



## Awareness and Utilization of Internet-Based Tools for Data Collection among Early Career Researchers in Public Universities in Cross River State, Nigeria

Moses Eteng Obla<sup>1</sup>, Mbapinen Priscilla Ndur<sup>2</sup> & Clement Odaji Obi<sup>3</sup>

<sup>1</sup>Department of Arts Education, University of Nigeria, Nsukka

<sup>2</sup>Department of Primary Education, Federal College of Education (Technical) Asaba, Delta State

<sup>3</sup>Department of Curriculum and Instructional Technology, Yusuf Maitama Sule Federal, University of Education Kano

**Corresponding Author:** oblamoses1987@gmail.com

### Abstract

The study focused on awareness and utilization of internet-based tools for data collection among Early Career Researchers (ECRs) in Public Universities in Cross River State, Nigeria. The study employed exploratory design and quantitative research method seeking to find out to what extent are ECRs in Nigeria are utilizing internet-based tools for research data collection research activities. Population comprised all public Universities in Cross River State. The study was limited to assessing the awareness and utilization of internet-based tools for data collection among ECRs in public Universities in Cross River State, Nigeria. The sample of the study comprised all ECRs in the University of Calabar and Crutech. A modified four-scale Likert questionnaire was used to elicit information from respondents. Face and content validity was established for the instrument. The Cronbach Alpha reliability method was used to determine the correlation coefficient of the instrument. The theory of anchor was Technology Acceptance Model (TAM). The findings of the study revealed that the level of awareness of the existence of internet-based tools was at a high level. The extent to which ECRs utilize internet-based tools was discovered to be low. However, slow internet load speed, inadequate computer access among others is the challenges encountered among ECRs. The study recommended that Government should provide a robust ICT infrastructure that will pave way for easy access of internet-based tools that will help boost the speed of the internet browser and enhance the use of these tools among ECRs.

**Keywords:** Awareness, Utilization, Internet, Data, Early Career Researchers

### Introduction

The advent of internet has revolutionized the way researchers collect data, offering a plethora of internet-based tools to facilitate research process. Despite the numerous benefits of these tools, there is a growing concern that Early Career Researchers (ECRs) in public Universities in Cross River State may not be fully aware of or utilizing these tools effectively for data collection. This lack of awareness and utilization by ECRs may hinder the quality and efficiency of their research, ultimately affecting the advancement of knowledge in their respective fields. According to Universities and Colleges Employers Association (2015), ECRs refer to researchers in the first four years (full-time equivalent) of their research activity, including the period of research training. Academic

Pathway Across Countries also defines ECRs as someone who is within eight years of the award of the Ph.D. ECRs can as well be defined as individuals who are in the early stages of their research career, typically within the first few years after completing their postgraduate degree (Master's or Ph.D.).

In Nigeria particularly in Cross River State, many Early Career Researchers do not seem to be using internet resources such as SciSeek, SurveyMonkey, GoStats, Poll fish, Google forms, Survey cto, Poll everywhere, etc. for their research career. Over 95% of literature from Nigeria generally shows that ECRs tend to be using traditional methods for data collection while only 5% of the literature so far shows that ECRs use internet-based tools for data collection. Consequently,



this persistent reliance on traditional methods has shown to be an inefficient means of data collection especially in cases where the population for the study becomes inaccessible due to either natural disaster or activities that are beyond the control of the researcher. This can affect or turn to scud the data collected for the result.

For instance, if a researcher is meant to study the entire Cross River State as a population and it happened that there is ongoing community unrest in two Local Government Areas (let say; Biase and Yakurr) which can render the target population inaccessible. The implication is that whatever information gathered from other municipalities may not reflect respondents' data from Biase and Yakurr. Due to the inaccessibility restrictions, the data gathered may be biased or imbalanced. However, in the event of a worldwide pandemic that limits mobility or physical interaction, the study's target group will become inaccessible. The situation during the peak of the COVID-19 pandemic is an example, where schools from lower to upper levels were completely shut down, laboratories and libraries were closed and face-to-face meeting with people was heavily emphasized. Hence, many scholars in Nigeria were not able to collect field data, mostly those working in field-oriented research leading to a perceived decline in their scholarly activities (Owan et al., 2021). The process of meeting with respondents was also very difficult especially with the emphasis on social distancing. Such difficulties can exert a clear reduction and stopped in research activities that have a negative impact on their career, as noted by Obla and Ukabi, (2021) that potential respondents and/or research assistants may decline any call to participate in any research activity for both health and safety reasons.

In a global survey of the International Association of Universities (IAU) on the impact of COVID-19 on higher education around the world, Marinoni et al. (2020) notes that 80% of HEIs reported that the Covid-19 pandemic has affected their institutional research. However, 83% of them noted that cancellation of international travel happened to be the most common impact, while 81% noted that cancellation and postponement of scientific conferences posed a very big challenge to them. Moreover, 50% pointed out that their scientific research works are at risk of not been completed at the set time. However, a preliminary search throw literature rather shows that the COVID-19 era happened to be more productive to most researchers. For example, a survey from Google scholar's profile of researchers shows that

in 2020 during the COVID-19 era, JoAnn E. Manson published over 160 papers, Ronald Kessler published over 70, Robert Langer 55, Graham Colditz 70, Linda Darling-Hammond 24, and the list goes on. Agreeably, observation by the researchers shows that researches carried out during this period, relied on the use of electronic data collection means. This implies that the use of electronic methods for data collection permeates traditional means.

An investigation into the scholarly use of electronic facilities by doctoral students at the University of Calicut, Kerala by Ashraf and Haneefa (2016), the analysis revealed that the majority of the students are aware and are using the electronic facilities for scholarly purpose and mainly for locating scholarly content and current global information. In another study conducted in India, Singh and Gill (2015) revealed that the electronic means of data collection are the most popular communication tool used by all categories of research respondents. In Aligarh Muslim University, Munshi (2015) studied the use of electronic means as communication tools for academic purposes among engineering students and revealed that the majority of the students are dependent on electronic communication tools for their research activities and communication purposes. In 2015, Divya and Sudhier studied the use of internet-based tools and services by research scholars of the ten different faculties of applied sciences at the University of Kerala. The study revealed that the majority of the research scholars used electronic services for e-journal access and research communication. However, the results showed that e-mail is the most commonly used electronic-based service among research scholars.

Conceivably, where a researcher cannot make physical contacts, electronic means can be used to send instruments to respondents to collect data. This instrument can also be used in places where they are also regional boundaries or differences where visa issues or other factors could be avoided and in reducing cost. Despite all the benefits, observation shows that the extent of utilization appears to be very low among Nigerian ECRs. It is based on this backdrop that this research is carried out to determine the extent to which ECRs are using these platforms for data collection and the extent of their awareness of the existence/usefulness of these data collection means for their research career.

Early career researchers have a significant responsibility to collect high-quality data that contributes to the advancement of knowledge in their field. As budding scholars, they are tasked with



designing and implementing effective data collection methods, ensuring the accuracy and reliability of their data, and analyzing their findings with rigor and integrity. By collecting data in a systematic and transparent manner, early career researchers can build a strong foundation for their research, produce meaningful results, and make valuable contributions to their field. Ultimately, their responsibility to collect data is not only a crucial aspect of their research but also a vital component of the academic pursuit of knowledge and truth.

Among these many responsibilities of Early Career Researchers (ECRs), the responsibility to write remains key and a binding one. Importantly, includes publishing what has been written to accelerate scientific quality. Agreeably, research in academics remains incomplete until findings are disseminated or published. One can as well say that research completed and not disseminated is the same as research not done at all. Publishing provides authors the opportunity to share their knowledge, original findings, reasoning, academic breakthroughs, and make postulations to standards of practice within the academic community.

The desire to publish among ECRs also ensures that authors keep themselves apprised of the most recent research practices or global conventions in use. This will help to expand the academic environment and improve attention. Research dissemination is also inextricably linked with peer recognition, institutions reputation differences and recognition, career innovation, and advancement including ECRs promotions. The implication is that we leave behind a documented heritage of our research discoveries and accomplishments for generations to come. While the most important requirement for ECRs even today remains aptitude to research dissemination, they should also be skillful practitioners and constructive researchers.

A short while ago, duration of service was the only criterion for academic promotion as per the National University Commission (NUC), the statutory body saddled with the responsibility of establishing and maintaining the minimum set standard or benchmark for higher education in Nigeria. In July 2009, the gazette notification by the NUC changed the landscape for the academic community. Not only was there a relaxation of the number of years of academic experience required for promotion; but there was a stipulated number of research publications that were made mandatory by the NUC, including the first authorship and visibility in an indexed/international

journal as a primary means of assessment (Fakokunde et al., 2022). Accordingly, ECRs candidates must have a total minimum qualifying score of 46 points for promotion, out of which 20 points will come from admissible research publications (Forbrig & Kuper, 2021).

However, despite the omnipresence of new forms of research output associated with advances in internet-based tools, such as SciSeek, SurveyMonkey, GoStats, Poll fish, Google forms, Survey cto, Poll everywhere, etc. for data collection, ECRs publication process remains both doubting and confusing in the progress on their track of tenure. Data on articles counts shows ECRs assume to be only as good as their last researches made, leading to loss of promotion and other benefits such as loss of research funding and academic positions in their Universities due to lack of visibility. Issues of unequal access to internet facilities, epileptic power supply, limited and unstable internet connectivity by service providers, unavailability of e-research gadgets, unaffordable data, insufficient broadband services, along an increasing financial crisis, has being noted to prevent their massive internet-based tools for data collection (Owan et al., 2021). This study, therefore, assessed the awareness and utilization of internet-based tools for data collection among ECRs in public Universities in Cross River State.

### Research Questions

- 1) What is the level of awareness of internet-based tools for data collection among ECRs in public Universities in Cross River State?
- 2) To what extent do ECRs in public Universities in Cross River State utilize internet-based tools for data collection?
- 3) What are the challenges faced by ECRs in public Universities in Cross River State in utilizing internet-based tools for data collection?
- 4) How can awareness and utilization of internet-based tools for data collection be improved among ECRs in public Universities in Cross River State?

### Methodology

The study adopted quantitative research approach to collect data from ECRs. This study was limited to assessing the awareness and utilization of internet-based tools for data collection among ECRs in public Universities in Cross River State, Nigeria. The sub-variables under investigation in the study are awareness of internet-based tools for data collection, utilization of internet-based tools for data collection,

challenges faced in the utilization of internet-based tools for data collection and strategies for utilization of internet-based tools for data collection among ECRs public Universities in Cross River State. The population for the study comprised all the ECRs in public Universities of Cross River State. The sample of the study comprised 174 ECRs in the University of Calabar and University of Cross River State. A modified four-scale Likert questionnaire was used to elicit information from respondents. The real limits of the response categories include the response option of cluster 1: Very High Level (VHL), High Level (HL), Low Level (LL), and Very Low Level (VLL). For cluster 2, Very High Extent (VHE), High Extent (HE), Low Extent (LE), and Very Low Extent (VLE). For cluster 3: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). For cluster 4: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). However, each of the items in was scored using the following values: cluster 1: VHL: 3.50 – 4.00, HL: 2.50 – 3.49,

LL: 2.50 – 3 and VLL: 0.50 – 1.49. For cluster 2, VHE: 3.50 – 4.00, HE 2.50 – 3.49, LE 2.50 – 3.49, and VLE. For cluster 3: SA: 3.50 – 4.00, A: 2.50 – 3.49, D 1.50-2.49, and SD: 0.50 – 1.49. For cluster 4: SA: 3.50 – 4.00, A: 2.50 – 3.49, D: 1.50-2.49 and SD: 0.50 – 1.49. For the coding, VHE/SA is coded as 4, HE/A is coded as 3, LE/D is coded as 2 and VLE/SD is coded as 1. Face and content validity was used to establish the validity of the instrument by three experts. Reliability coefficient of 0.87 was obtained using Crompach Alpha. Coded data were analyzed using descriptive statistics such as mean and standard deviation. For the coding, VHE/SA is coded as 4, HE/A is coded as 3, LE/D is coded as 2 and VLE/SD is coded as 1. Face and content validity was used to establish the validity of the instrument by three experts. Reliability coefficient of 0.87 was obtained using Crompach Alpha. Coded data were analyzed using descriptive statistics such as mean and standard deviation.

## Result

Results of this study were ordered according to research questions that were used to guide the study.

**Table 1: Mean scores and standard deviation of level of awareness of internet-based tools for data collection among ECRs in public Universities in Cross River State**

S/N	Item Statement (Awareness of Internet-Based Tools)	$\bar{X}$	S.D	Decision
1	Poll fish	2.95	.88	High
2	SciSeek	2.55	.80	High
3	Online surveys	2.59	.95	High
4	Poll everywhere tools	2.56	.58	High
5	Electronic document delivery service	2.53	.85	High
6	SurveyMonkey	2.95	.85	High
7	Web scraping tools	2.59	.88	High
8	Rely on GoStats	2.58	.81	High
9	Survey cto	2.53	.70	High
10	Google forms	3.56	.85	Very High
	<b>Cluster mean</b>	<b>2.94</b>	<b>.815</b>	High level

Key:  $\bar{X}$  = Mean, SD = Standard deviation, N = Number of respondent = 174

Very high level 3.50 – 4.00, high level 2.50 – 3.49, low level 2.50 – 2.49 and very low level

Table 1 presents the mean scores and standard deviations of ECRs awareness of internet-based tools for data collection in public Universities in Cross River State. The cluster mean (2.94) falls within the high level range (2.50-3.49), indicating that ECRs in public

Universities in Cross River State have a high level of awareness of internet-based tools for data collection. The findings suggest that ECRs are generally aware of various internet-based tools, with some tools being more widely recognized than others.

**Table 2: Mean scores and standard deviation of the extent of use of internet-based tools for data collection among ECRs in public Universities in Cross River State**

S/N	Item Statement	$\bar{X}$	S.D	Decision
11	Google forms for data collection	2.36	.88	High Extent
12	Free audio video sharing libraries	2.43	.90	Low Extent
13	Online surveys for data collection	2.60	.81	High Extent
14	Poll everywhere tools for data collection	2.36	.70	Low Extent
15	Poll fish for data collection	2.33	.85	Low Extent
16	SurveyMonkey for data collection	2.23	.88	Low Extent
17	Web scraping tools for data collection	2.20	.90	Low Extent
18	SciSeek for quantitative data collection	2.03	.81	Low Extent
19	GoStats for data collection	2.26	.83	Low Extent
20	Survey cto for qualitative data collection	1.96	.50	Low Extent
<b>Cluster mean</b>		<b>2.34</b>	<b>.826</b>	Low Extent

Key:  $\bar{X}$  = Mean, SD = Standard deviation, N = Number of respondent = 174

For cluster 2, Very High Extent (VHE): 3.50 – 4.00, High Extent (HE) 2.50 – 3.49, Low Extent (LE) 2.50 – 3.49, and Very Low Extent (VLE).

Table 2 presents the mean scores and standard deviations of the extent of use of internet-based tools for data collection among ECRs in public Universities in Cross River State. The cluster mean (2.34) falls into the Low Extent (LE) category, indicating that ECRs in public Universities in Cross River State have a

relatively low extent of use of internet-based tools for data collection. The findings suggest that while some tools are used to a moderate extent, the overall use of internet-based tools for data collection among ECRs is relatively low.

**Table 3: Mean scores and standard deviation of the challenges associated with use of internet-based tools for data collection among ECRs in public Universities in Cross River State**

S/N	Item Statement (Challenges in Using Internet-Based Tools)	$\bar{X}$	S.D	Decision
21	Internet connectivity traffic	2.76	.89	SA
22	Interface is difficult to understand	2.56	.77	SA
23	Lack of databases resources for research	2.53	.86	SA
24	Poor internet ligation	2.76	.80	SA
25	Navigation menu is not simply identifiable	2.43	.75	SA
26	Lack of knowledge for appropriate internet-based tools	3.00	.75	SA
27	Inadequate computer access	2.70	.83	SA
28	Lack of information for research	2.73	.89	SA
29	Reaching a representative sample	2.73	.77	SA
30	Security and privacy	2.76	.86	SA
31	Data accuracy and completeness	2.56	.97	SA
<b>Cluster mean</b>		<b>2.59</b>	<b>.83</b>	A

Key:  $\bar{X}$  = Mean, SD = Standard deviation, N = Number of respondent = 174

For cluster 3: Strongly Agree (SA): 3.50 – 4.00, Agree (A): 2.50 – 3.49, Disagree (D) 1.50-2.49, and Strongly Disagree (SD): 0.50 – 1.49.

Table 3 presents the mean scores and standard deviations of the challenges associated with the use of internet-based tools for data collection among Early Career Researchers (ECRs) in public universities in Cross River State. The cluster mean (2.59) falls into the Agree (A) category, indicating that ECRs in public universities in Cross River State agree that the listed

challenges are associated with the use of internet-based tools for data collection. The findings suggest that ECRs face various challenges when using internet-based tools for data collection, including lack of knowledge, internet connectivity issues, and security concerns.

**Table 4: Mean scores and standard deviation of the strategies for enhancing the use of internet-based tools for data collection among ECRs in public Universities in Cross River State**

S/N	Item Statement (Strategies to Improve Challenges in Using Internet-Based Tools)	$\bar{X}$	S.D	Decision
32	Internet load speed should be improved	3.68	.71	SA
33	Interface should be improved to more user friendly interface	3.23	.66	A
34	Subscription for relevant databases and useful links for research	3.86	.74	SA
35	Design web-based menu to be easily identified	3.43	.61	A
36	University Digital library should equipped with computers	3.83	.66	SA
37	Regular software updates and maintenance	3.73	.58	SA
38	Implement backup systems and contingency plans	3.60	.55	SA
39	Data validation and verification processes	3.43	.75	A
40	Data filtering and organization tools	3.68	.61	SA
41	Regular training sessions	3.83	.66	SA
42	Support from online communities or forums to address technical issues	3.76	.54	SA
	<b>Cluster mean</b>	<b>3.64</b>		<b>SA</b>

Key:  $\bar{X}$  = Mean, SD = Standard deviation, N = Number of respondent = 174

For cluster 4: Strongly Agree (SA): 3.50 – 4.00, Agree (A): 2.50 – 3.49, Disagree (D) 1.50-2.49 and Strongly Disagree (SD): 0.50 – 1.49.

Table 4 presents the mean scores and standard deviations of the strategies for enhancing the use of internet-based tools for data collection among Early Career Researchers (ECRs) in public universities in Cross River State. The cluster mean (3.64) falls into the Strongly Agree (SA) category, indicating that ECRs in public universities in Cross River State strongly agree that the listed strategies can enhance the use of internet-based tools for data collection. The findings suggest that ECRs strongly agree on the importance of various strategies to enhance the use of internet-based tools for data collection, including subscription to relevant databases, regular training sessions, and improvement of internet infrastructure.

### Discussion

The findings of research question one show the level of awareness of internet-based tools among ECRs in public Universities in Cross River State. The finding

shows that there is a generally aware of various internet-based tools among ECRs in public Universities in Cross River State, with Google forms being more widely recognized than others. ECRs are up to date with internet-based tools and they are aware that internet-based tools can promote their data collection means. This shows that while ECRs may be aware of internet-based tools in general, they may not be familiar with specific tools or their applications. However, this awareness could be attributed to the paradigm shift after the global pandemic (Raphael et al., 2024) which has necessitated the use of internet-based tools to complement data collection and eliminate geographical restrictions. Furthermore, it is observed that Internet-based tools are gaining more recognition among scholars and ECRs in Nigeria generally.

Furthermore, the findings also revealed that there is a relatively low extent of use of internet-based tools for data collection among ECRs in public



Universities in Cross River State. The findings suggest that while some tools are used to a moderate extent, the overall use of internet-based tools for data collection among ECRs is relatively low. This implies that ECRs might prefer traditional data collection methods, such as paper-based surveys or interviews, over internet-based tools to collect data. This could be attributed to low internet speed, poor power supply and poor internet connection to access internet-based tools for research purposes.

The study also revealed various challenges associated with using internet-based tools for data collection among ECRs in public Universities in Cross River State. This implies that among others challenges associated with use of internet-based tools among ECRs including lack of knowledge, internet connectivity issues, and security concerns, and lack of internet-based tools information for data collection. However, these challenges are peculiar with developing countries like Nigeria. Addressing these challenges can help improve the adoption and effective use of internet-based tools among ECRs.

The study also revealed that ECRs strongly agree on the importance of various strategies to enhance the use of internet-based tools for data collection, including subscription to relevant databases, regular training sessions, and improvement of internet infrastructure. Implementing these strategies can help address the challenges faced by ECRs and improve their productivity.

### Conclusion

There is a high level of awareness of internet-based tools among ECRs in public Universities in Cross River State but the extent of its use among ECRs in public Universities in Cross River State is low. There are also challenges associated with use of internet-based tools among ECRs in public Universities as well as strategies for enhancing the use of internet-based tools among ECRs in public Universities in Cross River State. Addressing these challenges can help improve the adoption and effective use of internet-based tools among ECRs.

### Recommendations

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

1. School administrators of universities should organize seminars/workshops to maintain the high level of awareness in the use of internet-based tools among ECRs.

2. Government should provide a robust ICT infrastructure that will pave way for easy access of internet-based tools that will help boost the speed of the internet browser and enhance the use of these tools among ECRs.
3. Internet-based tools and ICT enabled gadgets should be made readily available and accessible to the ECRs. This will highly increase the use internet-based tools among ECRs.
4. Government and school administrators should train ECRs on the proper use of internet-based tools for effective data collection.

### References

- Ashraf, K., & Haneefa, K. M. (2016). Scholarly use of social media. *Annals of Library and Information Studies*, 63(2), 132-139. <https://bit.ly/3uGVLMD>
- Divya, L. R., & Sudhier, K. P. (2015). Use of Internet tools and services by research scholars of the University of Kerala. *Journal of Information and Knowledge*, 471-478. <https://doi.org/10.17821/srels/2015/v52i6/84325>
- Fakokunde, J. B., Okanlawon, A., Raji, N., Oyelade, A., & Olateju, O. (2022). Heads of departments' perception of the constraints in meeting the national universities commission's standards for the accreditation of programmes in Nigerian Universities. *Journal Plus Education*, 31(2), 97-113.
- Forbrig, D., & Kuper, H. (2021). Early career researchers' engagement in proactive career behaviour: investigation of the extent and favourable influences. *European Journal of Higher Education*, 11(4), 432-460.
- Marinoni, G., Van't Land, H., & Jensen, T. (2020). The impact of Covid-19 on higher education around the world. *IAU global survey report*, 23(1), 1-17. Paris: Cedex 15. <https://bit.ly/2SOTyB0>
- Munshi, S. A. (2015). The use of social media and internet communication tools in academic purposes of the engineering students at Aligarh Muslim University (AMU). *Journal of Information and Knowledge*, 479-487. <https://doi.org/10.17821/srels/2015/v52i6/84326>
- Obla, M., & Ukabi, E. (2021). Education in the virtual space: A sustainable strategy for achieving tension-free and inclusive learning in COVID-19 dispensation. *Journal of Studies in Science*



- and Engineering, 1(2), 17-35.*  
<https://doi.org/10.53898/josse2021123>
- Owan, V. J., Akah, L. U., & Ogbeche, M. M. (2021). Professional variables and staff readiness to utilise internet-based channels for research communication in an Era of Covid-19. *AfricArXiv Preprints*.  
<https://digitalcommons.unl.edu/libphilprac/5863>
- Owan, V. J., Asuquo, M. E., Ekaette, S. O., Aslam, S., Obla, M. E., Agurokpon, D. C., & Owan, M. V. (2021). Gender, Age and Staff Preparedness to Adopt Internet Tools for Research Sharing During Covid-19 in African Varsities. *Library Philosophy and Practice (e-journal)*. 6133.  
<https://digitalcommons.unl.edu/libphilprac/6133>
- Raphael, F. O., Euphemia, C., Aleke, P. S., Henry C. O., & M. E. Obla, (2024). Awareness and Utilization of Open Educational Resources among Undergraduate Students in English Language in Universities in Enugu State. *AJSTME, 10(5)*. 784-793,  
<https://www.ajstme.com.ng>
- Singh, K. P., & Gill, M. S. (2015). Role and users' approach to social networking sites (SNSs): a study of universities of North India. *The Electronic Library, 33(1)*, 19-34.  
<https://doi.org/10.1108/EL-12-2012-0165>
- Universities and Colleges Employers Association (2015). Supporting Early Career Researchers in Higher Education in Europe: The Role of Employers and Trade Unions.