



Impact of Digitalization on Job Performance of Female Lecturers in Rivers State

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Abstract

This study investigated the impact of digitalization on the job performance of female lecturers in Rivers State-owned universities. Specifically, it examined how instructional delivery digitalization, administrative task delivery digitalization, and research activity digitalization Impacts Job Performance of Female Lecturers. The study was guided by two research questions and two null hypotheses and adopted a descriptive survey design. The population of the study comprised 1,377 female lecturers from Rivers State University (985) and Ignatius Ajuru University of Education (392). Using Taro Yamane's formula, a sample size of 310 female lecturers was determined, with 222 respondents drawn from Rivers State University and 88 from Ignatius Ajuru University of Education through proportionate stratified sampling. Data were collected using a structured questionnaire titled "Impact of Digitalization on Job Performance of Female Lecturers in Rivers State Owned Universities Questionnaire," which was validated by two experts in Educational Technology and Measurement and Evaluation. Reliability was established through the Cronbach's Alpha method, yielding a coefficient of 0.83, indicating high internal consistency. Descriptive statistics (mean and standard deviation) were used to answer the research questions, while z-test statistics were applied to test the hypotheses at a 0.05 significance level. Findings revealed that digitalization in instructional delivery, administrative task management, and research activities significantly influences the job performance of female lecturers. The study recommended that the Rivers State Ministry of Education and university management implement regular digital literacy and pedagogical technology training to strengthen female lecturers' competencies in digital instructional delivery, administrative efficiency, and research productivity.

Keywords: Administrative efficiency, Digitalization, Instructional delivery, Job performance

Introduction

Digitalization refers to the use of digital technologies and data, as well as the interconnection that results in changes to existing technologies. It involves the reduction of costs related to searching, replicating, transporting, tracking, and verification using digital technologies, Lother Walter, Jan Keibel (2022). It is the integrating of sophisticated technological tools like the internet of things (IOT), artificial intelligence, predictive analytics, and cloud computing to overhaul operations at every level.

Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities, e.g. using cloud computing to store and distribute documents, the creation of automated workflows, automation of information collection, its storage and quick and convenient access. It is the adaptation of a system process to be operated with the use of computers and the internet. A central feature of modern societies and a functional tool for achieving sustainable development. Access to digital tools and technologies unlocks opportunities for social interaction. It is also key to the “future of work”, and, more broadly, for the future of development. According to Eze and Aja (2014) the introduction of digital system in the school setting has a great impact in contributing to the achievement of the educational objectives, aims and goals as well as improving teaching and learning. The effective use of digital tools in schools, guarantees more access to information and experience in this era of globalization.

The integration of digital technologies in higher education has transformed teaching, research, and administrative tasks. Rivers State, universities are increasingly adopting digital tools to enhance academic activities. However, female lecturers may face unique challenges in adapting to these technologies due to factors such as limited access, inadequate training, and societal roles. In today’s digital age, technology is increasingly significant in higher institutions. Fauzan, Arifin, Lubis, & Firdaus (2022)., highlighted that lecturer must possess adequate digital literacy skills to effectively utilize technological tools, resources, and platforms to enhance teaching, learning, and research. Citing Fauzan et al. (2022) Complementary studies have indicated the existence of various strategies for acquiring these skills and effectively using tools, resources, and technology platforms to elevate educational practices. Higher education institutions should offer regular professional development opportunities and training sessions to support female lecturers in Rivers State Universities in developing their digital literacy. These opportunities can include workshops, webinars, and courses on various technologies, software, and online platforms relevant to their respective fields of expertise (Minea-Pic, 2020) which will impact lecturer’s job performance.

Lecturers’ job performance could mean the factor that predicts the universities’ goal achievement. Awodiji, Ogbudinkpa and Agharanya (2020) defined lecturers’ job performance as the measure of the effectiveness of lecturers in reference to their roles and responsibilities in their work place. Lecturers’ job performances are work-related activities expected of a lecturer for academic upliftment (Taiwo, 2014). Onoyase (2017) defined lecturers’ job performance using the result dimension, thereby describing it as the extent to which academic staff members

achieve educational outcomes expected of them. Victor and Babatunde (2014) described lecturers' job performance as the degree to which academic staff members complete their teaching responsibilities, which include lecture planning, research, and community service. Furthermore, lecturers' job performance includes delivering lectures to students as scheduled by the timetable, and evaluating the students by giving and marking coursework, setting tests and examinations, invigilating and marking them, and submitting their results/marks for final assessment, grading and accrediting (Igbojekwe, Ugo-Okoro & Agbonye, 2015). Measuring lecturers' job performance can be carried out in several forms, but the three factors mostly used are Instructional delivery (teaching), Administrative task delivery (community service) and research activity.

Instructional delivery involves facilitating, articulating and engineering the minds and attitudes of learners for socioeconomic development and national building. The implication is that teaching has ever been struggling through a transitional period so replete with cross-currents and uncertainties of which instructional techniques and methods must be adopted to yield better results among students during conventional class and practical class instruction. At present time, survival of university education in Nigeria depends on effective delivery of instruction. This premise is more evident today because the public is demanding accountability of lecturers' instructional delivery (Okoye, 2022). The quest for improvement in instructional delivery had necessitated the application of quality system management standards in the education sector. Instructional delivery is one of the most critical tasks facing every nation's educational institution, so that the societal demands for improved education service delivery would achieve the best learning outcomes that enhance the quality of life of the citizenry (Weli & Ollor, 2021). It is a well-known fact that the major role of a teacher is instructional delivery (Ayodele & Ayiti, 2018). Instructional delivery embraces all human interactive skills employed by the teacher to promote and facilitate learning in the classroom situation thereby leading to improved performance on the part of the learner. It is a process in which teachers apply catalog of instructional strategies to communicate and interact with the learners around academic instructional, and to support student engagement for better learning outcome (Onwuagboke, Singh & Fook, 2015).

This involves rendering services both to the varsity and to the community at large. Such services include heading a department, faculty, committee, external supervisor, advisor of student societies, members of other recognized committees at departmental, faculty and university levels, example; sports, graduation, convocation (Agbionu, Anyalor & Nwali, 2019).

Digitalization in education has become a global trend, with developed countries leading in the adoption of electronic and web-based administrative systems (Li & Sun, 2021). For Nigerian tertiary institutions, where administrative inefficiencies seem prevalent, the integration of digital systems is crucial for modernizing service delivery and meeting the expectations of students, staff, and other stakeholders in the education sector. The term digitalization portrays the change impact and consequences of information and communication technology in the areas of economic, political, cultural and social on the society and its systems (Ovuru 2022). The impact of digitalization is widely seen in various administrative processes such as student admissions, records management, financial services, and communication, making it an essential component of administrative reform (Agwu, 2022).

Research exclusively addresses questions for which answers are not readily available in existing literature or human knowledge. Therefore, research is concerned with questions that can only be resolved using the resources at hand, Kumar, (2019). Research role involves completing investigations on identified problem(s), presentation of findings of such investigations in conferences/seminars and publishing the findings in journals and/or textbooks. Russell-Simmons et al., 2016 in Al-Maadeed et al., 2021 states that Digital transformation fits into this scenario by favoring scientific research in terms of research quality and productivity with reference to scientific projects and products. Existing literature focuses on project rather than product management, by highlighting the importance of equipping universities with resources, especially in terms of internal infrastructure or external digital services to assist their researchers. Research activity digitalization refers to applying digital technologies, tools, systems, and processes to transform how research is done - changing the methods, workflows, and interactions involved in conducting research, rather than simply converting analog data into digital form. Citing Brocke and Lippe, 2015; Choudhury and Uddin, 2018, some universities are internally creating departments or providing training courses/workshops or externally developing partnerships to offer their scholars a wide range of editorial, educational and publishing services. Past studies in project management have focused on the development of co-authorships across (multi/interdisciplinary) academics.

Research transformation is carried out through remote collaboration, digital tools for analysis, online publication and review, virtual labs, use of big data, etc., using digital software for literature review (Mendeley, Zotero), for data collection (Qualtrics, Google Forms), manuscript preparation (LaTeX, online tools), submission and peer review platforms. Digitization offers significant opportunities to transform teaching and learning, but it also requires careful

consideration of the potential challenges and the need for continuous development in digital literacy. Rivers State Universities' Lecturers need to be aware of both the benefits and drawbacks of digital technologies and adapt their teaching practices accordingly to foster positive and effective relationships with their students.

Statement of the Problem

Despite growing investments in educational technologies across Nigerian universities, many faculty members, particularly female lecturers, continue to face barriers that undermine the potential benefits of digitalization for job performance. The rapid shift to online and blended modes of instruction during and after the COVID-19 pandemic revealed gaps in digital infrastructure, uneven access to e-resources, and varying levels of digital literacy among academic staff (Post COVID-19 and Digitalization of University Lecturers in Nigeria, 2021). These disparities can negatively affect lecturers' ability to design and deliver effective instruction, supervise research, engage in scholarly communication, and perform administrative duties efficiently. For female lecturers, who often shoulder additional domestic and caregiving responsibilities, limited digital access and inadequate institutional support may exacerbate workload pressures and reduce opportunities for research productivity and professional advancement (Wordu, Okwu, & Gius, 2021). Moreover, empirical evidence from the South-South region of Nigeria suggests a positive relationship between digital competence and job effectiveness, yet it also highlights persistent constraints such as unreliable power supply, poor internet connectivity, and insufficient tailored training programs (Opara, 2023). These systemic challenges mean that digitalization, while holding promise for improving teaching quality, research output, and administrative efficiency, does not automatically translate into improved job performance for female lecturers unless accompanied by targeted policies and capacity building. In Rivers State universities, the absence of current, gender-disaggregated data on digital access and the specific ways digital tools are used by female faculty further limits the ability of university managers and policymakers to design interventions that address the unique needs of women academics (Nwonkwo, Uchenwonkwo, Sam-Kalagbor, & Igoni, 2024).

Therefore, there is a clear and pressing need for an empirical investigation into how digitalization affects the job performance of female lecturers in Rivers State owned universities. Such a study will identify which aspects of digitalization (e.g., instructional platforms, research databases, e-administration systems, and professional development in ICT) facilitate or hinder teaching effectiveness, research productivity, and service delivery among female academics. Therefore, the study was carried out to find out; What is the Impact of Digitalization on Job

Performance of Female Lecturers in Rivers State Owned Universities and to proffer solutions to the stated problems.

Purpose of the Study

The purpose of the study is to investigate the impact of digitalization on job performance of female lecturers in Rivers State Owned Universities. Specifically, the study sought to:

1. Investigate the extent to which digitalization of instructional delivery influence job performance of female lecturers in Rivers State Owned Universities.
2. Examine the extent to which digitalization of administrative task delivery influence job performance of female lecturers in Rivers State Owned Universities.
3. Find out the extent to which extent does digitalization of research activity influence job performance of female lecturers in Rivers State Owned Universities.

Research Questions

The following research questions guided the study:

1. To what extent does digitalization of instructional delivery influence job performance of female lecturers in Rivers State Owned Universities?
2. To what extent does digitalization of administrative task delivery influence job performance of female lecturers in Rivers State Owned Universities?
3. To what extent does digitalization of research activity influence job performance of female lecturers in Rivers State Owned Universities?

Hypotheses

The following null hypotheses was used for the study and tested at 0.05 level of significance.

1. There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which digitalization of instructional delivery influence job performance of female lecturers in Rivers State Owned Universities.
2. There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which digitalization of administrative task delivery influence job performance of female lecturers in Rivers State Owned Universities.
3. There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which digitalization of research activity influence job performance of female lecturers in Rivers State Owned Universities.

Methodology

This study adopted a descriptive survey design. The population comprised 1,377 female lecturers from Rivers State University (985), and Ignatius Ajuru University of Education (392). Using Taro Yamane's formula, a sample size of the study was 310 female lecturers. Using Proportionate stratified sampling technique, 222 female lecturers were drawn from Rivers State University, and 88 from Ignatius Ajuru University of Education. Data were collected using a questionnaire titled "Impact of Digitalization on Job Performance of Female Lecturers in Rivers State Owned Universities Questionnaire". The questionnaire consisted of two sections namely section A and B. Section A of the questionnaire was used to generate demographic information while section B consisted of questionnaire items addressing the research questions of the study. This section of the questionnaire was structured using a five point summated rating response scale of: Very High Extent (VHE) = 5 points, High Extent (HE) = 4 points, Moderate Extent (ME) = 3Points, Low Extent (LE) = 2 points, Very Low Extent (VLE) = 1 point. The instrument was subjected to face and content validity by two experts, in Educational Technology and Measurement and Evaluation, Rivers State University. The reliability of the instrument was established using Cronbach Alpha method to establish the overall reliability index of 0.83. Mean and standard deviation statistics were used to answer the research questions, while z-test statistics was used to test the null hypotheses at 0.05 level of significance. The null hypothesis was rejected and the alternate hypotheses accepted when the computed value was greater than the critical value at the significance level of 0.05. On the contrary, the null hypothesis was also accepted and the alternate hypotheses rejected when the computed value is less than the critical table value.

Results

Research Question 1: To what extent does digitalization of instructional delivery influence job performance of female lecturers in Rivers State Owned Universities?

Table 1: Mean Ratings of Respondents on the Extent digitalization of Instructional Delivery Influence Job Performance of Female Lecturers in Rivers State Owned Universities

RSU	IAUE
Female	Female
Lecturers	Lecturers
N= 222	N= 88

S/N	Items Statement	$\bar{X}_1$	Std1	$\bar{X}_2$	Std2	Average mean	Std	RMK
1.	Digital instructional tools such as Learning Management Systems (LMS), virtual classrooms, and presentation software enable female lecturers to prepare, organize, and deliver lessons more efficiently	3.65	0.89	3.69	0.87	3.67	0.88	HE
2.	Digitalization provides access to vast online educational resources, journals, and multimedia materials that improve lesson quality and enrich course content.	4.19	1.33	4.20	1.29	4.19	1.31	VHE
3.	Digital delivery systems such as asynchronous online learning and recorded lectures allow female lecturers to manage their teaching duties alongside personal and family responsibilities.	3.00	0.68	3.02	0.67	3.01	0.68	HE
4.	Digital tools such as interactive quizzes, virtual simulations, and discussion forums help female lecturers engage students more actively during lessons.	3.07	0.78	3.09	0.78	3.08	0.79	HE
5.	Through digital assessment platforms, female lecturers can conduct online tests, grade automatically, and provide prompt feedback	3.00	0.75	3.03	0.74	3.02	0.75	HE
	Aggregate Mean/SD for female lecturers in RSU and IAUE	3.38	0.89	3.41	0.87	3.39	0.88	HE

Source: Field Survey, 2025.

Table 1 in response to research question 1 which states, to what extent does instructional delivery digitalization influence job performance of female lecturers in Rivers State Owned Universities, had the following opinion scores for both female lecturers. Mean scores of female lecturers in Rivers State University to questionnaire items 1, 2, 3, 4 and 5 were 3.65, 4.19, 3.00, 3.07 and 3.00 with standard deviations of 0.89, 1.33, 0.68, 0.78 and 0.75 while the mean scores of the female lecturers in Ignatius Ajuru University were 3.69, 4.20, 3.02, 3.09 and 3.03 with standard deviation of 0.87, 1.29, 0.67, 0.78 and 0.74. Furthermore, the mean set representing the average mean scores for both female lecturers were 3.67, 4.19, 3.01, 3.08 and 3.02; with standard deviation of 0.88, 1.31, 0.68, 0.79 and 0.75 respectively. The readings which were higher than the criterion mean of 3.00 indicated that instructional delivery digitalization

influence job performance of female lecturers in Rivers State Owned Universities to a high extent.

Research Question 2: To what extent does digitalization of administrative task delivery influence job performance of female lecturers in Rivers State Owned Universities?

Table 2: Mean Ratings of Respondents on the Extent digitalization of Administrative Task Delivery Influence Job Performance of Female Lecturers in Rivers State Owned Universities

S/N	Items Statement	RSU Female Lecturers N= 222		IAUE Female Lecturers N= 88		Average mean	Std	RMK
		$\bar{X}_1$	Std1	$\bar{X}_2$	Std2			
6.	Digital administrative platforms such as official emails, intranet portals, and workflow management systems enable faster and more organized communication between female lecturers and departmental heads.	3.70	0.88	3.75	0.84	3.73	0.86	HE
7.	Digitalization allows female lecturers to store, retrieve, and update academic and administrative records electronically.	4.35	1.16	4.41	1.11	4.38	1.14	VHE
8.	Digital administrative tools such as scheduling software, electronic calendars, and automated reminders help female lecturers plan meetings, submit reports, and meet deadlines more effectively	3.68	1.61	3.74	1.48	3.71	1.54	HE
9.	Digitalized administrative systems provide real-time access to institutional data, allowing female lecturers to make informed decisions regarding student progress, departmental activities, and research supervision.	3.57	0.93	3.63	0.90	3.60	0.92	HE
10.		3.72	0.85	3.77	0.82	3.75	0.83	HE

Digital administrative systems ensure that all actions and records are traceable, thereby reducing errors, favouritism, and administrative bottlenecks.

Aggregate Mean/SD for female lecturers in RSU and IAUE

3.80 1.17 3.86 1.03 4.56 1.06 VHE

Source: Field Survey, 2025.

Table 2 in response to research question 2 which states, to what extent does administrative task delivery digitalization influence job performance of female lecturers in Rivers State Owned Universities, had the following opinion scores for both female lecturers. Mean scores of female lecturers in Rivers State University to questionnaire items 6, 7, 8, 9 and 10 were 3.70, 4.35, 3.68, 3.57 and 3.72 with standard deviations of 0.88, 1.16, 1.61, 0.93 and 0.85 while the mean scores of the female lecturers in Ignatius Ajuru University were 3.75, 4.41, 3.74, 3.63 and 3.77 with standard deviation of 0.84, 1.11, 1.48, 0.90 and 0.82. Furthermore, the mean set representing the average mean scores for both female lecturers were 3.73, 4.38, 3.71, 3.60 and 3.75; with standard deviation of 0.86, 1.14, 1.54, 0.92 and 0.83 respectively. The readings which were higher than the criterion mean of 3.00 indicated administrative task delivery digitalization influence job performance of female lecturers in Rivers State Owned Universities to a high extent.

Research Question 3: To what extent does digitalization of research activity influence job performance of female lecturers in Rivers State Owned Universities?

Table 3: Mean Ratings of Respondents on the Extent to which digitalization of Research Activity Influence Job Performance of Female Lecturers in Rivers State Owned Universities

RSU IAUE

Female Female

Lecturers Lecturers

N= 222 N= 88

S/N	Items Statement	$\bar{X}_1$	Std1	$\bar{X}_2$	Std2	Average mean	Std	RMK
11.	Digitalization provides female lecturers with instant access to	3.75	0.87	3.69	0.87	3.72	0.87	HE

	global research databases, digital libraries, and academic journals.							
12.	Digital research tools such as online survey platforms (e.g., Google Forms, SurveyMonkey) and data analysis software (e.g., SPSS, NVivo) simplify data gathering and processing.	4.33	1.40	4.20	1.29	4.27	1.35	VHE
13.	Research digitalization fosters online collaboration through virtual research communities, cloud-based document sharing (e.g., Google Drive, ResearchGate), and video conferencing.	3.00	0.68	3.02	0.67	3.01	0.68	HE
14.	Digital publishing platforms, open-access journals, and institutional repositories allow female lecturers to share their research outputs widely.	3.07	0.78	3.09	0.78	3.08	0.79	HE
15.	Digitalization reduces the need for physical travel and printing costs by allowing online submissions, digital peer reviews, and electronic archiving.	3.45	0.89	3.03	0.74	3.24	0.82	HE
		3.52	0.92	3.41	0.87	3.46	0.90	HE
	Aggregate Mean/SD for female lecturers in RSU and IAUE							

Source: Field Survey, 2025.

Table 3 in response to research question 1 which states, to what extent does research activity digitalization influence job performance of female lecturers in Rivers State Owned Universities, had the following opinion scores for both female lecturers. Mean scores of female lecturers in Rivers State University to questionnaire items 1, 2, 3, 4 and 5 were 3.75, 4.33, 3.00, 3.07 and 3.45 with standard deviations of 0.87, 1.40, 0.68, 0.78 and 0.89 while the mean scores of the female lecturers in Ignatius Ajuru University were 3.69, 4.20, 3.02, 3.09 and 3.03 with standard deviation of 0.87, 1.29, 0.67, 0.78 and 0.74. Furthermore, the mean set representing the average mean scores for both female lecturers were 3.72, 4.27, 3.01, 3.08 and 3.24; with standard deviation of 0.87, 1.35, 0.68, 0.79 and 0.82 respectively. The readings which were higher than the criterion mean of 3.00 indicated that research activity digitalization influence job performance of female lecturers in Rivers State Owned Universities to a high extent.

Hypotheses Testing

Hypotheses 1

There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which digitalization of instructional delivery influence job performance of female lecturers in Rivers State Owned Universities.

Table 4: Z-test Analysis on the Extent to which Digitalization of Instructional Delivery Digitalization Influence Job Performance of Female Lecturers in Rivers State Owned Universities.

Respondents	N	$\bar{x}$	Std	DF	z-cal	z-crit	LS	Decision
RSU Female Lecturers	222	3.38	0.89	305	-0.27	± 1.96	0.05	Accepted
IAUE Female Lecturers	88	3.41	0.87					

Source: Field Survey, 2025.

The result on Table 4 above shows Z-test Analysis on the extent instructional delivery digitalization influence job performance of female lecturers in Rivers State Owned Universities. The computed z-value of -0.27, which is less than the critical value of ± 1.96 at a 0.05 level of significance, indicates that there is no statistically significant difference between the mean ratings of female lecturers from Rivers State University and Ignatius Ajuru University of Education regarding the extent instructional delivery digitalization influences their job performance. This implies that both groups of female lecturers experience similar levels of influence of digitalization on their instructional delivery, suggesting that digital teaching innovations and technology-driven pedagogical tools have been evenly integrated and utilized across the two state-owned universities to enhance teaching efficiency, student engagement, and overall academic performance.

There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which to what administrative task delivery digitalization influence job performance of female lecturers in Rivers State Owned Universities.

Hypotheses 2

There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which digitalization of

administrative task delivery influence job performance of female lecturers in Rivers State Owned Universities.

Table 5: Z-test Analysis on the Extent Administrative Task Delivery Digitalization Influence Job Performance of Female Lecturers in Rivers State Owned Universities.

Respondents	N	$\bar{x}$	Std	DF	z-cal	z-crit	LS	Decision
RSU Female Lecturers	222	3.80	1.17	305	-0.44	± 1.96	0.05	Accepted
IAUE Female Lecturers	88	3.86	1.03					

Source: Field Survey, 2025

Table 5 above shows Z-test Analysis on the extent administrative task delivery digitalization influence job performance of female lecturers in Rivers State Owned Universities. The calculated z-value of -0.44, which falls within the acceptance region of ± 1.96 at the 0.05 level of significance, indicates that there is no significant difference between the mean ratings of female lecturers from Rivers State University and Ignatius Ajuru University of Education regarding the extent to which administrative task delivery digitalization influences their job performance. This suggests that both groups of lecturers benefit similarly from digitalized administrative systems, such as online record management, digital communication tools, electronic scheduling, and e-documentation, which enhance their efficiency, reduce bureaucratic delays, and improve overall job performance across Rivers State-owned universities.

Hypotheses 3

There is no significant difference between the mean responses of female lecturers in Rivers State University and Ignatius Ajuru University on the extent to which research activity digitalization influence job performance of female lecturers in Rivers State Owned Universities.

Table 6: Z-test Analysis on the Extent Research Activity Digitalization Influence Job Performance of Female Lecturers in Rivers State Owned Universities.

Respondents	N	$\bar{x}$	Std	DF	z-cal	z-crit	LS	Decision
RSU Female Lecturers	222	3.52	0.92	305	0.99	± 1.96	0.05	Accepted
IAUE Female Lecturers	88	3.41	0.87					

Source: Field Survey, 2025.

The result on Table 6 above shows Z-test Analysis on the extent research activity digitalization influence job performance of female lecturers in Rivers State Owned Universities. The computed z-value of 0.99, which is less than the critical value of ± 1.96 at a 0.05 significance level, shows that there is no statistically significant difference between the mean ratings of female lecturers from Rivers State University and Ignatius Ajuru University of Education regarding the extent to which research activity digitalization influences their job performance. This indicates that both groups of lecturers equally benefit from digitalized research tools such as online databases, virtual collaboration platforms, plagiarism detection systems, and electronic journal access. Such digital research infrastructures enhance efficiency, encourage innovation, and improve research productivity among female lecturers across Rivers State owned universities.

Impacts Job Performance of Female Lecturers reflect similar state-led educational policies, institutional ICT infrastructure, and professional training programs that empower female lecturers to use technology effectively in lesson preparation, content delivery, and student assessment. This aligns with recent empirical evidence by Eze et al. (2024) and Ogunyemi and Chukwu (2023), who observed that digital teaching tools enhance lecturers' instructional efficiency and promote learner engagement across Nigerian universities. Thus, the finding underscores the importance of continuous investment in digital capacity building, institutional support, and gender-responsive technological empowerment to sustain equitable access and optimize female lecturers' job performance in the digital academic environment.

The finding that there is no statistically significant difference between Rivers State University and Ignatius Ajuru University of Education in the extent to which administrative task delivery digitalization influences female lecturers' job performance implies that digital administrative systems have been uniformly implemented and utilized across both state-owned universities. This uniformity suggests that female lecturers in both institutions equally benefit from the use of electronic communication platforms, automated record management systems, and digital scheduling tools that facilitate the timely execution of administrative responsibilities and enhance institutional efficiency. The widespread adoption of digital administration practices may reflect the effectiveness of state-level ICT policies and university management initiatives aimed at promoting transparency, accountability, and reduced workload among academic staff. This finding supports the position of Okoro and James (2023), who observed that digitalized administrative processes significantly enhance job performance and coordination in Nigerian

universities by minimizing paperwork and improving data accessibility. Similarly, Ojo and Adeniyi (2023) emphasized that the use of digital management systems empowers female lecturers by streamlining communication and documentation processes, enabling them to focus more effectively on core teaching and research duties. Therefore, the result underscores the growing importance of digital administrative innovation as a driver of institutional efficiency and female academic productivity in Rivers State's higher education system.

The result showing no statistically significant difference in the extent instructional delivery digitalization influences the job performance of female lecturers in Rivers State-owned universities suggests that both Rivers State University and Ignatius Ajuru University of Education have reached comparable levels of technological adoption in their teaching practices. This implies that the digital transformation of instructional processes, such as the use of virtual learning platforms, interactive presentation software, online evaluation systems, and multimedia teaching aids, has been uniformly implemented across the two universities. The finding further indicates that institutional efforts to enhance pedagogical delivery through digital literacy programs and ICT infrastructure have effectively supported female lecturers in improving lesson delivery, student interaction, and classroom engagement. Similar studies by Ojo and Adeniyi (2023) and Eze et al. (2024) have established that digital instructional delivery tools contribute significantly to teaching effectiveness, irrespective of institutional differences, when there is consistent policy support and adequate access to digital facilities. Therefore, the observed uniformity reflects a commendable level of equity in digital resource distribution and skill development, positioning female lecturers in both universities to perform effectively in the emerging technology-driven higher education landscape.

Conclusion

Digital transformation has become a vital component in shaping academic efficiency and productivity. Findings from the analyses on instructional delivery, administrative task delivery, and research activity digitalization reveal that both Rivers State University and Ignatius Ajuru University of Education have attained relatively similar levels of digital integration, resulting in improved access to teaching aids, efficient communication systems, and enhanced research collaboration. The results indicate that digitalization has helped female lecturers overcome traditional barriers to effective instructional delivery by promoting interactive pedagogy, flexible learning environments, and efficient knowledge dissemination. Moreover, the adoption of digital administrative platforms has streamlined routine academic processes, reducing time spent on paperwork and improving information flow between lecturers and institutional

management. Collectively, these developments signify that digitalization fosters an inclusive academic environment where female lecturers can perform their roles with greater confidence, speed, and accuracy.

Recommendations

The following recommendations were made:

1. The Rivers State Ministry of Education and university management should regularly organize digital literacy and pedagogical technology training for female lecturers to enhance their competence in virtual instructional delivery. This will enable lecturers to effectively utilize learning management systems, online assessment platforms, and interactive multimedia tools to improve teaching quality, student participation, and knowledge retention in line with global educational trends.
2. University authorities should further invest in robust administrative digital infrastructure such as electronic document management systems, automated communication platforms, and digital scheduling tools. These systems will minimize administrative bottlenecks, promote efficiency in decision-making, and reduce the administrative burden on female lecturers, allowing them to focus more on teaching and research productivity.
3. The government and university research centers should improve access to digital research tools, online databases, and virtual collaboration platforms to support female lecturers' scholarly engagement. Providing institutional subscriptions to reputable journals, facilitating research data sharing, and offering digital grant-writing workshops will encourage innovation, strengthen academic output, and enhance the overall job performance of female lecturers in Rivers State-owned universities.

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