

## **DIGITAL GOVERNANCE AS A CORRELATE OF CURRICULUM MANAGEMENT AND ECONOMIC EMPOWERMENT IN SOUTH-EAST NIGERIAN PUBLIC UNIVERSITIES**

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### **Abstract**

The study investigated digital governance as a correlate of curriculum management and economic empowerment in public universities in South-East Nigeria. Six research questions were answered and six null hypotheses were tested at the 0.05 level of significance. A correlational survey design was adopted for the study. The population comprised 1,847 academic staff and university administrators in public universities in South-East Nigeria. A sample of 370 respondents was selected using Yamane's formula and proportionate sampling technique, while 354 completed copies of the questionnaire were retrieved and found usable, representing 95.7% return rate. Data were collected using a researcher-developed 48-item Digital Governance, Curriculum Management and Economic Empowerment Questionnaire (DGCMEEQ), structured on a four-point rating scale. The instrument was subjected to face and content validation by three experts. The reliability of the instrument was established using Cronbach's alpha, which yielded an overall reliability coefficient of 0.89. Mean and standard deviation were used to answer the research questions, while Pearson Product Moment Correlation was used to test the null hypotheses at the 0.05 level of significance. The decision rule for the research questions was based on a criterion mean of 2.50, while the null hypotheses were rejected when the p-value was less than 0.05 and retained when the p-value was greater than 0.05. The findings showed that digital governance platform adoption was at a moderate level and that significant positive relationships existed between digital governance and curriculum delivery efficiency, stakeholder participation, students' entrepreneurial and employability skill development, and academic staff economic empowerment. The study recommended that public universities should strengthen digital governance through improved digital infrastructure, staff capacity development, and institutional support for effective curriculum management.

**Keywords:** Digital governance, curriculum management, economic empowerment, public universities

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### **Introduction**

The increasing use of digital technologies has transformed the way universities manage academic activities, communicate with stakeholders, process information, and make institutional decisions. In contemporary higher education, digital governance has become important for improving administrative efficiency, accountability, participation, curriculum management, and institutional responsiveness to changing social and economic demands. Digital governance extends beyond the mere provision of computers and internet facilities; it involves the coordinated use of digital systems, policies, information platforms, leadership processes, and human resources to support institutional decision-making and academic management. This development is particularly important as universities are expected to produce graduates with relevant knowledge, digital competencies, entrepreneurial abilities, and employability skills needed for productive participation in a changing economy. Internationally, digital transformation in higher education has expanded from online teaching and learning to institutional administration, information management, quality assurance, curriculum processes, student services, and stakeholder engagement. Ajani (2024) observed that digital transformation is reshaping African higher education through changes in institutional strategies, infrastructure, staff development, student engagement, and educational practices. Similarly, Babalola and Genga (2024) reported that effective digital transformation in African higher education requires adequate infrastructure, supportive policies, effective leadership, institutional planning, funding, and staff capacity. These findings suggest that the benefits of digital technology in universities depend not only on the availability of technological facilities but also on how effectively institutions govern, coordinate, and integrate such technologies into academic and administrative processes.

Digital governance is particularly relevant to curriculum management because curriculum processes require continuous planning, implementation, monitoring, evaluation, review, documentation, and coordination among different stakeholders. Effective digital systems can facilitate access to curriculum information, electronic documentation, communication, feedback, monitoring, and timely decision-making. Wordu (2024) noted that effective curriculum management is essential for maintaining quality in higher education but may be constrained by inadequate facilities, funding challenges, limited digital

integration, and insufficient institutional capacity. The implication is that universities need to move beyond traditional curriculum management practices and employ digital systems that can support continuous curriculum improvement and institutional responsiveness. The connection between curriculum management and economic empowerment is also increasingly important. Universities are expected to prepare graduates not only for academic achievement but also for employment, entrepreneurship, innovation, and productive economic participation. Academic staff equally requires opportunities for research, professional development, consultancy, innovation, collaboration, and other knowledge-based activities. Venkatesh & Bala (2022) emphasised that digital transformation can contribute to the competitiveness and development of African higher education when appropriate institutional conditions are provided. Castells and Cardoso (2022) similarly emphasised the importance of knowledge, digital networks, and technological capacity in the contemporary knowledge economy. This suggests that effective digital governance and curriculum management may provide universities with opportunities to align academic programmes and staff activities with emerging economic and technological demands.

Across Africa, however, digital transformation continues to face considerable challenges. These include inadequate infrastructure, insufficient funding, limited digital competence, weak institutional policies, poor coordination, and difficulties associated with organizational change. Adeyemi and Oluwaseun (2022) noted that African higher education institutions face challenges relating to infrastructure, institutional strategies, faculty development, and student engagement in their efforts to achieve digital transformation. Osei-Bonsu and Amponsah (2022) further stressed that digital transformation requires deliberate institutional leadership, coordinated planning, investment, and supportive policies rather than isolated technology projects. These challenges indicate that digital governance should be understood as an institutional management process involving leadership, policies, infrastructure, human capacity, stakeholder participation, and organisational culture. In Nigeria, the need for effective digital governance and curriculum management has become more significant because universities are expected to produce graduates who can contribute meaningfully to national development and compete in an increasingly technology-driven economy. The National Universities Commission (2022) introduced the Core Curriculum and Minimum Academic Standards (CCMAS) as part of efforts to strengthen the relevance and quality of university programmes. Effective implementation of curriculum standards requires adequate planning, communication, monitoring, evaluation, documentation, and coordination among university stakeholders. Digital governance can support these processes by facilitating information management, communication, institutional record keeping, stakeholder engagement, and timely monitoring of curriculum-related activities.

Evidence from Nigerian tertiary institutions shows increasing use of digital and technology-supported approaches, although significant challenges remain. Adeyemi and Adeyemi (2022) reported that innovative information services in Nigerian polytechnic libraries were not yet being utilised at optimal levels and recommended improved infrastructure and continuous staff training. Nwosu and Agha (2023), in their study of public tertiary institutions in South-East Nigeria, also highlighted the increasing relevance of hybrid and technology-supported approaches to instruction. These studies demonstrate the growing importance of digital technology within the Nigerian tertiary education system. However, much of the existing Nigerian literature has focused on digital learning, information services, or instructional technology rather than digital governance as a broader institutional process connected with curriculum management and economic empowerment. The situation is particularly relevant to public universities in South-East Nigeria, where institutions are expected to provide quality and economically relevant education despite challenges associated with resources, infrastructure, staffing, and institutional capacity. Curriculum management in these universities needs to respond to technological developments, labour-market requirements, entrepreneurship, industry expectations, and community needs (Castells and Cardoso, 2022). Effective stakeholder participation is equally important because curriculum decisions require contributions from academic staff, students, administrators, employers, professional bodies, alumni, government agencies, and other relevant stakeholders. Digital governance can facilitate such participation through electronic consultations, online feedback systems, virtual meetings, digital surveys, and collaborative platforms. However, meaningful participation depends on reliable infrastructure, digital competence, accessibility, and institutional willingness to use stakeholder contributions in decision-making.

The study indicates that research on higher education digital transformation is increasingly moving beyond e-learning towards institutional governance, leadership, infrastructure, digital competence, policy, data management, quality assurance, stakeholder participation, and organisational transformation. Recent studies have established that digital technologies can strengthen higher education processes, while also identifying infrastructure, funding, policy, training, and coordination as important implementation challenges. Nevertheless, a gap remains in the Nigerian context. Existing studies by Chukwuma and

Obiageli (2023) and Dlamini and Nkosi (2023), have examined digital transformation, digital information services, hybrid instruction, technology utilisation, and institutional challenges, but limited empirical attention has been given to digital governance as a correlate of curriculum management and economic empowerment in public universities. In particular, there is insufficient context-specific evidence showing whether variations in digital governance are associated with variations in curriculum management and economic empowerment among public universities in South-East Nigeria. This gap is important because evidence on the association among these variables can assist university administrators and policymakers in making informed decisions on digital investment, curriculum improvement, staff development, stakeholder participation, and economically relevant academic programmes. The way forward requires universities to strengthen digital governance through adequate infrastructure, sustainable funding, clear policies, staff capacity development, reliable information systems, effective stakeholder participation, and continuous assessment of digital initiatives. Curriculum management should also be linked more closely with labour-market needs, technological developments, entrepreneurship, research, innovation, consultancy, and other economically productive activities. Therefore, the study examines digital governance as a correlate of curriculum management and economic empowerment in South-East Nigerian public universities, with the expectation that the findings will provide empirical evidence for strengthening institutional governance, improving curriculum management, and enhancing the economic relevance of university education.

### **Statement of the Problem**

Digital governance has become increasingly important in higher education because universities are expected to use digital technologies to improve administration, curriculum management, stakeholder participation, and graduate preparation for productive economic activities. Ideally, public universities should have functional digital governance systems that support effective curriculum planning, delivery, monitoring, evaluation, and review. Such systems should also enhance communication, decision-making, stakeholder participation, students' entrepreneurial and employability skills, and academic staff professional and economic opportunities. However, the situation in many public universities appears to differ from this ideal. Curriculum management is still challenged by inadequate digital infrastructure, unreliable electricity supply, insufficient funding, limited digital competence, poor coordination, and resistance to technological change. These challenges may hinder effective curriculum planning and review, curriculum delivery, stakeholder participation, and the ability of universities to respond to changing technological and labour-market demands. Consequently, students may have limited opportunities to develop relevant entrepreneurial and employability skills, while academic staff may have fewer opportunities for research collaboration, consultancy, professional development, and other economically productive activities. The problem is particularly relevant to public universities in South-East Nigeria, where institutions are expected to provide quality and economically relevant education despite resource and infrastructural constraints. Although digital technologies are increasingly being introduced into university activities, it remains unclear whether digital governance is adequately integrated into curriculum management and whether such integration is associated with economic empowerment among students and academic staff. Therefore, the problem of the study is the insufficient empirical evidence on the relationship between digital governance, curriculum management, and economic empowerment in public universities in South-East Nigeria. This gap makes it difficult to determine whether stronger digital governance practices are associated with more efficient curriculum management and improved economic empowerment outcomes. The study therefore examined digital governance as a correlate of curriculum management and economic empowerment in public universities in South-East Nigeria.

### **Purpose of the Study**

The general purpose of the study is to examine digital governance as a correlate of curriculum management and economic empowerment in public universities in South-East Nigeria. Specifically, the study seeks to:

1. examine the relationship between digital governance platform adoption and curriculum planning and review efficiency in public universities in South-East Nigeria;
2. determine the relationship between digital governance implementation and curriculum delivery efficiency in public universities in South-East Nigeria;
3. examine the relationship between digital governance and stakeholder participation in curriculum management in public universities in South-East Nigeria;
4. determine the relationship between digitally governed curriculum management and students' entrepreneurial and employability skill development in public universities in South-East Nigeria;
5. examine the relationship between digital governance in curriculum management and academic staff economic empowerment in public universities in South-East Nigeria; and

6. determine the difference in the perceptions of university administrators and academic staff regarding challenges associated with the adoption of digital governance in curriculum management in public universities in South-East Nigeria.

### **Research Questions**

The following research questions guided the study:

1. What is the relationship between digital governance platform adoption and curriculum planning and review efficiency in public universities in South-East Nigeria?
2. What is the relationship between digital governance implementation and curriculum delivery efficiency in public universities in South-East Nigeria?
3. What is the relationship between digital governance and stakeholder participation in curriculum management in public universities in South-East Nigeria?
4. What is the relationship between digitally governed curriculum management and students' entrepreneurial and employability skill development in public universities in South-East Nigeria?
5. What is the relationship between digital governance in curriculum management and academic staff economic empowerment in public universities in South-East Nigeria?
6. What difference exists in the perceptions of university administrators and academic staff regarding challenges associated with the adoption of digital governance in curriculum management in public universities in South-East Nigeria?

### **Hypotheses**

The following null hypotheses were tested at the 0.05 level of significance:

- Ho<sub>1</sub>:** There is no significant relationship between digital governance platform adoption and curriculum planning and review efficiency in public universities in South-East Nigeria.
- Ho<sub>2</sub>:** There is no significant relationship between digital governance implementation and curriculum delivery efficiency in public universities in South-East Nigeria.
- Ho<sub>3</sub>:** There is no significant relationship between digital governance and stakeholder participation in curriculum management in public universities in South-East Nigeria.
- Ho<sub>4</sub>:** There is no significant relationship between digitally governed curriculum management and students' entrepreneurial and employability skill development in public universities in South-East Nigeria.
- Ho<sub>5</sub>:** There is no significant relationship between digital governance in curriculum management and academic staff economic empowerment in public universities in South-East Nigeria.
- Ho<sub>6</sub>:** There is no significant difference in the mean ratings of university administrators and academic staff on challenges associated with the adoption of digital governance in curriculum management in public universities in South-East Nigeria.

### **Methods**

The study adopted a correlational survey design. The design was considered appropriate because the study examined the association between digital governance, curriculum management, and economic empowerment without manipulating the variables. The study was conducted in public universities in South-East Nigeria, comprising Abia, Anambra, Ebonyi, Enugu, and Imo States. The population comprised 1,847 academic staff and university administrators. Using Yamane's formula, a sample size of 370 respondents was determined, and proportionate sampling was used to select respondents across the participating universities and respondent categories. The sample comprised 89 university administrators and 281 academic staff. However, 354 copies of the questionnaire were correctly completed and retrieved, representing a 95.7% usable response rate. The final analysed sample consisted of 89 administrators and 265 academic staff. Data were collected using a researcher-developed instrument titled Digital Governance, Curriculum Management and Economic Empowerment Questionnaire (DGCMEEQ). The items were rated on a four-point scale of Very High Extent (4), High Extent (3), Low Extent (2), and Very Low Extent (1). The items were structured to provide data that directly answered the research questions and supported the testing of the corresponding hypotheses. The DGCMEEQ was subjected to face and content validation by three experts in the Faculty of Education, University of Nigeria, Nsukka. The experts examined the instrument for clarity, relevance, adequacy, appropriateness, and alignment with the research questions and hypotheses. Their observations were used to improve the final instrument. Reliability was established using Cronbach's alpha, which yielded an overall coefficient of 0.89, indicating satisfactory internal consistency. The researchers, assisted by trained research assistants, administered the questionnaires to the sampled respondents. The purpose of the study was explained to the respondents, and adequate time was provided for completion. The completed questionnaires were retrieved, checked, and prepared for analysis. Of the 370 copies administered, 354 were usable, giving a 95.7% response rate. The data were analysed using mean, standard deviation, Pearson Product Moment Correlation coefficient, and

independent-samples t-test. Mean and standard deviation were used to answer the six research questions. Pearson Product Moment Correlation coefficient was used to test Hypotheses 1–6 because they examined the relationships among the specified variables, while the independent-samples t-test was used to test Hypothesis 6 because it examined the difference between the mean ratings of university administrators and academic staff on the challenges of digital governance adoption. The hypotheses were tested at the 0.05 level of significance. The decision rule was to reject the null hypothesis where the calculated p-value was less than 0.05 and retain it where the p-value was greater than or equal to 0.05. For the research questions, a mean of 2.50 and above was accepted as a high extent, while a mean below 2.50 was regarded as a low extent.

## Results

**Table 1: Digital Governance Platform Adoption for Curriculum Planning and Review**

| No. | Item Statement                                                                                       | SA | A   | D   | SD | Mean | Std  | Dec.     |
|-----|------------------------------------------------------------------------------------------------------|----|-----|-----|----|------|------|----------|
| 1   | Our university has a dedicated digital platform for curriculum planning and documentation.           | 98 | 112 | 89  | 55 | 2.74 | 0.98 | Accepted |
| 2   | Curriculum review committees in our university use digital tools for evidence-based deliberation.    | 85 | 105 | 96  | 68 | 2.58 | 0.97 | Accepted |
| 3   | Digital platforms are used to track the implementation status of approved curriculum changes.        | 72 | 94  | 110 | 78 | 2.45 | 0.97 | Rejected |
| 4   | Our university's curriculum repository is accessible digitally to all authorised stakeholders.       | 88 | 103 | 98  | 65 | 2.60 | 0.97 | Accepted |
| 5   | There is a clear institutional policy guiding digital platform use in curriculum management.         | 65 | 89  | 118 | 82 | 2.38 | 0.96 | Rejected |
| 6   | Digital governance platforms are regularly updated to reflect NUC curriculum requirements.           | 76 | 99  | 105 | 74 | 2.50 | 0.97 | Accepted |
| 7   | Academic staff receive structured training on digital platforms used for curriculum governance.      | 58 | 82  | 127 | 87 | 2.30 | 0.96 | Rejected |
| 8   | Overall, digital governance platform adoption for curriculum planning is moderate in our university. | 91 | 110 | 90  | 63 | 2.65 | 0.96 | Accepted |

### Hypothesis Test — $H_{01}$

| Variable Pair                                         | N   | r     | r <sup>2</sup> | p      | Decision          |
|-------------------------------------------------------|-----|-------|----------------|--------|-------------------|
| DG Platform Adoption × Curriculum Planning Efficiency | 354 | 0.612 | 0.375          | < .001 | $H_{01}$ Rejected |

Five of eight items were accepted (cluster mean = 2.53), indicating moderate but uneven adoption. Basic documentation platforms are operational in most institutions; however, implementation tracking (item 3, mean = 2.45), institutional policy (item 5, mean = 2.38), and structured staff training (item 7, mean = 2.30) remain consistently deficient.  $r(352) = 0.612$ ,  $p < .001$ :  $H_{01}$  is rejected. Digital governance platform adoption explains 37.5% of variance in curriculum planning and review efficiency.

**Table 2: Digital Governance Implementation and Curriculum Delivery Efficiency**

| No. | Item Statement                                                                                   | SA  | A   | D   | SD | Mean | Std  | Dec.     |
|-----|--------------------------------------------------------------------------------------------------|-----|-----|-----|----|------|------|----------|
| 1   | Digital governance tools enable timely upload and dissemination of course materials to students. | 105 | 118 | 82  | 49 | 2.79 | 0.95 | Accepted |
| 2   | The use of digital governance platforms reduces delays in course scheduling and timetabling.     | 96  | 113 | 91  | 54 | 2.71 | 0.96 | Accepted |
| 3   | Digital monitoring systems allow real-time tracking of curriculum delivery progress.             | 81  | 102 | 103 | 68 | 2.55 | 0.97 | Accepted |



|   |                                                                                                      |    |     |     |    |      |      |          |
|---|------------------------------------------------------------------------------------------------------|----|-----|-----|----|------|------|----------|
| 4 | Faculty attendance and teaching coverage are better documented through digital systems.              | 88 | 108 | 98  | 60 | 2.64 | 0.96 | Accepted |
| 5 | Digital platforms have improved curriculum delivery responsiveness to student feedback.              | 74 | 98  | 110 | 72 | 2.49 | 0.97 | Rejected |
| 6 | Assessment and grading processes integrated into digital platforms are more efficient.               | 91 | 105 | 97  | 61 | 2.64 | 0.97 | Accepted |
| 7 | Digital governance reduces the administrative burden on faculty, thereby enhancing teaching quality. | 78 | 100 | 107 | 69 | 2.52 | 0.97 | Accepted |
| 8 | Overall, digitally governed institutions demonstrate higher curriculum delivery efficiency.          | 99 | 112 | 89  | 54 | 2.72 | 0.95 | Accepted |

**Hypothesis Test — Ho<sub>2</sub>**

| Variable Pair                                      | N   | r     | r <sup>2</sup> | p      | Decision                 |
|----------------------------------------------------|-----|-------|----------------|--------|--------------------------|
| DG Implementation × Curriculum Delivery Efficiency | 354 | 0.649 | 0.421          | < .001 | Ho <sub>2</sub> Rejected |

Seven of eight items were accepted (cluster mean = 2.63). Timetabling and course material dissemination are strongly affirmed; responsiveness to student feedback (item 5, mean = 2.49) is the sole rejected item, indicating a remaining gap in student-responsive governance.  $r(352) = 0.649$ ,  $r^2 = 0.421$ ,  $p < .001$ : Ho<sub>2</sub> is rejected. Digital governance implementation explains 42.1% of variance in curriculum delivery efficiency, exceeding the 30% practical significance threshold in educational research (Creswell & Creswell, 2023).

**Table 3: Digital Governance Influence on Stakeholder Participation in Curriculum Management**

| No. | Item Statement                                                                                           | SA | A   | D   | SD | Mean | Std  | Dec.     |
|-----|----------------------------------------------------------------------------------------------------------|----|-----|-----|----|------|------|----------|
| 1   | Digital governance platforms facilitate student representation in curriculum review processes.           | 88 | 103 | 97  | 66 | 2.60 | 0.97 | Accepted |
| 2   | Industry and alumni stakeholders are consulted via digital platforms during curriculum review.           | 62 | 84  | 120 | 88 | 2.34 | 0.96 | Rejected |
| 3   | Digital systems enable faculty from different departments to collaboratively review curricula.           | 93 | 110 | 91  | 60 | 2.67 | 0.95 | Accepted |
| 4   | Regulatory bodies such as the NUC can access curriculum documentation via institutional digital portals. | 78 | 97  | 108 | 71 | 2.51 | 0.97 | Accepted |
| 5   | Digital platforms create transparent channels for all stakeholders to contribute to curriculum planning. | 72 | 95  | 112 | 75 | 2.47 | 0.97 | Rejected |
| 6   | Governance systems log and archive stakeholder inputs in curriculum decision-making processes.           | 81 | 101 | 103 | 69 | 2.54 | 0.97 | Accepted |
| 7   | Digital platforms have increased the frequency and quality of stakeholder engagement in curricula.       | 76 | 98  | 108 | 72 | 2.50 | 0.97 | Accepted |
| 8   | Overall, digital governance positively influences stakeholder participation in curriculum management.    | 90 | 107 | 95  | 62 | 2.63 | 0.96 | Accepted |

**Hypothesis Test — Ho<sub>3</sub>**

| Variable Pair                                  | N   | r     | r <sup>2</sup> | p      | Decision                 |
|------------------------------------------------|-----|-------|----------------|--------|--------------------------|
| Digital Governance × Stakeholder Participation | 354 | 0.587 | 0.345          | < .001 | Ho <sub>3</sub> Rejected |

Six of eight items were accepted (cluster mean = 2.53). Internal stakeholders — faculty and regulatory bodies — are well served by current digital arrangements; industry and alumni integration (item 2, mean = 2.34) and transparent multi-stakeholder channels (item 5, mean = 2.47) were rejected, confirming a predominantly inward-looking participatory architecture.  $r(352) = 0.587$ ,  $p < .001$ : Ho<sub>3</sub> is rejected. Digital governance explains 34.5% of variance in stakeholder participation.

**Table 4: Digitally Governed Curriculum Management and Student Entrepreneurial/Employability Skills**

| S/N. | Item Statement                                                                                                | SA | A   | D   | SD | Mean | Std  | Dec.     |
|------|---------------------------------------------------------------------------------------------------------------|----|-----|-----|----|------|------|----------|
| 1    | Curricula managed through digital governance systems incorporate current entrepreneurship modules.            | 96 | 108 | 92  | 58 | 2.69 | 0.96 | Accepted |
| 2    | Digital governance enables faster integration of industry-relevant content into the curriculum.               | 91 | 112 | 89  | 62 | 2.66 | 0.96 | Accepted |
| 3    | Students report improved digital literacy through curricula managed by digital governance systems.            | 85 | 104 | 100 | 65 | 2.59 | 0.97 | Accepted |
| 4    | Digitally governed curricula better prepare students for self-employment and entrepreneurial ventures.        | 79 | 100 | 106 | 69 | 2.53 | 0.97 | Accepted |
| 5    | Industry partnerships facilitated by digital governance have yielded internship and employment opportunities. | 68 | 88  | 118 | 80 | 2.41 | 0.96 | Rejected |
| 6    | Digital governance has improved alignment of curricula with NUC employability benchmarks.                     | 88 | 103 | 97  | 66 | 2.60 | 0.97 | Accepted |
| 7    | Students in digitally governed programmes demonstrate stronger problem-solving and innovation skills.         | 82 | 101 | 103 | 68 | 2.55 | 0.97 | Accepted |
| 8    | Overall, digital governance of curriculum is positively associated with student economic empowerment.         | 93 | 109 | 91  | 61 | 2.66 | 0.95 | Accepted |

**Hypothesis Test — Ho<sub>4</sub>**

| Variable Pair                                           | N   | r     | r <sup>2</sup> | p      | Decision                 |
|---------------------------------------------------------|-----|-------|----------------|--------|--------------------------|
| DG Curriculum Management × Student Economic Empowerment | 354 | 0.634 | 0.402          | < .001 | Ho <sub>4</sub> Rejected |

Seven of eight items were accepted (cluster mean = 2.59). Entrepreneurial curriculum integration, NUC benchmark alignment, and digital literacy formation are strongly affirmed; industry-facilitated internship creation (item 5, mean = 2.41) is the sole rejected item, reflecting the underdeveloped digital-industry ecosystem in the zone.  $r(352) = 0.634$ ,  $r^2 = 0.402$ ,  $p < .001$ : Ho<sub>4</sub> is rejected. Digital curriculum governance explains 40.2% of variance in student entrepreneurial-employability skill development.

**Table 5: Digital Governance for Curriculum Management and Academic Staff Economic Empowerment**

| No. | Item Statement                                                                                              | SA  | A   | D  | SD | Mean | Std  | Dec.     |
|-----|-------------------------------------------------------------------------------------------------------------|-----|-----|----|----|------|------|----------|
| 1   | Digital governance systems reduce administrative workload, freeing staff time for consultancy and research. | 101 | 113 | 86 | 54 | 2.74 | 0.95 | Accepted |

|   |                                                                                                    |    |     |     |    |      |      |          |
|---|----------------------------------------------------------------------------------------------------|----|-----|-----|----|------|------|----------|
| 2 | Digital platforms have enabled academic staff to access professional development resources.        | 88 | 105 | 98  | 63 | 2.62 | 0.97 | Accepted |
| 3 | Digital curriculum governance has increased collaborative research and funded grant opportunities. | 74 | 96  | 109 | 75 | 2.49 | 0.97 | Rejected |
| 4 | Academic staff has leveraged digital curriculum materials for commercially viable publications.    | 79 | 100 | 106 | 69 | 2.53 | 0.97 | Accepted |
| 5 | Digital governance facilitates staff participation in online workshops and paid consultancies.     | 82 | 103 | 103 | 66 | 2.56 | 0.97 | Accepted |
| 6 | Reduced administrative duplication through digital systems has improved staff research output.     | 91 | 107 | 95  | 61 | 2.64 | 0.97 | Accepted |
| 7 | Staff income from digital-mediated professional activities has increased in the last three years.  | 66 | 86  | 122 | 80 | 2.39 | 0.96 | Rejected |
| 8 | Overall, digital governance positively relates to the economic empowerment of academic staff.      | 94 | 110 | 90  | 60 | 2.66 | 0.95 | Accepted |

**Hypothesis Test — Ho<sub>s</sub>**

| Variable Pair                                         | N   | r     | r <sup>2</sup> | p      | Decision                 |
|-------------------------------------------------------|-----|-------|----------------|--------|--------------------------|
| DG Curriculum Management × Academic Staff Empowerment | 354 | 0.601 | 0.361          | < .001 | Ho <sub>s</sub> Rejected |

Six of eight items were accepted (cluster mean = 2.58). Workload reduction and professional development access are the dominant empowerment channels. Items on collaborative research grant opportunities (item 3, mean = 2.49) and direct income increases (item 7, mean = 2.39) were rejected, indicating an early-stage preconditioned empowerment pathway in which structural prerequisites are accumulating but have not yet materialised as direct income gains.  $r(352) = 0.601$ ,  $p < .001$ : Ho<sub>s</sub> is rejected. Digital governance explains 36.1% of variance in academic staff economic empowerment.

**Table 6: Challenges Militating Against Effective Digital Governance Adoption and Test of Ho<sub>s</sub>**

| S/N                       | Item Statement                                                                           | N    | Mean | SD   | Decision |        |                        |
|---------------------------|------------------------------------------------------------------------------------------|------|------|------|----------|--------|------------------------|
| 1                         | Inadequate digital infrastructure (internet and power supply) is a major barrier.        | 354  | 3.03 | 0.94 | Accepted |        |                        |
| 2                         | Resistance to change among academic and administrative staff impedes implementation.     | 354  | 2.92 | 0.96 | Accepted |        |                        |
| 3                         | Insufficient funding for digital governance platforms is a significant obstacle.         | 354  | 2.97 | 0.95 | Accepted |        |                        |
| 4                         | Lack of digital literacy and ICT competence among staff hampers adoption.                | 354  | 2.83 | 0.97 | Accepted |        |                        |
| 5                         | Absence of coherent institutional policy for digital governance is a major challenge.    | 354  | 2.79 | 0.97 | Accepted |        |                        |
| 6                         | Cybersecurity concerns discourage full adoption of digital platforms.                    | 354  | 2.69 | 0.98 | Accepted |        |                        |
| 7                         | Frequent system downtime and unreliable platforms undermine trust in digital governance. | 354  | 2.87 | 0.96 | Accepted |        |                        |
| 8                         | Administrative bureaucracy slows adoption of new digital governance solutions.           | 354  | 2.76 | 0.97 | Accepted |        |                        |
| Cluster Mean              |                                                                                          | 354  | 2.86 | —    | Accepted |        |                        |
| Test of Ho <sub>6</sub>   |                                                                                          |      |      |      |          |        |                        |
| Group                     | N                                                                                        | Mean | SD   | df   | t-cal    | t-crit | Decision               |
| University Administrators | 89                                                                                       | 3.04 | 0.81 | 352  | 3.27     | 1.967  | Reject Ho <sub>6</sub> |
| Academic Staff            | 265                                                                                      | 2.78 | 0.89 |      |          |        |                        |



The results in Table 6 showed that all eight identified challenges were accepted as factors militating against effective digital governance adoption, with a cluster mean of 2.86. Inadequate digital infrastructure, including internet connectivity and power supply, was the highest-rated challenge ( $M = 3.03$ ,  $SD = 0.94$ ), followed by insufficient funding ( $M = 2.97$ ,  $SD = 0.95$ ) and resistance to change among academic and administrative staff ( $M = 2.92$ ,  $SD = 0.96$ ). Other challenges included lack of digital literacy and ICT competence ( $M = 2.83$ ), absence of coherent institutional policy ( $M = 2.79$ ), frequent system downtime ( $M = 2.87$ ), administrative bureaucracy ( $M = 2.76$ ), and cybersecurity concerns ( $M = 2.69$ ). The result of the independent-samples t-test showed that the calculated t-value of 3.27 was greater than the critical t-value of 1.967 at 352 degrees of freedom and the 0.05 level of significance. Therefore, the null hypothesis was rejected. This indicated that a significant difference existed between the mean ratings of university administrators ( $M = 3.04$ ,  $SD = 0.81$ ) and academic staff ( $M = 2.78$ ,  $SD = 0.89$ ) regarding the challenges militating against effective digital governance adoption. University administrators rated the challenges significantly higher than academic staff, suggesting that administrators may have perceived the institutional, financial, infrastructural, and administrative constraints more strongly because of their greater involvement in institutional planning and resource management.

## **Discussion**

The finding that digital governance platform adoption was at a moderate level (cluster mean = 2.53) and had a significant positive relationship with curriculum planning and review efficiency ( $r = 0.612$ ) led to the rejection of  $H_{01}$ . This finding suggests that greater adoption of digital governance platforms was associated with more efficient curriculum planning and review in public universities in South-East Nigeria. The finding agrees with Nwosu and Agha (2023), who identified gaps in digital readiness and curriculum management in South-East Nigerian universities. Similarly, Adeyemi and Oluwaseun (2022) also noted that although digital technology adoption in Nigerian higher education could improve institutional processes, barriers relating to infrastructure, institutional support, and governance could limit effective adoption. The moderate level of adoption found in the present study may therefore reflect the continuing challenges associated with infrastructure, funding, digital competence, and institutional readiness. The finding also supports the Technology Acceptance Model 3, which recognises the importance of facilitating conditions and perceived usefulness in sustained technology adoption (Venkatesh & Bala, 2022).

The finding further showed a significant positive relationship between digital governance implementation and curriculum delivery efficiency ( $r = 0.649$ ), resulting in the rejection of  $H_{02}$ . This finding indicates that universities with stronger digital governance implementation tended to report more efficient curriculum delivery. Digital governance may facilitate timely communication, electronic access to academic information, coordination of teaching activities, monitoring of curriculum implementation, and interaction among academic stakeholders. The finding agrees with Chukwuma and Obiageli (2023), who found that digital administration, was becoming an important component of curriculum governance in South-East Nigerian universities. It is also consistent with Osei-Bonsu and Amponsah (2022), who reported that digital governance could contribute to administrative efficiency in tertiary institutions. The present finding therefore suggests that the effective implementation of digital governance can extend beyond administrative convenience to support the efficient delivery of university curricula.

The study also found a significant positive relationship between digital governance and stakeholder participation in curriculum management ( $r = 0.587$ ), leading to the rejection of  $H_{03}$ . This finding suggests that increased use of digital governance practices was associated with greater stakeholder participation in curriculum-related processes. Digital platforms can facilitate communication, consultation, feedback, information sharing, and collaboration among university administrators, academic staff, students, alumni, employers, and other stakeholders. The finding is consistent with Dlamini and Nkosi (2023), who reported that digital governance frameworks could support curriculum quality and institutional participation in South African universities. Chukwuma and Obiageli (2023) similarly emphasised the relevance of digital administration to curriculum governance in South-East Nigerian universities. However, the finding also suggests that the availability of digital platforms does not automatically guarantee meaningful participation. Universities therefore need to develop institutional mechanisms that encourage stakeholders, particularly employers, alumni, and other external partners, to contribute actively to curriculum planning, review, implementation, and evaluation.

The finding that digitally governed curriculum management had a significant positive relationship with students' entrepreneurial and employability skill development ( $r = 0.634$ ) resulted in the rejection of  $H_{04}$ . This finding indicates that effective digital governance of curriculum processes was associated with improved development of students' entrepreneurial and employability skills. The finding is particularly important because Nigerian universities are expected to prepare graduates for an increasingly competitive

and technology-driven labour market. Dlamini and Nkosi (2023) identified disconnect between university curricula and the requirements of the Nigerian economy, particularly in relation to graduate employability. The present finding suggests that stronger digital governance may provide opportunities for universities to respond more quickly to changes in employment requirements, technological developments, entrepreneurship, and industry expectations. Thus, effective digital governance may help strengthen the connection between university curriculum management and the economic competencies required by graduates.

The study further revealed a significant positive relationship between digital governance in curriculum management and academic staff economic empowerment ( $r = 0.601$ ), leading to the rejection of  $H_0$ . This finding suggests that stronger digital governance practices were associated with greater opportunities for academic staff to experience professional and economic benefits. Digital governance may improve access to research networks, professional development, consultancy opportunities, collaborative activities, academic resources, and other knowledge-based opportunities. This finding adds an important dimension to the literature because discussions of digital transformation in higher education have often concentrated on administrative efficiency, teaching, learning, and student outcomes. Castells and Cardoso (2022), in their discussion of the knowledge economy, emphasised the growing importance of digital networks and knowledge production in contemporary economic activities. The present finding therefore suggests that universities can potentially use digital governance not only to improve institutional processes but also to create an environment that supports the professional and economic development of academic staff. However, the result represents a significant relationship and should not be interpreted as evidence that digital governance alone directly causes economic empowerment.

The study also revealed that a significant difference between the perceptions of university administrators and academic staff regarding the challenges militating against effective digital governance adoption. University administrators recorded a higher mean rating of the challenges ( $M = 3.04$ ,  $SD = 0.81$ ) than academic staff ( $M = 2.78$ ,  $SD = 0.89$ ). Since the calculated  $t$ -value of 3.27 was greater than the critical  $t$ -value of 1.967 at 352 degrees of freedom and the 0.05 level of significance,  $H_0$  was rejected. This finding indicates that university administrators and academic staff did not perceive the challenges to digital governance adoption in the same way. The higher rating among administrators may be associated with their greater involvement in institutional planning, resource allocation, policy implementation, infrastructure provision, and strategic decision-making. The finding agrees with Adeyemi and Oluwaseun (2022), who identified infrastructure, institutional, and governance-related barriers as important considerations in digital technology adoption in Nigerian higher education. The authors also emphasized the importance of institutional governance and reform in addressing challenges facing public universities in South-East Nigeria. The present finding, therefore, suggests that digital governance interventions should not be designed from the perspective of a single stakeholder group. Rather, administrators and academic staff should be involved in identifying challenges and developing practical solutions. The particularly high ratings for inadequate digital infrastructure ( $M = 3.03$ ), insufficient funding ( $M = 2.97$ ), and resistance to change ( $M = 2.92$ ) further indicate that successful digital governance adoption requires attention to infrastructure, sustainable funding, staff capacity development, and effective change-management strategies.

## **Conclusion**

The study concluded that digital governance practices were significantly and positively related to curriculum management and economic empowerment in public universities in South-East Nigeria. Although the adoption of digital governance platforms was found to be moderate, increased adoption was associated with improved curriculum planning and review, more efficient curriculum delivery, greater stakeholder participation, enhanced students' entrepreneurial and employability skill development, and improved economic empowerment of academic staff. The study also concluded that inadequate digital infrastructure, insufficient funding, resistance to change, limited digital literacy and ICT competence, weak institutional policies, cybersecurity concerns, system downtime, and administrative bureaucracy constituted major challenges to effective digital governance adoption. Furthermore, university administrators and academic staff differed significantly in their perceptions of these challenges, indicating the need for inclusive and stakeholder-sensitive strategies in implementing digital governance in public universities.

## **Recommendations**

Based on the findings of the study, the following recommendations were made:

1. The National Universities Commission (NUC) should strengthen the Core Curriculum and Minimum Academic Standards (CCMAS) by incorporating clear digital governance indicators into university

accreditation and quality assurance processes to encourage effective digital management of curriculum-related activities.

2. The Federal and State Governments should provide dedicated and sustainable funding for digital governance in public universities, particularly for the provision and maintenance of reliable internet services, electricity supply, digital platforms, and other ICT infrastructure required for effective curriculum management.
3. University management should conduct regular assessments of digital governance practices and use the findings to improve curriculum planning, delivery, review, stakeholder participation, and institutional accountability.
4. Public universities should establish formal digital platforms through which students, academic staff, alumni, employers, and other relevant stakeholders can participate in curriculum planning, review, implementation, and evaluation.
5. University management should provide regular and role-specific digital literacy and ICT training for academic staff and administrators. Such training should focus on improving digital competence, reducing resistance to technological change, and promoting effective utilisation of digital governance platforms.

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