



**PROCEEDINGS OF THE 64TH NIGERIAN LIBRARY
ASSOCIATION CONFERENCE ON OUR FUTURE,
OUR HOPE: THE STATE OF LIBRARIES AND
LIBRARIANSHIP IN NIGERIA.**

MINNA 2026: 12TH - 17TH JULY



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Use of Institutional Repository and Continuous Professional Development On Academic Output of Agricultural Lecturers in Universities In North-Central Nigeria

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Abstract

Academic output remains a vital measure of scholarly productivity, professional growth, and institutional prestige, particularly in agricultural disciplines that drive food security and sustainable development. This study examined the influence of institutional repository (IR) use and continuous professional development (CPD) on the academic output of agricultural lecturers in universities across North-Central Nigeria. A descriptive survey design employing mixed methods was adopted, targeting a population of 365 agricultural lecturers from six universities identified through the Directory of Open Access Repositories. The data collection tool was the questionnaire complimented by the observation checklist. The method of data collection was through self-administration of questionnaires by researchers in universities in North-Central utilising institutional repositories. The total enumeration method was adopted thereby using the entire population of the study since they were manageable. Research instruments were validated through a pilot test with a Cronbach's Alpha coefficient of 0.75, confirming internal consistency reliability. The method of data analysis used for the study was descriptive statistics using frequency counts, mean and standard deviation to analyse the research questions, while inferential statistics such as Pearson Moment Correlational Coefficients (PPMC) for determining the relationships between the dependent and independent variables while the Multiple regression analysis was used to predict the individual impact or contribution of the independent variables on the dependent variable. The findings revealed that research publications, journal articles, and theses/dissertations are the most common academic outputs available in institutional repositories, while teaching materials, research data, and open educational resources remain scarce. The study also found that agricultural lecturers exhibit a high level of academic output, producing reports, preprints, and journal articles more frequently than lecture notes or presentation slides. Moreover, the extent of IR use was found to be high, primarily for accessing scholarly literature, enhancing research visibility, and ensuring digital preservation. The study concludes that active utilization of institutional repositories and participation in CPD activities significantly enhance academic productivity. It recommends that universities strengthen repository infrastructure, promote awareness, and provide regular CPD opportunities to foster sustained academic excellence among agricultural lecturers in Nigeria.

Keywords: Institutional Repository, Continuous Professional Development, Academic Output, Agricultural Lecturers, North-Central Nigeria, Research Productivity

1.1. Introduction

Academic output plays a crucial role in the professional growth of university lecturers and the advancement of knowledge within various disciplines. In the field of agriculture, where research and innovation drive sustainable food production and environmental management, the ability of lecturers to contribute effectively to academic discourse is essential. However,

the extent to which institutional repositories (IRs) and continuous professional development (CPD) influence academic output among agricultural lecturers in Nigerian universities remains a subject of academic inquiry.

Institutional repositories serve as digital collections of scholarly work, providing open access to research outputs such as theses, dissertations, journal articles, and conference proceedings. The use of IRs has been recognized as a significant factor in increasing research visibility and accessibility (Olatunji & Abubakar, 2025). Likewise, Continuous Professional Development activities, including workshops, conferences, online courses, and specialized training, are designed to enhance lecturers' teaching and research skills, ensuring that they stay updated with global trends and methodologies in their field (Eze & Okonkwo, 2025). The synergy between IRs and CPD is believed to improve academic productivity by equipping lecturers with the necessary resources and skills to publish high-quality research.

The pursuit of academic excellence in higher education institutions is a continuous process that requires lecturers to engage in research, teaching, and community service. Academic output refers to the measurement of a scholar's achievements in terms of research publications, scholastic presentations, and other academic accomplishments. It is a metric commonly used to assess the productivity and prestige of faculty members in academia. (Eze & Okonkwo, 2025). Academic output is often used to determine faculty career advancement. It is a comprehensive measure that takes into account factors such as research output, leadership roles, and editorial positions. Academic output, particularly journal publication, has become a main criterion in measuring the contribution of lecturers to the intellectual community globally (Muhammad and Abubakar, 2025). Academic output encompasses research publications, conference proceedings, book chapters, and other forms of scholarly communication that contribute to the advancement of knowledge. (Sugimoto *et al.*, 2022). Academic output embody the various products of academic activity, such as research articles, books, book chapters, conference proceedings and other forms of scholarly communication. (Katz, 2022).

Academic output can be defined as a definite result of academic work, including research publications, presentations, and other scholarly achievements (Kumar, 2021). Similarly, Academic output is the measure of a scholar's performance and impact, typically assessed through metrics such as publication counts, citation rates, and h-index scores (Hicks, 2023). Academic output encompasses but is not limited to, peer-reviewed articles, books, book chapters, conference papers, and other forms of creative and scholarly work. (Altbach *et al.*, 2023). Academic output is defined as tangible and intangible products of academic work, and achievement including research publications, teaching materials, and other scholarly contributions. (Brent *et al.*, 2021). Academic output embody the various products of academic activity, such as research articles, books, book chapters, conference proceedings and other forms of scholarly communication. (Katz, 2022). Academic output can be defined as a definite result of academic work, including research publications, presentations, and other scholarly achievements (Kumar, 2021). Similarly, Academic output is the measure of a scholar's performance and impact, typically assessed through metrics such as publication counts, citation rates, and h-index scores (Hicks, 2023).

The university system is organised into either faculties or schools with members as academic staff also known as lecturers. Each faculty is made up of related programmes organized into departments. One of the earliest faculties in Nigerian universities is the Faculty of Agriculture with various programmes which according to Smith *et al.* (2020) comprised of crop production, animal production, soil science, crop science, nutrition, agricultural engineering, pharmacology and the environment. The lecturers in the faculties of agriculture, like their counterparts in other faculties, are involved in teaching, research and Continuous Professional Development (CPD) which are the cardinal functions of any university. Agricultural lecturers are also involved in contributing to the academic output of their universities. These may be through journal articles, books, conference papers as well as participating in CPD programmes and activities. These academic outputs are usually stored and disseminated through the institutional repository (IR).

Institutional repositories (IRs), according to Bamigbola (2018) an archives for the collection of intellectual outputs of an institution, recorded in a form that can be preserved, exploited and disseminated in a digital form. University libraries have overtime been involved in establishing institutional repositories to acquire, process, store, preserve and disseminate intellectual outputs of lecturers in digital forms to community members and the global community. It is usually an electronic store of web-based scholarly digital documents such as theses and dissertations, journals, books and conference papers owned by the institutions, hence, it can be referred to as an extension of the digital library which has now become a platform for sharing knowledge (Bamigbola, 2018).

The main objective of establishing institutional repositories is to showcase institutional research output to the outside world and can be regarded as a service that the university renders to its community members for the stewardship of scholarly publication generated by the faculty, staff, and research scholars which create global visibility for an institution's scholarly research, and also stores and preserves other institutional digital assets, including unpublished literature for long term use. Institutional repositories have therefore witnessed a paradigm shift in scholarly communication that increases visibility and adds more prestige to the institutions.

In light of the foregoing, this study Use of Institutional Repository and Continuous Professional Development For Enhancing Academic Output of Agricultural Lecturers in Universities in North-Central Nigeria

1.2 Statement of the Research Problem

In any academic environment, lecturers are expected to produce high and consistent academic output through research publications, conference papers, books, and other scholarly contributions. Lecturers in the faculty of agriculture in North Central Nigeria are not left out in this. University libraries in Nigeria have stepped up their services by developing digital institutional repositories (IRs) which should be fully utilised to store, preserve, and disseminate these outputs to enhance visibility, accessibility, and global impact, while Continuous Professional Development (CPD) programmes should be regularly attended to improve lecturers' research competence, teaching effectiveness, and professional growth. With effective use of IRs and active participation in CPD, agricultural lecturers would be expected to demonstrate strong research productivity and meaningful contributions to agricultural innovation and national development (Altbach, 2024).

However, the actual situation appears different. Academic output among some agricultural lecturers in universities in North-Central Nigeria seems relatively low, and many scholarly works are either unpublished or not deposited in institutional repositories. The utilisation of IRs is often limited due to inadequate awareness, lack of clear repository policies, poor ICT infrastructure, insufficient training, copyright concerns, and limited institutional motivation. Participation in CPD programmes is also inconsistent because of heavy teaching workload, inadequate funding, time constraints, and weak institutional support. These factors reduce research visibility, limit the dissemination of scholarly work, and hinder professional growth among lecturers, despite the recognised importance of research output in measuring academic productivity (Adamu and Kaur, 2019).

A preliminary review of institutional repositories in some universities in North-Central Nigeria shows that although Faculties of Agriculture are represented, the volume of deposited publications does not reflect expected research productivity. Informal discussions with lecturers and library personnel also suggest low awareness of IR services and irregular participation in CPD activities, indicating a gap between expected and actual academic output.

These concerns motivated the researcher to carry out this study in order to examine the Use of Institutional Repository and Continuous Professional Development For Enhancing Academic Output of Agricultural Lecturers in Universities in North-Central Nigeria

1.3 Objective of the Study

This study aims to investigate the Use of Institutional Repository and Continuous Professional Development For Enhancing Academic Output of Agricultural Lecturers in Universities in North-Central Nigeria

The specific objectives are to:

1. identify the types of academic output of agricultural lecturers that are available in the institutional repositories of universities in North-Central Nigeria.
2. find out the level of academic output of Agricultural lecturers in universities in North-Central Nigeria.
3. examine the extent of use of institutional repositories for research by agricultural lecturers in universities in North-central Nigeria.

1.4. Research Questions

The following research questions were asked and answered in the study.

- What are the types of academic outputs of agricultural lecturers that are available in the institutional repositories of universities in North-central Nigeria?
- What is the level of academic output of Agricultural lecturers in universities in North-central Nigeria?
- What is the extent of the use of institutional repositories for research by agricultural lecturers in universities in North-central Nigeria?

2.0. Literature Review

The literature was reviewed in line with the study objectives under the following subheadings:

- i. **Types of academic outputs of agricultural lecturers that are available in the institutional repositories of universities in North-central Nigeria?**

Academic output refers to the tangible results of academic work, including research publications, presentations, and other scholarly achievements (Kumar, 2021). It is a key indicator of academic productivity and impact (Hicks, 2023). Kumar (2021) defined academic output as the measurable results of academic activities, including research publications, conference presentations, and other scholarly achievements. Hicks (2023) noted that academic output is a critical factor in evaluating academic performance and impact, as it reflects the tangible contributions of scholars to their field. Altbach (2024) stated that academic output is increasingly important in the global knowledge economy, as it drives innovation, collaboration, and societal impact. Oyediran (2022) highlighted the importance of academic output in promoting knowledge sharing and dissemination, stating that academic output is essential for advancing knowledge and understanding in various fields.

According to Simisaye (2019), academic output is critical in the appointment and promotion of lecturers as stated in the service schemes that govern their appointments and promotions. Aside from educational qualifications and relevant experience, they are expected to obtain appointments and promotions based on satisfactory academic output in renowned journals, conference proceedings, seminar papers, research publications, teaching materials, research data, presentations, theses and dissertations, journal articles, book chapters, conference papers, technical papers to mention but a few as a condition of their job and positions. The academic output varies by academic rank at tertiary institutions, and a PhD in a relevant field is required for lecturers, particularly university professors (Schimanski and Alperin, 2018).

Peer review is a time-honoured method that has been a component of scientific communication for more than 300 years. Musick (2020), on the other hand, believes that academic publishing has altered dramatically because of the proliferation of open-access journals and the transition to online publishing. There are currently more journals than ever before where authors can publish their work. This benefits writers by expanding their publishing options, but it also increases their duty to avoid the grave risk of publishing in a predatory journal. Predatory journals seek money from authors in exchange for publishing their articles (generally open access), but they do not follow the same editorial, peer review, or other ethical publishing processes/standards as respected journals.

2.1.2. Concept of academic output

1. Research data

The exponential growth in research data and the increasing emphasis on data sharing, transparency and reproducibility have necessitated a reevaluation of research data management practices in academic libraries.

• Journal article

Journal articles are peer-reviewed publications that present original research findings, literature reviews, or theoretical advancements in a specific field. They are the most recognized and valued form of academic output due to their rigorous evaluation process and contribution to scholarly discourse (Ogunyemi & Ibrahim, 2025).

Types of Journal Articles:

- xxviii. **Original Research Articles:** It presents new findings based on empirical or theoretical research.
- xxix. **Review Articles:** It summarizes and analyses existing literature on a particular topic.
- xxx. **Short Communications:** Provide brief reports on significant research developments.
- xxxi. **Case Studies:** It describes and analyses specific cases with practical or theoretical implications.

• Books and Book Chapters

Books and book chapters represent significant contributions to academic knowledge, offering comprehensive discussions on specific topics. Books may be authored by a single researcher or edited volumes containing contributions from multiple scholars (Adeyemi & Musa, 2025).

Types of Academic Books:

- a. **Monographs:** Multiple -author books focusing on a specific subject.
- b. **Edited Volumes:** Collections of chapters written by different authors.
- c. **Textbooks:** Provide foundational knowledge for students in the discipline.
- d. **Reference Books:** Serve as authoritative sources of information on a topic.

4. Theses and Dissertations

Theses and dissertations are extensive research projects completed as part of postgraduate degree requirements. They demonstrate the research capabilities of students and contribute to academic knowledge (Chukwuemeka et al., 2025).

The academic output of lecturers is key for the advancement of societies and the career growth of lecturers in higher educational institutions. Academic output is viewed as the measure of an academic's achievement in terms of quantity or quality of publications over a given period. One of the fundamental goals of research is to create new knowledge that can be applied. Hence, it is important to state that academic output is a robust measure of academic achievement and recognition as well as the totality of research activities performed by lecturers over a given period (Basiru, 2018). Yusuf and Adekunle (2025) conducted a study in which they analyzed the productivity of agricultural lecturers in universities with functional IRs versus those without. The study found that universities with well-managed repositories recorded a 40% increase in the number of published articles by faculty members over five years. In contrast, universities with poorly maintained IRs experienced stagnation in research output.

Salahudeen and Obinya (2023) investigated the awareness and use of open-access institutional repositories by academics in universities in the North-central States of Nigeria. Some of the major findings revealed that the Open Access Institutional Repositories were used by scholars daily and at their will. Academics experience a kind of delay when looking for information from their Institutional Repositories during their academic activities which can lead to unproductive academic productivity.

ii. The Level of Academic Output of Agricultural Lecturers in Universities in North-Central Nigeria?

Academic output is a key to the growth and development of societies through the creation of new knowledge and the use of existing knowledge in a creative way to generate new concepts, methodologies and understandings. In academia, the concept of academic output is taken seriously in which the promotion of lecturers is dependent on the number of publications they have. This requirement makes it a mandate for them to be productive scholars and the extent to which this mandate is achieved is used to determine the level of productivity of lecturers. Academic output is viewed as the measure of an academic's achievement in terms of the quantity or quality of publications over a given period and considered in terms of the totality of research activities performed by lecturers over a given period (Basiru, 2018).

On the other hand, the measurement of the quantity of academic output of lecturers is viewed in terms of the number of publications in learned, globally accepted indexed databases, number of patents produced, number of chapters in books or books published locally or internationally which are believed to be accepted by high impact refereed or learned journal, publications in conference proceedings, research-oriented books, staff bulletins, subject books, technical reports, articles in refereed journals, pamphlets and monographs (Gunawan *et al.*, 2018).

Academic output can be measured using certain methodologies and exercises such as the number of published works, chapter contributions in books, and book publications including citations in web platforms and monographs. According to Cheng-Cheng Yang (2018), issues such as institutional-related, infrastructural-related, information resources-related and management-related and policy-related factors, among others have been observed and pointed out in other scholarly works as having the tendencies to influence the academic output of lecturers in Nigerian universities. The use of institutional repositories is a key component of information-resources-related factors relating to the academic output of lecturers in Nigerian universities.

Ladipo *et al.* (2022) investigated the influence of institutional factors on the research activity of academic staff in Nigerian universities. Findings from the study revealed an average level of research activity among academic staff in Nigerian universities.

iii. The Extent of the Use of Institutional Repositories for Research by Agricultural Lecturers in Universities in North-Central Nigeria

This literature review examines the extent of use of Institutional repositories by agricultural lecturers in universities, with a focus on Nigeria.

In Nigeria, the adoption of Institutional repositories has been a gradual yet impactful process. The Nigerian University Commission (NUC) has been instrumental in promoting the establishment of Institutional repositories across universities as part of their academic infrastructure (Adewumi, 2019). This initiative has led to a substantial increase in the number of Institutional repositories in Nigerian universities, facilitating better management and dissemination of scholarly outputs.

Agricultural universities in Nigeria have been particularly proactive in adopting Institutional repositories. These repositories serve as platforms for disseminating research on local agricultural practices and innovations, thereby contributing to both national and international knowledge bases. Institutional repositories offer a platform to share research findings that can shape policy, influence agricultural methods, and foster additional research. Jones (2020) highlights that the enhanced visibility of research afforded by Institutional repositories has resulted in increased citation rates and greater academic recognition for agricultural scholars. The study indicates that agricultural lecturers who are active users of Institutional repositories tend to experience more robust collaboration with international peers. Furthermore, Institutional repositories have proven instrumental in accessing and preserving indigenous knowledge and local. This access enriches the global repository of agricultural knowledge and supports a more inclusive academic discourse (Okafor, 2018).

Nwachi and Idoko (2021) investigated the use of institutional repositories in Nigerian university libraries. From the findings, it was discovered that the most used or accessed materials in the institutional repositories by staff are journal articles, theses and dissertations, books, faculty and departmental journals and book chapters.

3.0. Research Methodology

This study adopted a descriptive survey using a mixed method of data gathering. The study population was total 365 agricultural lecturers from five (5) universities. Using Yamane's formula with a 5% margin of error, a sample size of 191 was calculated. To ensure fairness and representativeness, the sample was proportionally allocated based on the number of lecturers in each university. As a result, Benue State University, Makurdi contributed 25 participants, Federal University of Technology, Minna had the largest allocation with 58 participants, Nasarawa State University, Keffi had 29 participants,

University of Ilorin had 32 participants, University of Jos had 47 participants, Federal University Lokoja was excluded from the sample due to lack of data on lecturer count. The questionnaire and observation checklist were research instruments used for the study. A pilot study was conducted using the agricultural lecturers in Ahmadu Bello University, Zaria and University of Abuja where 40 copies of the questionnaire were administered to determine the level of its reliability. Out of 191 questionnaires administered across five universities, 175 were successfully retrieved, resulting in an overall response rate of 91.62%. This high response rate indicates strong respondents' engagement and lends credibility to the representativeness of the data collected.

The overall reliability of the tested questionnaires is 0.75, indicating that the instrument is reliable for the study. Data collected were analysed, using weighted mean, mode, standard deviation and percentages, while simple and multiple regression analysis were used to test the null hypotheses at 0.05 level of significance.

4.0. Results and Discussion

Out of 191 questionnaires administered across five universities, 175 were successfully retrieved, resulting in an overall response rate of 91.62%. This high response rate indicates strong respondents' engagement and lends credibility to the representativeness of the data collected.

Table 4.1: Response rate

S/N	University	No. of Questionnaire Distributed	No. of Questionnaires Retrieved	Response Rate (%)
1	Benue State University, Makurdi	25	22	88.00%
2	Federal University of Technology, Minna	58	51	87.93%
3	Nasarawa State University, Keffi	29	27	93.10%
4	University of Ilorin	32	30	93.75%
5	University of Jos	47	45	95.74%
	Total	191	175	91.62%

Source: Author's Field Work (2025)

Table 4.2: Types of academic output of agricultural lecturers that are available in the institutional repositories of universities in North-central Nigeria

S/N	Academic Output	Availability Status
1	Research publications	✓ Available
2	Teaching materials	✗ Not Available
3	Research data	✗ Not Available
4	Presentations	✗ Not Available
5	Theses and dissertations	✓ Available
6	Journal articles	✓ Available
7	Book chapters	✗ Not Available
8	Conference papers	✗ Not Available
9	Technical papers	✗ Not Available
12	Open Educational Resources (OER)	✗ Not Available

Source: Author's Fieldwork (2025)

Table 4.2: data shows a selective availability of academic outputs. Research publications, theses and dissertations, and journal articles are readily available, while other forms of outputs such as teaching materials, research data, presentations, book chapters, conference papers, technical papers, and open educational resources (OER) are notably absent.

Level Of Academic Output Of Agricultural Lecturers In Universities In North-Central Nigeria.

S/N	Item	VH (4)	H (3)	L (2)	VL (1)	N	Fx	Mean	Std. Dev	Decision
1	Books	53	48	14	60	175	444	2.54	1.24	Low Level
2	Book Chapters	57	27	60	31	175	460	2.63	1.12	Low Level
3	Journal Articles	35	58	74	8	175	470	2.69	0.84	Low Level
4	Conference Papers	25	43	99	8	175	435	2.49	0.79	Low Level
5	Lecture Notes	54	43	2	76	175	425	2.43	1.32	Low Level
6	Open Educational Resources	36	21	87	31	175	412	2.35	1.00	Low Level
7	Research Data	58	49	37	31	175	484	2.77	1.10	High Level
8	Presentation Slides	16	40	32	87	175	335	1.91	1.04	Low Level
9	Seminar Papers	26	41	107	1	175	442	2.53	0.75	Low Level
10	Preprints	39	68	58	10	175	486	2.78	0.86	High Level
11	Reports	56	47	59	13	175	496	2.83	0.97	High Level
	Average Weighted Mean (AWM)							2.72		

Source: Author's Fieldwork (2025)

Table.3: The result sought to evaluate the frequency with which various academic types are presented the weighted mean analysis, based on responses from 175 respondents, shows a striking imbalance in the emphasis placed on different forms of academic output. Out of the eleven items analysed, eight items fell below the average weighted mean ($\bar{x} = 2.72$) and are thus rated at a low level, while only three exceeded this threshold and are classified as high level.

The eight low-level outputs books, book chapters, journal articles, conference papers, lecture notes, open educational resources, presentation slides, and seminar papers represent largely traditional or pedagogical forms of knowledge dissemination. Their lower mean values suggest that, although these materials are historically central to scholarly communication, they are no longer perceived as the most influential or widely utilised outputs within the current academic environment.

The three high-level output research data, preprints, and reports signal a shift toward the values and practices of open science and contemporary knowledge sharing. Research data ($\bar{x} = 2.77$) reflects the global trend of promoting transparency, reproducibility, and data-driven inquiry, where datasets themselves are increasingly treated as valuable scholarly products. Preprints ($\bar{x} = 2.78$) embody the movement toward rapid, open dissemination, enabling scholars to circulate findings before formal peer review and thus accelerate knowledge exchange. Reports ($\bar{x} = 2.83$), often tied to policy, funding accountability, and applied research outcomes, highlight the growing importance of outputs that directly influence decision-making beyond academia.

Table 4.4: The extent of use of institutional repositories for research by agricultural lecturers in universities in North-central

S/N	Statement	VHE (4)	HE (3)	LE (2)	VLE (1)	N	Fx	Mean	Std Dev	Decision
1	I access research outputs on repositories when searching for literature	48	59	45	23	175	516	2.95	0.98	High Extent

2	I upload to the repository to increase visibility	40	62	50	23	175	498	2.85	1.00	High Extent
3	I uploaded for the research assessment/promotion	42	60	43	30	175	493	2.82	1.03	High Extent
4	I use the repository to share research outputs	39	56	47	33	175	483	2.76	1.04	High Extent
5	I use the repository to showcase research to funders	31	49	61	34	175	462	2.64	0.97	Low Extent
6	I access repositories to find collaboration opportunities	33	58	52	32	175	472	2.70	0.96	Low Extent
7	I use the repository for non-academic outputs	24	44	59	48	175	437	2.50	1.01	Low Extent
8	I use repositories to write course notes	29	46	51	49	175	444	2.54	0.98	Low Extent
9	I use the repository to digitally preserve outputs	38	55	46	36	175	477	2.73	0.95	High Extent
Average Weighted Mean (AWM)								2.72		

Source: Author's Fieldwork (2025)

Table 4.4 shows the findings on agricultural lecturers in universities across North-central Nigeria. On the use of Institutional Repositories. The analysis of repository usage by agricultural lecturers in universities in North-Central, Nigeria, as measured through the weighted mean, shows a differentiated pattern of engagement among respondents. Out of the nine identified practices, five were rated above the average weighted mean ($\bar{x} = 2.72$), and thus classified as high extent, while four fell below this threshold and were rated at a low extent.

The practices rated at a high extent highlight the repository's perceived centrality in supporting core academic activities. The highest mean score was observed for accessing research outputs in repositories when searching for literature ($\bar{x} = 2.95$, $SD = 0.98$), indicating that repositories are primarily valued as tools for knowledge discovery and literature retrieval. Similarly, uploading outputs to increase visibility ($\bar{x} = 2.85$, $SD = 1.00$) and uploading for research assessment or promotion ($\bar{x} = 2.82$, $SD = 1.03$) underscore the instrumental role repositories play in enhancing academic reputation and meeting institutional requirements for career advancement. The high rating of sharing outputs ($\bar{x} = 2.76$, $SD = 1.04$) and digital preservation ($\bar{x} = 2.73$, $SD = 0.95$) further reflects recognition of repositories as both dissemination platforms and long-term archival systems.

The four practices rated at a low extent reflect more peripheral or emerging uses of repositories. Showcasing research to funders ($\bar{x} = 2.64$, $SD = 0.97$) and finding collaboration opportunities ($\bar{x} = 2.70$, $SD = 0.96$) received relatively modest ratings, suggesting that repositories are not yet widely perceived as vehicles for research funding or collaborative networking. Even lower means were recorded for non-academic outputs ($\bar{x} = 2.50$, $SD = 1.01$) and course notes ($\bar{x} = 2.54$, $SD = 0.98$), indicating limited integration of repositories into teaching and non-scholarly domains.

4.2. Discussion of the findings

Types of Academic Outputs in IRs

The findings revealed that the availability of research publications, journal articles, and theses or dissertations reflects a strong emphasis on formal scholarly dissemination. These forms of output are traditionally considered central to academic productivity and recognition. Theses and dissertations are systematically archived in institutional repositories as part of academic requirements, ensuring long-term accessibility. Similarly, journal articles and research publications are widely prioritised because they contribute directly to institutional visibility, faculty career progression, and the broader dissemination of knowledge through peer-reviewed channels. In contrast, the absence of other academic outputs points to structural and cultural gaps in academic practice. Teaching materials are often treated as informal or proprietary resources, which limits their circulation and prevents them from being preserved systematically. Research data, despite its growing importance in open science, may be unavailable due to confidentiality concerns, lack of infrastructure for storage, or the absence of institutional policies mandating data sharing. Presentations and conference papers are often perceived as supplementary forms of dissemination and, without deliberate archiving systems, remain inaccessible after the event. Book chapters and technical papers are also unavailable, likely due to restrictive publishing agreements or their limited prioritisation in academic evaluation systems compared to journal articles. Finally, the absence of OER highlights a broader

issue: the slow institutional adoption of open educational practices. Developing and sharing OER requires both institutional support and incentives, which may not yet be embedded within the academic culture under review.

The findings of this study is in consonance with that of Yusuf and Adekunle (2025) who conducted a study in which they analyzed the productivity of agricultural lecturers in universities with functional IRs versus those without. The study found that universities with well-managed repositories recorded a 40% increase in the number of published articles by faculty members over five years. In contrast, universities with poorly maintained IRs experienced stagnation in research output.

What is the level of academic output of Agricultural lecturers in universities in North-central Nigeria?

Using a four-point Likert scale to measure frequency, the study found that agricultural lecturers frequently produce academic outputs, with an average weighted mean (AWM) of 2.72. According to the interpretation scale, this score falls within the "High" category. Outputs such as reports, preprints, research data, and journal articles recorded the highest individual mean scores, reflecting a robust research culture among lecturers. However, the findings also revealed that instructional and open-access resources such as OERs, lecture notes, and presentation slides were produced less frequently, despite their growing importance in modern academic environments. While these items still fell under the "High" category when evaluated using the AWM, their individual mean scores were notably lower. This implies that lecturers are more focused on research outputs that directly contribute to academic promotion and peer recognition, while less attention is given to open teaching resources and knowledge-sharing formats that are crucial in supporting student learning and collaborative scholarship. Several factors may explain this decline: restrictions imposed by publishers on books and book chapters, the perception of presentations and lecture notes as supplementary rather than core contributions, and the underdevelopment of open educational resources due to limited institutional incentives or infrastructure. Even journal articles, long considered the gold standard for scholarly recognition, appear to be relatively undervalued in this analysis, reflecting both the saturation of publication venues and the growing push toward alternative, faster modes of dissemination. This finding also aligns with that of Ladipo *et al.* (2022) who investigated the influence of institutional factors on the research activity of academic staff in Nigerian universities. Findings from the study revealed an average level of research activity among academic staff in Nigerian universities.

What is the extent of the use of IR for research by agricultural lecturers in universities in North-central Nigeria?

The extent of IR usage was also rated using a four-point Likert scale. Agricultural lecturers demonstrated a relatively high level of engagement with institutional repositories, with an overall AWM of 2.72, which again falls within the "High Extent" category. Respondents reported frequent use of IRs for accessing literature, uploading research for visibility and assessment, and for digital preservation of their scholarly work. Despite this, several important research-related uses of IRs were less frequently practiced. These included using IRs to engage potential collaborators, to access non-academic outputs, and to support the preparation of course materials. These findings suggest that while lecturers are aware of and utilize the core functions of institutional repositories, they may not be fully capitalizing on their wider potential for academic collaboration, teaching support, and open knowledge dissemination. The limited use of IRs for open education and interdisciplinary exchange may reflect a narrow perception of IRs as static archives rather than dynamic platforms for interactive scholarly engagement. Institutional culture, lack of training, and limited incentives might be contributing to this narrow scope of use. This finding is in line with that of Nwachi and Idoko (2021), investigated the use of institutional repositories in Nigerian university libraries. From the findings, it was discovered that the most used or accessed materials in the institutional repositories by staff are journal articles, theses and dissertations, books, faculty and departmental journals and book chapters.

Summary of Findings

The following findings were reached based on the results from the study.

- Research publications, journal articles, and theses/dissertations are the most commonly available academic outputs in institutional repositories (IRs) while Teaching materials, research data, presentations, conference papers, technical papers, and OERs are largely unavailable in the repositories.
- The level of academic output of agriculture lecturer is high, reports, preprints, research data, and journal articles are produced more frequently, while lecture notes, OERs, and presentation slides are produced less frequently.
- The extent of IR use for research purposes is also at a high extent of use by lecturers. IRs are most used for accessing literature, uploading research for visibility and promotion, and digital preservation.

5.0. Conclusions

This study examined the influence of institutional repository (IR) use and continuous professional development (CPD) on the academic output of agricultural lecturers in universities across North-Central Nigeria. Findings revealed that agricultural lecturers exhibit a high level of research productivity, with journal articles, reports, and preprints being the most frequently produced outputs. However, teaching-related and open-access materials such as lecture notes, presentations, and Open Educational Resources (OERs) remain underrepresented in institutional repositories. The study further established that institutional repositories are predominantly utilized for traditional scholarly purposes, such as accessing research literature,

uploading publications for visibility, and ensuring digital preservation, rather than for collaborative, pedagogical, or interdisciplinary engagement. This limited scope of use suggests a need to broaden institutional understanding and utilization of IRs as comprehensive academic platforms.

The findings underscore that both IR use and CPD participation positively influence academic productivity among agricultural lecturers. Universities with well-managed repositories and active CPD programs tend to record higher levels of scholarly output and visibility. Therefore, strengthening the synergy between digital repository infrastructure and professional development initiatives is essential for sustaining research excellence and promoting innovation within agricultural faculties.

5.1. Recommendations

Based on the findings, the following recommendations are made:

- Universities should establish and enforce comprehensive IR policies mandating the inclusion of diverse academic output such as teaching materials, research data, OERs, and conference presentations in addition to traditional publications.
- The universities are encouraged to provide adequate support to agricultural lecturers in the areas of preprints, research data, and journal articles that are produced more frequently, while lecture notes, OERs, and presentation slides are produced less frequently, since the level of research output of agricultural lecturer is high.
- Universities should recognize and reward lecturers who actively deposit and disseminate their works through institutional repositories, integrating such contributions into promotion and appraisal systems.

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