Journal of Agricultural Extension
Vol. 28 (3) July 2024
ISSN(e): 24086851; ISSN(Print): 1119944X
Website: https://www.journal.aesonnigeria.org; https://www.ajol.info/index.php/jae
Email: editorinchief@aesonnigeria.org; agricultural.extension.nigeria@gmail.com

Online Resource Usage by Agricultural Science Lecturers in Nasarawa State, Nigeria

https://dx.doi.org/10.4314/jae.v28i3.9

Issa, Fadlullah Olayiwola
Corresponding author
Department of Agricultural Extension and Economics, National Agricultural Extension and Research Liaison Services (NAERLS)
Ahmadu Bello University, Zaria, Nigeria.
Email: issafola@gmail.com
Phone no: +234 803 333 9312
https://orcid.org/0000-0003-4121-4737

Omisope, Emmanuel Tomiwa
Department of Agricultural Extension and Economics, National Agricultural Extension and Research Liaison Services (NAERLS)
Ahmadu Bello University, Zaria, Nigeria.
Email: tomiwaemmanuelomisope@yahoo.com
Phone no: +234 806 318 9756
https://orcid.org/0009-0000-5892-2508

Mani, Jamila Rabe
Department of Agricultural Extension and Economics, National Agricultural Extension and Research Liaison Services (NAERLS)
Ahmadu Bello University, Zaria, Nigeria.
Email: jrmani2001@yahoo.com
Phone no: +234 803 596 8359
https://orcid.org/0000-0002-9790-609X

Adesina, Mofoluso Adewunmi
Department of Livestock and Fisheries, University of National Agricultural Extension and Research Liaison Services (NAERLS)
Ahmadu Bello University, Zaria, Nigeria.
Email: dewunmi.daewoo@gmail.com
Phone no: +234 806 735 9596
https://orcid.org/0009-0003-9780-923X

Umar, Badamasi
Department of Vocational and Technical Education, Ahmadu Bello University, Zaria, Nigeria.
Email: umarbadamasi1052@gmail.com
Phone no: +234 806 064 3181

Submitted: 27th May, 2024
First Request for Revision: 2nd July, 2024
Revisions: 10th July, 2024
Accepted: 13 July 2024
Published: 19 July 2024
Cite as: Issa, F.O., Omisope, E.T., Mani, J.R., Adesina, M.A., Umar, B. (2024). Online resource usage by agricultural science lecturers in Nasarawa State, Nigeria. *Journal of Agricultural Extension, 28*(3) 79-87
Keywords: Online agricultural resources, agricultural science lecturers, online resource usage.
Conflict of interest: The authors hereby declare that there is no conflict of interest
Acknowledgements: The authors wish to appreciate the assistance of the enumerators used for the data collection.
Funding: This research received no specific grant from public, commercial, or not-for-profit funding agencies.
Authors' contributions:
IFO: Conception/design, development of data collection instrument, interpretation of data, revised manuscript (40%)
OET: Interpretation of data and first draft (20%)
MJR: Data analysis, and editing (15%)
AMA: Revision of manuscript (15%)
UB: Design, data collection, and first draft (10%)

Abstract
The study assessed the use of online resources by agricultural science lecturers in Nasarawa State, Nigeria. Sixty-six lecturers were randomly sampled from two universities, and one college of agriculture. A structured questionnaire was adopted to elicit relevant data for the study. Frequency counts, percentages, mean scores, standard deviations, regression analysis, and analysis of variance (ANOVA) were used for data analysis. The main types of

online resources used included electronic journals, search engines, and video/picture files, with a grand mean of 2.0 (SD=0.76). Online resources that were perceived to be useful to lecturers included search engines, electronic journals, and encyclopaedias, with a grand mean of 2.15 (SD=0.90). Socio-institutional factors that significantly influenced the use of online resources were age (t=-8.560) and education (t=1.790). Major constraints in the use of online resources by the lecturers included the high cost of access to online resources ($\bar{x}$=3.36), non-subscription for relevant online resources by institutions ($\bar{x}$=3.34), and connectivity problems ($\bar{x}$=3.33). This study concludes that the use of online resources is determined by the age and level of education of the lecturers. Tertiary institutions should ensure reliable internet connectivity and an adequate subscription to relevant online resources to support teaching, learning, and research.

.

Introduction

Online resources are those that can be accessed through the World Wide Web, such as e-journals, e-books, e-databases, and online search engines. These online or e-resources are the electronic representation of information that can be accessed via electronic systems and computer networks (International Federation of Library Associations and Institutions {IFLA}, 2012, in Ekhaguosa et al., 2021).

The usage of online resources is a significant indicator of how effectively information and communication technologies (ICTs) are being utilized in tertiary institutions (Adelokun et al., 2021, Ushie, 2020). Online resources are invaluable research tools that complement print-based resources and are becoming more and more important for the academic community (Ihekwoaba, 2022). They are tools that necessitate computer accessibility, whether utilized in a library setting or at home, for educational, study, and research endeavours (Osinulu, 2020).

Access to online resources could be regarded as the ability to have access to the available online resources with little or no difficulty. The use of online resources, on the other hand, could be viewed as the capability to make hands-on and judicious use of the available electronic resources. The use of online resources also denotes the action of making actual use of the available online resources by agricultural science lecturers to impart knowledge.

It's clear that despite the valuable nature of online resources, certain recurring issues persist regarding their utilization by agricultural science lecturers within academia. The utilization of online resources in higher education institution libraries primarily aims to broaden the array of information resources accessible and enhance their utility by digitizing them, thereby enabling users to access them anytime and from anywhere, regardless of their location.

Among agricultural science lecturers, internet usage plays a crucial role, suggesting that a higher number of lecturers using the internet in a given institution correlates with greater adoption of online resources in that institution (Adelokun et al., 2021; Shehu et al., 2021). However, the present era is mainly dependent on online resources, and most lecturers, especially in the agricultural sciences, do not have sufficient knowledge and skills to exploit those resources for e-learning (Christopher et al., 2022).

In Nigeria, most tertiary institutions have taken a bold step by providing internet facilities on their campuses for staff and students. However, the high cost of bandwidth and unreliable telecommunication services has hindered the desired output of

technological transfer and knowledge production. The study of Parmar (2019) discovered that agricultural science lecturers were not knowledgeable about the use of ICT in teaching. In addition, the use of ICT is in a constant state of fluidity, that is technology that seems important today can become obsolete which makes it difficult for many lecturers to keep up. It is nonetheless true that there are huge resources available on the Internet that could be useful for learning, teaching, and research, yet many agricultural science lecturers remain in the digital shadow of how to either access or effectively use these resources. Considering the impending global digitization, investigating the challenges of access and use of online resources among agricultural science lecturers at higher institutions in Nasarawa State was considered imperative, as no known empirical research has been conducted to unravel this issue.

The overall purpose of the study was to assess online resource usage by lecturers of agricultural science in tertiary institutions in Nasarawa State, Nigeria. Specifically, the study identified the different types of online resources that were available and used by lecturers of agricultural sciences in tertiary institutions in Nasarawa State. It ascertained the frequency of use of online resources, determined the perceived usefulness of online resources to the respondents, and identified the socio-economic and institutional factors that influence the use of online resources. It also identified the major constraints associated with access to and use of online resources. It was hypothesized that there were no significant differences in the frequency of use of online resources and socio-institutional factors in the selected study areas.

Methodology

Nasarawa State lies between latitudes 7° 45′ and 9° 25’ N of the equator and between longitudes 7° and 9° 37′ E of the Greenwich meridian. Nasarawa State has many higher institutions of learning. Institutions that offer agricultural science are the College of Education in Akwanga**,** Nasarawa State University, Lafia, the Federal Polytechnic in Nasarawa, the Federal University of Lafia, the College of Education in Gwanje Kwanga, and the College of Agriculture Science and Technology in Lafia.

The population for the study comprised all agricultural science lecturers from the tertiary institutions that offer agricultural science in Nasarawa State. The population of the study consisted of agricultural science lecturers from Nasarawa State University Faculty of Agriculture Lafia (57), Federal University of Lafia (54) and College of Agricultural Science and Technology Lafia (215), giving a total of 326 lecturers. Twenty percent (20%) of the population was randomly selected, giving a total of sixty-six (66) respondents (Table 1). According to Rusu (2020), there is no consensus on the sample size to be used in qualitative research because there are no rules and research designs are not universal. It depends on when the data saturation is reached, and how the measures of validity, reliability, and generalizability can be reached.

Table 1: Sample distribution

Sampled tertiary institutions	Population of agricultural lecturers	Sample size (20%)
Nasarawa State University Keffi (NSUK)	57	12
Federal University of Lafia (FULAFIA)	54	11
College of Agriculture Science and Technology (COAST)	215	43
Total	**326**	**66**

Source: NSUK, FULAFIA, AND COAST, 2023

This study employed a survey method, in which a structured questionnaire was used to collect primary data. The instrument was divided into sections, based on the objectives of the study. Research assistants were used to collect the required data. The socio-economic and institutional characteristics of the respondents were analysed using frequency percentages and mean statistics. Objective i, which involved the identification of different types of online resources used by respondents, was analysed using frequency count and percentage. Objectives ii, iii, and v, which involved ascertaining the level of skilfulness in computer, internet, and online activity usage by respondents; ascertaining the frequency of use of online resources; determining the perceived usefulness of online resources, and identifying the major constraints associated with access and use of online resources, were analysed using the mean statistic and standard deviation. Objective iv, which involved the determination of the socio-economic and institutional factors that influenced online resource usage by respondents, was analysed using multiple regression. A one-way analysis of variance (ANOVA) was used to test the hypothesis.

Results and Discussion

Types of Online Resources Used by Lecturers

Table 2 shows the types of online resources used by lecturers. About 75.76% of the lecturers used electronic journals (e-journals), while 74.24% of the lecturers indicated the availability of electronic books (e-books). Other types of available resources used by respondents included video, image, and graphic files, e.g., YouTube (71.21%), and search engines. (66.64%), theses (66.18), abstracts (66.15%), and encyclopaedias. (59.9%), and Web online databases (Web OPAC). (51.51%). Indexes (45.45%) were used moderately by respondents.

The study found that online resources are greatly available to agricultural science lecturers. This is evident based on the fact that a large number of electronic resources, which include TEEAL, AGORA, e-books, e-journals, e-grey literature, and e-projects, are available to a great extent to agricultural science lecturers. Electronic resources (e-resources) are significant to researchers, scholars, and writers in this contemporary period. The role that online e-resources play in enhancing and supporting research cannot be overemphasized. In addition, they have become indispensable in present-day teaching, research, and learning processes, particularly in higher institutions of learning. This is in agreement with Delgado *et al.* (2015), who found that the integration

of online resources into teaching, learning, and research offers significant advantages by enhancing accessibility, engagement, collaboration, and efficiency.

Table 2: Types of online resources used by lecturers

Online resources	%
Electronic journal (e-Journals). e.g., African Journals Online (AJOL)	75.76
Electronic books (e-books)	74.24
Web online databases (Web OPAC). (AGORA, TEEAL)	51.51
Search engines e.g., Google and Yahoo	66.64
Encyclopaedia e.g., Wikipedia	59.9
Theses	66.18
Indexes	45.45
Video/Image/Graphics files e.g. U-Tube	71.21
Abstracts	66.15

Source: Fieldwork; 2023

Lecturers' Use of Online Resources

Figure 1 displays the mean scores for the use of online resources by lecturers, covering nine items related to their usage. These include search engines ($\bar{x}$=2.73), electronic journals ($\bar{x}$=2.05), indexes ($\bar{x}$=1.33), theses ($\bar{x}$=2.27), abstracts ($\bar{x}$=2.15), web OPAC ($\bar{x}$=1.58), encyclopaedias ($\bar{x}$=2.05), video/image/graphics files such as YouTube ($\bar{x}$=2.05), and electronic books ($\bar{x}$=1.85). The most frequently used online resources are search engines like Google, Ask, and Yahoo ($\bar{x}$ = 2.73), likely due to their importance for locating lecture materials and conducting research. This high usage could also result from institutions not subscribing to specialized online resources like OARE and HINARI, or from respondents having limited knowledge about the usefulness of these available online resources. The data indicates that agricultural science lecturers do not frequently use all types of online resources. The study found that lecturers only make rare use of some e-resources available to them. This aligns with the findings of Mishra and Panda (2022), who observed frequent access to electronic resources among users but contradicts the further finding that the majority of users never utilized e-resources. Overall, the study indicates that most agricultural science lecturers rarely and sometimes use the available e-resources, implying that they use electronic resources regularly for teaching and research.

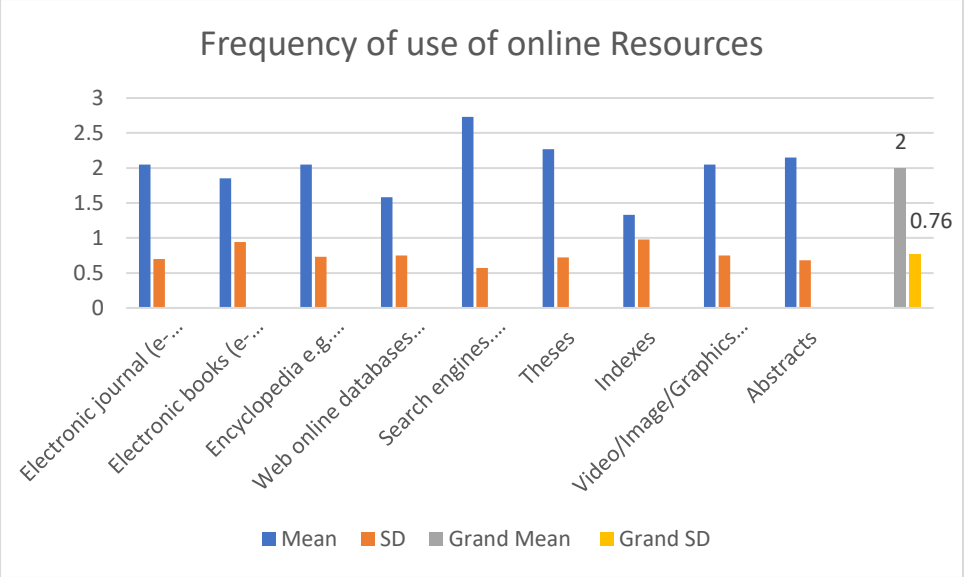

Figure 1: Frequency of use of online resource

Lecturers' Perceived Usefulness of Online Resources

Figure 2 shows that the respondents generally perceived online resources to be useful in their work. The implication of this finding is that teaching and research are likely to be enhanced in an environment where there is a positive perception concerning online resource usage (Wan Mamat et al., 2022). When lecturers and researchers view online resources as useful tools, they are more inclined to incorporate them into their academic activities, leading to potential improvements in the quality and effectiveness of teaching and research. A positive perception of online resources suggests that lecturers and researchers are more receptive to the adoption and utilization of information and communication technologies (ICTs) in their work. This increased acceptance of ICTs can facilitate the integration of various digital tools and platforms into the academic ecosystem (Ifeanyi-Obi and Corbon, 2023; Ng & Yunus, 2021), further enhancing the effectiveness of teaching, learning, and research. The finding that respondents generally perceived online resources as useful highlights the potential for improved teaching, research, and academic outcomes in institutions where there is a favourable attitude towards the use of digital resources and technologies.

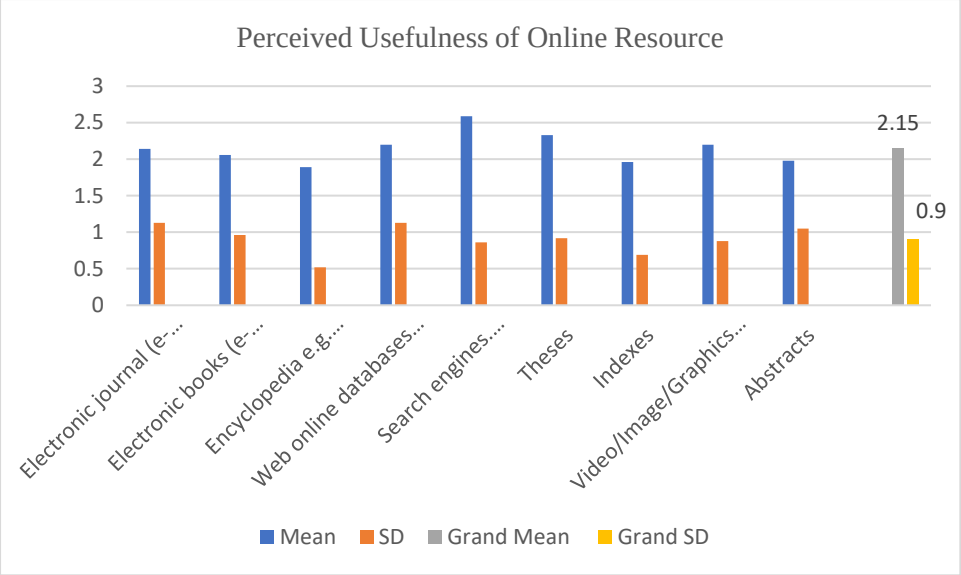

Figure 2: Perceived usefulness of e-resource

Association between Frequency of Use of Online Resources and Socio-Institutional Factors

Table 3 shows that age (t = -8.560), and number of years spent on formal education (t = 1.79) significantly affect the use of online resources. The findings indicated that the use of online resources by lecturers was affected by age and years spent in formal education. However, age had a negative relationship with the use of online resources, showing that older respondents are less likely to use online resources.

Table 3: Association between frequency of use of online resources and Socio-institutional factors

Model	Unstandardized coefficients		Standardized coefficients	
	B	Std. Error	Beta	T
Constant	-.477	.638		-.748
Age	-1.582	0.185	-0.545***	-8.560
Sex	-1.159	.380	-0.148***	-3.051
Marital status	-0.155	576	-0.030	-0.269
Household size	-0.144	.438	-0.037	-0.329
Academic attainment	0.324	.291	0.124	1.111
Rank	0.142	.132	0.125	1.075
Years of work experience	0.503	.226	0.196**	2.221*
Years of formal education	-0.235	.298	-0.056*	1.790
Types of tertiary institution	0.505	.234	0.089**	2.155*
Area of specialization	0.388	.240	0.178	1.616

***<0.01, **<0.05, and *<0.1

Source: Fieldwork, 2023.

Perceived Constraints to Access and Use of Online Resources

Table 4 shows that the three notable barriers are the high cost of access and usage of online resources ($\bar{x}$ = 3.36), non-subscription by institutions ($\bar{x}$ = 3.34), and slow internet connection ($\bar{x}$ = 3.33). Responses to the question on the challenges faced in the access and use of electronic resources by agricultural science lecturers being

surveyed indicated numerous challenges. These challenges range from lack of awareness of available electronic resources related to their discipline, inadequate guide on how to use the available electronic resources, poor internet connection, inadequate ICT facilities, epileptic power supply, unconducive atmosphere, frequent breakdown of facilities and virus attacks to inadequately trained personnel supports the studies of Mishra and Panda (2022), Wan Mamat et al. (2022), and Nwabugwu et al. (2019) which reported that the challenges are as a result of some lecturers inability to use computers, lack of awareness, lack of access to ICT facilities, insufficient training and guide, electricity supply, inadequate internet facilities and high cost of provision.

Table 4: Perceived constraints to access and use of online resources

Constraints	M	SD
High cost of access and usage of online resources	3.36	0.88
Non-subscription for relevant online resources by my institution	3.34	0.84
Slow connection to the internet	3.33	0.82
Lack of access to the Internet	3.21	1.30
Unstable power supply	3.12	0.77
Non-availability of ICT training centres to update ICT knowledge	3.01	0.89
Lack of knowledge of the use of the computer	2.86	0.78
Lack of interest/ Poor attitude towards acquiring ICT skills	2.80	1.20
Lack of awareness of relevant online resources	2.74	0.91
Poor eyesight	2.48	0.92
Lack of competence in internet searching skills	2.30	0.99
Lack of campus-wide internet connectivity	2.27	0.94
Grand	**2.87**	**0.92**

Source: Fieldwork; 2023.

Conclusion and Recommendations

Socio-institutional factors determine the use of online resources by lecturers. While there is a growing adoption of digital tools and online platforms among educators, significant challenges persist. High cost of access to online resources, non-subscription for relevant online resources by institutions, and connectivity problems are major constraints identified. However, there is also evidence of enthusiasm among lecturers to leverage online resources for enhancing teaching effectiveness and student engagement. The management of tertiary institutions should ensure reliable internet connectivity and an adequate subscription to relevant online resources to support teaching, learning, and research. To achieve this, targeted interventions in infrastructure development is recommended to optimize the utilization of online resources in order to foster effective and innovative teaching-learning situations in Nigeria's tertiary institutions.

References

Adelokun, A.K., Abidoye J. A. & Afolabi A.F. (2021). Information communication technology (ICT) resources utilization as correlates of research output of lecturers in Colleges of Education in Nigeria*. Jewel Journal of Librarianship, 16*(3), 129-137.

Christopher, C., Joseph, M. M. and Evans O. (2022). Perceived level of knowledge and skills in the use of e-learning among lecturers and students at the Open University of Tanzania, *British Journal of Education, 10*(9), 1-15.

Ekhaguosa, V. O., Irughe, M. and Egharevba, E. (2021). Access to e-resources by librarians in university libraries in Niger Delta Region, Nigeria. *Library Philosophy and Practice* (ejournal). 6727. https://digitalcommons.unl.edu/libphilprac/6727

Ifeanyi-obi, C.C. Corbon, B.L. (2023). Utilization of digital tools in extension service delivery amongst extension agents in Akwa Ibom State, Nigeria. *Journal of Agricultural Extension, 27*(4) 67-76 https://dx.doi.org/10.4314/jae.v27i4.7

Ihekwoaba, E. C. (2022). Utilizing Online Information Resources (OIRs) to improve library services in Nigerian university libraries. *Library Philosophy and Practice* (e-journal). 7227. https://digitalcommons.unl.edu/libphilprac/7227

Joshi, A. M., (2021). E-Resource: A need in today's pandemic. *International Journal of Trend in Research and Development, 8*(4), 2394–9333.

Lassman, P., Velody, I., & Martins, H. (2023). Peter Lassman and Irving Velody: Max Weber on science, disenchantment and the search for meaning. In *Max Weber's' Science as a Vocation'* (pp. 159-204). Routledge.

Mishra, M. and Panda, K. C. (2022). Usage of e-resources by the users of the agricultural university libraries in India. *Library Philosophy and Practice* (e-journal). 6863. https://digitalcommons.unl.edu/libphilprac/6863

Ng, M., & Yunus, M. M. (2021). Perceptions and challenges to ICT use in ESL lessons among Malaysian primary teachers. *Creative Education, 12*, 1532-1557. https://doi.org/10.4236/ce.2021.127117

Nwabugwu, T. S., Nwobodo, C. E. & Okoro, J. C. (2019). Awareness and use of e-resources among public extension personnel in Anambra State, Nigeria. *Journal of Agricultural Extension*, *23*(1), 161-170.

Parmar, S. (2019). Utilization of e-resources and databases in agricultural and veterinary universities of Hisar, Haryana. *Library Philosophy and Practice (e-journal).* 2555. https://digitalcommons.unl.edu/libphilprac/2555

Shehu, A. J., Muhammad, I., Isah, Y. & Bashar, I. (2021). Utilization of ICT resources among tertiary institutions in Sokoto State, Nigeria. *International Journal of Research and Innovation in Social Science (IJRISS), V*(II), 408-410

Ushie, A. A. (2020). Availability, accessibility and utilization of ICT facilities for instructional delivery in business education in tertiary institutions in Cross River State, Nigeria. *British International Journal of Education and Social Sciences*, *7*(2), 20-35.

Wan Mamat, W., Siti, S. M. N. & Nurasikin M. S. (2022). Impact, effectiveness and satisfaction of online learning among undergraduate students during the Covid-19 Pandemic. *International Journal of Care Scholars, 5*(3), 12-20.