lack the ability to integrate this knowledge into pedagogy and content.

This suggests that Nigerian ODL institutions operate within a fragmented TPACK model, highlighting the need for targeted professional development focused on discipline-specific digital pedagogy.

Diffusion of Innovation

The study positions Nigerian ODL universities within the early adoption stage of innovation diffusion. However, unlike traditional models, adoption is non-linear and constrained by institutional factors, particularly infrastructure and funding.

This indicates that innovation diffusion in developing contexts is structurally mediated, requiring deliberate institutional intervention.

Alternative Explanations and Critical Reflection

While infrastructure and competence emerged as key determinants, alternative explanations must be considered.

Institutional culture may influence resistance to change, particularly in traditionally structured humanities disciplines. Additionally, the reliance on self-reported data may introduce response bias, potentially inflating perceived competence and readiness.

External factors such as national policy instability and economic constraints also play a significant role, suggesting that DH integration is embedded within a broader political economy of education.

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Synthesis and Scholarly Contribution

This study has demonstrated that DH integration in Nigerian ODL institutions is not merely a technological issue but a multifaceted challenge involving infrastructure, pedagogy, policy, and socio-economic conditions.

It contributes to scholarship by proposing a context-sensitive model of DH integration, where:

i) Infrastructure acts as the foundation

ii) Faculty competence serves as a mediating variable

iii) Curriculum adaptability functions as an enabling condition

Importantly, the study advances global DH discourse by providing empirical evidence from an African context, thereby supporting efforts to decolonize digital scholarship.

Explicit Theory–Data Mapping

The findings are systematically aligned with theoretical frameworks:

i) Connectivism: Valid but infrastructure-dependent

ii) TPACK: Present but fragmented

iii) Diffusion of Innovation: Early-stage and structurally constrained

This integrated perspective enhances the explanatory power of the study.

Contributions to Knowledge

This study has made several key contributions:

1. Provides one of the first empirical analyses of DH integration in African ODL contexts
2. Introduces inferential statistical rigor into DH research
3. Develops a multidimensional model linking infrastructure, pedagogy, and institutional readiness
4. Extends theoretical frameworks within developing educational systems
5. Supports the decolonization of Digital Humanities

CONCLUSION

Summary of Key Findings

This study investigated the institutional and pedagogical viability of integrating Digital Humanities (DH) programmes in Nigerian Open and Distance Learning (ODL) universities, with particular reference to the National Open University of Nigeria.

The findings revealed the following:

1. Institutional Readiness:
   ODL institutions demonstrate a moderate level of readiness, with existing digital platforms providing a foundational structure. However, this readiness is uneven and constrained by infrastructural and policy limitations.

ISSN 2278-2540 | DOI: 10.51583/IJLTEMAS | Volume XV, Issue V, May 2026

2. Digital Infrastructure:
   Infrastructure is fairly available but insufficient for advanced DH applications. Key gaps exist in high-speed internet, specialized software, and digital research laboratories.

3. Faculty Competence:
   Academic staff exhibit moderate digital competence, indicating familiarity with digital tools but limited ability to integrate them into disciplinary pedagogy.

4. Curriculum Adaptability:
   Existing curricula are moderately adaptable, suggesting that DH components can be incorporated through incremental redesign rather than complete overhaul.

5. Challenges to Integration:
   Major barriers include inadequate funding, poor internet connectivity, lack of skilled personnel, policy gaps, and the digital divide among students.

6. Inferential Insight:
   Regression analysis confirms that digital infrastructure is the strongest predictor of pedagogical viability, followed by faculty competence and curriculum adaptability.

Overall Conclusion

This study concludes that the integration of Digital Humanities programmes in Nigerian ODL universities is both viable and strategically necessary, but currently underdeveloped and structurally constrained.

While ODL institutions possess foundational digital systems, these systems are primarily designed for content delivery rather than advanced computational and research-oriented pedagogy. Consequently, the successful integration of DH requires a shift from functional digital use to transformative digital engagement.

The study demonstrates that DH integration is not merely a technological initiative but a systemic institutional process, requiring alignment across infrastructure, pedagogy, policy, and human capacity. The findings further reveal that without adequate infrastructural investment, pedagogical innovation cannot be effectively realized, regardless of curriculum flexibility.

From a theoretical perspective, the study contributes to a more nuanced understanding of digital education by showing that:

i) Connectivist learning environments are limited by infrastructural constraints

ii) TPACK integration remains fragmented in practice

iii) Innovation diffusion is shaped by institutional and economic realities

Ultimately, the study establishes that DH integration in Nigerian ODL universities will remain partial and unsustainable unless supported by coordinated institutional strategies, targeted capacity development, and robust policy frameworks.

Recommendations

Policy Recommendations

1. Government and regulatory bodies should develop national frameworks for Digital Humanities integration in higher education.

2. Increased funding should be allocated to digital infrastructure development in ODL institutions.

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3. Policies should promote public–private partnerships to support technological innovation.
4. National initiatives should address the digital divide, ensuring equitable access to internet and digital tools.

Academic Recommendations

1. Universities should implement continuous professional development programmes focused on DH tools and methodologies.
2. Curriculum developers should adopt a modular integration approach, embedding DH components into existing courses.
3. Institutions should establish Digital Humanities centres for research and training.
4. Interdisciplinary collaboration should be encouraged to enhance DH application across fields.

Practical Recommendations

1. Development of virtual laboratories and digital research platforms
2. Integration of corpus tools, digital archives, and data visualization software
3. Provision of subsidized internet access and devices for students
4. Establishment of international partnerships and exchange programmes

Limitations of the Study

Despite its contributions, this study is subject to several limitations.

Sampling Limitations

The use of purposive sampling at the institutional level may limit representativeness, as selected institutions were more likely to have existing digital systems. This affects the generalizability of findings.

Self-Reported Data Bias

Reliance on questionnaires and interviews introduces potential biases, including:

i) social desirability bias
ii) perceptual bias
iii) overestimation of competence

Methodological Constraints

Although mixed methods were employed, qualitative data primarily played a supportive role, limiting deeper explanatory integration.

Cross-Sectional Design

The study captured a single time frame and did not account for changes over time, limiting its ability to assess long-term DH integration dynamics.

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Contextual Constraints

Findings were specific to the Nigerian ODL context and may not be directly applicable to other regions.

Suggestions for Further Research

Future studies should explore:

1. Comparative studies between ODL and conventional universities
2. Longitudinal research on DH integration over time
3. Experimental studies testing DH tools in classroom settings
4. Student learning outcomes related to DH integration
5. Policy-focused research on digital education frameworks

Final Remarks

This study underscores the transformative potential of Digital Humanities in Nigerian Open and Distance Learning universities while highlighting the critical need for systemic, coordinated, and context-sensitive interventions. With strategic investment and sustained institutional commitment, Nigerian ODL institutions can emerge as leaders in Digital Humanities education within Africa and beyond.

ACKNOWLEDGEMENTS

The authors wish to express profound gratitude to the Management and Authority of the National Open University of Nigeria for the generous financial support (Senate Research Grant) provided toward the successful completion of this research. This support was instrumental in facilitating data collection, analysis, and the overall execution of the study.

The authors also acknowledge the invaluable contributions of academic staff, postgraduate students, and ICT personnel across the selected Open and Distance Learning institutions who willingly participated in this study. Their cooperation, insights, and experiences significantly enriched the quality and depth of the research findings.

Special appreciation is extended to colleagues and mentors whose intellectual guidance and constructive feedback helped shape the direction of this work. Their encouragement and scholarly input were indispensable throughout the research process.

Finally, the authors are deeply grateful to family and friends for their unwavering support, patience, and understanding during the course of this study. Their moral encouragement provided the strength and motivation needed to bring this research to completion.

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