

#### Technology literacy and research productivity of academic staff of selected private

#### universities in Ogun state Nigeria

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#### ABSTRACT

The paper examined technology literacy and research productivity of academic staff of selected private universities in Ogun state, Nigeria. In carrying out this study, 2 research questions were raised and one null hypothesis was formulated and tested at P < 0.05. The population for this study comprised 1,476 academic staff in six private universities in Ogun State. A questionnaire was distributed to 740 academic staff in six universities. 700 copies of the questionnaire were retrieved and found usable and thus formed the sample size of the study. The study revealed that academic staff technology literacy is on a high level 605(84.9). The result further revealed that the respondents on the average can send and receive emails for research productivity (mean=3.83), search for, retrieve and store information sources on the database to enhance research (mean=3.79), effectively participate in online forums like discussion forum and social networks to foster my research (mean=3.75). The study concluded that technology literacy was linked with the research productivity of academic staff as indicated in the study. Technology literacy skill was high. The study found positive significant relationship between technology literacy and research productivity of academic staff in selected private universities in Ogun State (r=.117, p<0.05). It was recommended that the University administrators should put in place policies to boost and improve research skills of academic staff of these universities. This could be done by sponsoring academic staff to training on modern research skills both locally and internationally.

Keywords: Technology literacy, Research productivity.

#### Introduction

Technology literacy involves the ability of academic staff to know and access records sources that are made available at their disposal using various advanced technology learning tools. When it comes to responsibilities of academic staff, it is a daily ability to convert their knowledge into practical use. It is the ability of an individual to understand their attitude and capacity of the technological tools available at their disposal to help in accessing, managing, integrating, analyzing, and synthesizing digital information resources to perform particular assignments at specific times at their place of work and in areas of carrying out academic research. Technology literacy is seen as a person's capacity to work independently and collaboratively with others in an effective, responsible, and precise manner by utilizing technology instruments to access, handle, and communicate information then integrate, assess, produce, and transmit data (Arif Santoso and Sari Lestari 2019). Some of the indicators of technological literacy skills that were used for this study as identified in the model are e-mail, mailing list, YouTube, web browser, word processing (e.g. MS Word, Google Docs etc.), Twitter, Facebook and academia. Research productivity focused on the ability for academic staff to increase their knowledge in the areas of using technology driven tools.

Literally, research productivity is derived from two words 'research' and 'productivity'. While research deals with very careful, observant, and vigilant study or investigation of phenomena, particularly to search and find out new knowledge, information and facts; productivity is concerned with production or output, produced within a given duration of time. "With reference to higher education, research productivity is an index which best depicts the publications of papers in professional journals, in form of journal articles, book chapters, or books as well as the presentation of research papers in conference proceedings that are indispensably cited and acknowledged by other scientists' publications in globally accessible papers and books. Determining the research productivity of the university faculty members is of greater interest to the academicians trying to preserve their academic staff (Dorgu & Kpolovie, 2019)". In the academic setting, the research productivity of academic personnel is used to gauge their productivity. Research productivity cannot be achieved by academic staff without having adequate

technology literacy, because the usage of it is what would drive them to produce a certain number of articles, books or journals in their area of specialty. This is highly important to all academic staff because they are mostly evaluated by their faculty or institution based on the number of publication they are able to produce within expected period of time. As long as this knowledge would help to serve students, it will meant educational research in the educational sector of Nigeria. Some of the indicators that were chosen for this research were identified as citation index, published textbooks, journal articles, conference papers, monographs and technical reports etc. FriskaTianada (2015) agrees to this study that technology literacy has a big impact on academic staff.

### **Statement of the Problem**

Academic Staff by their nature of work/ position as lecturers are required to engage in high level of research activities and make public their findings through publishing, using any reputable media for research dissemination such as journals, books as well as presentations at academic conferences. The essence of research productivity in the sustenance of the career of academics globally cannot be over emphasized. Despite the importance of research production to academic staff progress and reputation, research has demonstrated that academic staff research productivity has been incredibly low in recent years. According to research in the fields of LIS and other fields of study, academic staff (lecturers) in private universities in Ogun State, Nigeria, have a low research productivity (Adetayo, 2021). This low research output of academics in Ogun State could be attributed to their incapacity to use internet facilities, or to a lack of abilities to use the tools available in institutions for research. It could also be that the organization's culture, such as shared values, customs, and beliefs that govern the establishment, isn't encouraging or enabling academic employees to be productive in their research. Based on the identified gaps, the current study aims to evaluate the influence of technology literacy skills, organizational culture and research productivity of academic staff in selected private Universities in Ogun State, Nigeria.

#### **Research Questions**

- 1. What is the level of technology literacy among academic staff of selected private universities in Ogun State, Nigeria?
- 2. What is the level of research productivity of academic staff of selected private universities in Ogun State?

#### Hypotheses

Ho1: There is no significant relationship between Technology Literacy skills and Research Productivity of academic staff in selected private universities in Ogun State.

#### **Literature Review**

The roles and responsibilities of academic staffs in any tertiary institutions in meeting with the stipulated aims and objectives of its establishment cannot be overestimated.

Ojeniyi and Adetimirin (2016) revealed that lecturers at all level of education are also expected to impart meaningful knowledge to students, assist the students in their research/reports writing, offer public services to his/her community by public lectures amongst others and in all they also need to published articles in a reputable journal, attend conferences/delivering of papers, writing of books etc which he/she will be evaluated upon for productivity as well as promotion in his or her chosen career.

ICT literacy skill in general term is the ability to use digital technologies, communication tools, and networks appropriately to solve information problems in order to fit in into the society driven by information and communication technology (Anyim, 2008).

When talking about ICT literacy skill, it is much more than just having knowledge about computer or what is all about. According to Iyanda et al (2016), ICT literacy refers to the ability to use digital technology communication tools and networks appropriately to solve information problems. ICT literacy thus includes the ability to use technology as a tool for researching, organizing, evaluating and communicating information, and the possession of a fundamental understanding of the ethical and legal issues surrounding access and the use of information.

According to Anyim (2018), ICT literacy skill is the ability to use digital technology, communication tools, and/or networks to define access, manage, integrate, evaluate, create, and communicate information ethically and legally in order to function in a knowledge society. Anekwe Josephine Uzoamaka (2018) researched the impact of web-based IT literacy (WBIL) on research performance among academics in four Nigerian federal universities. They employed a simple random sampling technique. A sample of 480 from 2885 academic workers were obtained for this study. The study showed that faculty members at the federal universities confirmed that WBIL significantly improves research productivity judging by an average mean of 2.88 and standard deviation of 0.78. The significant survey also revealed that the lack of resources, the lack of technology, the lack of web-based skills and the academic overload were among the barriers to the academic's adoption of WBIL. The research therefore recommended that university authorities provides academic faculty with free internet access in order to increase the productivity of their research. In addition, the study suggests that the university authorities should provide academics with subsidies to carry out high-quality research as soon as possible.

Also, Jung (2014) carried out a survey of 900 faculties from universities in korea. The study revealed that faculty members in their mid-career stage i.e. 6-10 years of their career were the most research productive

Omotunde and Ajie (2017) investigated the ICT training needs of lecturers in the faculty of social sciences in Ekiti state university and Afe Babalola University. Random sampling procedures were used in selecting two lecturers from each department in the faculty of the universities. The sample size consisted of 37 lecturers. The survey questionnaire was administered from the collection of data. They used descriptive statistical methods in order to evaluate the data. They reported that majority of the respondents' demonstrated very low competencies in ICT. Worse still, most of the respondents had no ICT training. The authors proposed that professors at Nigerian Universities should also be provided with opportunities or trainings so as to enhance their ICT skills.

#### Methodology

The design for this study was descriptive survey. This has helped the researcher to determine technology literacy and research productivity of academic staff of selected private universities in Ogun state Nigeria. The population was 1476 academic staff and 740 were selected as the sample size. Multistage sampling technique was adopted because of the large size of the population. The main instrument employed in this study is a self-structured questionnaire and the sample size used for the study was 740. The data was collated and analyzed through the use of descriptive statistics such as tables, percentages, mean and standard deviation, etc. in addition, the hypothesis was subjected to descriptive statistics with the aid of statistical package for social sciences (SPSS).

### Findings and discussion

# Research question one: What is the level of technology literacy skills possessed by academic staff of selected private universities in Ogun State?

Table 1: Level of technology	literacy skills among	academic staff
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Technology Literacy Skill		SD
I can send and receive e-mails for research productivity	3.83	.412
I can search for, retrieve and store information sources on the database to enhance my research	3.79	.441
I can effectively participate in online forums like discussion forum and social networks to foster my research	3.75	.477
I can make use of the following storage device (disk, CDs, flash drive, zip disks and DVDs etc.) to store information for research productivity	3.63	.588
I possess the ability to use different information search strategies such as Boolean, Google, LinkedIn, etc.	3.50	.636
I can install research software into my computer to foster my research	3.50	.664
I Possess the ability to use instant messaging to relate/get information from colleagues for research productivity		.631
I make use of Google docs to save my research work, lecture notes, save pictures and also share ideas & knowledge to my colleagues and students		.737
I possess the ability to use turn-it-in, as copyright check for research productivity		.683
I possess the ability to use statistical analysis packages for my research work	3.20	.884
Grand Mean	3.55	.615

Decision rule: 1.5-2.0=Very low, 2.1-2.49, low, 2.5-3.49= high, 3.5-4.0=very high

The result presented in table in table 4.1 holds the respondents view on their level of technology literacy. The grand mean (mean=3.55, SD=.615) reveals that technology literacy of academic staff in private universities was very high. This implies that the academic staffs are abreast with modern realities in terms of technology. The result further revealed that the respondents on the average can send and receive emails for research productivity (mean=3.83), search for , retrieve and store information sources on the database to enhance research (mean=3.79), effectively participate in online forums like discussion forum and social networks to foster my research (mean=3.75) as

well as can make use of the following storage device (disk, CDs, flash drive, zip disks and DVDs etc.) to store information for research productivity (mean=3.63)

## What is the level of research productivity of academic staff of selected private universities in Ogun State?

Table 2: level of research productivity in the last 5 years (2016 -2020)

Publications	Mean	SD
Journals article	2.71	.956
Chapter in a book	2.06	.939
Co-authored textbooks	1.97	1.205
Text books (single authorship)	1.93	1.121
Ongoing Research	1.93	.827
Patents	1.60	.978
Conference Papers	1.35	.570
Monographs	1.26	.640
Scientific peer-reviewed bulletin	1.13	.362
Technical Reports	1.07	.283
Grand Mean	1.70	.788

Decision rule: 1.5-2.0=Very low, 2.1-2.49, low, 2.5-3.49= high, 3.5-4.0=very high

Adjudging from the grand mean in table 4.2, the level of research productivity of academic staff is low (mean=1.70, SD=.788). The result further revealed that journal article publication was high (mean=2.71). This therefore implies that the academic staff are not meeting the requirements expected. Though, their level of research productivity is low, they have a high level of journal publication.

Hypothesis one: There is no significant relationship between Technology Literacy skills and Research Productivity of academic staff in selected private universities in Ogun State.

Table 4.6: relationship between technology literacy skills and research productivity

Variables	Mean	SD	N	r	Sig.	Remark
Technology Literacy skill	35.4951	4.13811	713	.117	.002	Significant
Research Productivity	17.0098	3.88004				

The result presented in table 4.6 revealed that there is a significant relationship between technology literacy skills and research productivity of academic staff (r=.117, p<0.05). The correlation coefficient (r=.117) indicated that the research productivity of academic staff is likely to increase by 11.7% with every increase in the technology literacy of the staff. Therefore, the null hypothesis is rejected and restated thus: there is a significant relationship between technology literacy skills and research productivity of academic staff in selected private universities in Ogun state.

#### **Discussion of findings**

The finding revealed that technology literacy of academic staff in private universities was very high. The result also revealed that the respondents on the average can send and receive emails for research productivity. This result implies that the academic staff are abreast with modern realities in terms of technology such as being able to search for, retrieve and store information sources on the database to enhance research. This also means that they can effectively participate in online forums like discussion forum and social networks to foster their research as well as make use of the following storage device disk, CDs, flash drive, zip disks and DVDs etc. to store information for research productivity. The finding contradict that of Omotunde and Ajie (2017), who in their studies found out that technology literacy of academic staff were on a low level. Findings reveal that the level of research productivity of academic staff is low. However, the result also revealed that journal article publications were high. This result implies that the academic staff are not meeting the requirements expected. The level of research productivity is low. This low level of research productivity of academic staff found out in this study is consistent with the assertion of Simisaye (2016). These findings also supported the work of Oguejiofor, Chinwe (2019) who reported that greater percentage of publications among academic staff in the federal universities in Nigeria was journal articles. This assertion is in collaborates with the findings of this study that the highest number of research productivity indicators is in the area of journal articles.

The hypothesis tested showed that there is a significant relationship between technology literacy and research productivity of academic staff. This implies that increase in the technology literacy will lead to an increase in research productivity of academic staff in selected private universities in Ogun State. The finding support the claim of Anekwe (2018), who emphasized that Web-based IT Literacy (WBIL) significantly, improves research productivity. This implies that academic staff with their knowledge on technology can easily carry out their research without stress and they can also join their counterparts in other parts of the globe who have taken advantage of ICT resources greatly to improve their research productivity. Omekwu, Ibegbulam, Aiyebelehin, Ejikeme, and Ezema (2019) opined that academic staffs are expected to exhibit high level of information literacy skills by virtue of their carrier and exposure to research. This is because research process requires them to formulate need for information, identify and evaluate sources, retrieve the needed information and blend the information in order to create new knowledge which is research.

#### Recommendations

- 1. There is need for the university administration to provide adequate research funds/grants for academic staff of selected private universities in Ogun State to carry out research and get their research works published in reputable outlets both local and international
- There is also the need to improve research productivity of academic staff of the private universities. This could be done by sponsoring academic staff to training on modern research skills both locally and internationally.
- 3. There is also a need for the management of these private universities to constantly organize training and retraining programs that will help improve the research productivity level of the academic staffs.
- 4. There is also a need for management of these private universities to organize training and retraining programme on the use of modern technological tools and resources for research activities to further improve the technology literacy and capability to effectively use these tools.
- 5. Academic staffs of the private universities should also be encouraged and mandated to constantly make use of modern technological tools and resources for their daily research works to boost and improve their research productivity.

#### Reference

- Adetoyeje, Y.O., Donald, R. E., Adewale, L.O., & Adeniji, T. (2019). Research productivity of academic staff in a Medical School. *Sahel Medical Journal*, *22*(4), 219-225.
- Anekwe, J. U. (2018). Impact of web-based information literacy on research productivity among academics in Nigerian federal Universities. *International Journal of Multidisciplinary Research and Development*, *5*(12), pp 218-226.
- Hague, C. (2016). It's not chalk and talk anymore": school approaches to developing students' digital literacy. Available: <u>http://www.nfer.ac.uk/publications/FUTL09/FUTL09.pdf</u>
- Ojeniyi, O. A., & Adetimirin, A. (2016). ICT Literacy Skills and Electronic Information Resources Use by Lecturers in two Private Universities in Oyo State, Nigeria. *Library Philosophy and Practice (e-journal)*.
- Oguejiofor, C. (2019). Information literacy and research productivity of Postgraduates in Babcock University, Ilishan-Remo, Ogun State, Nigeria. (unpublished undergraduate project). Babcock University, Ilisan Remo.
- Oladele Adeola Buraimo. (2016). in ICT Literacy Skills and Electronic Resource Utilization among Academic Staffs of Olabisi Onabanjo University.
- Omotunde, O. & AJie I. A. (2017). Information communication technology training needs of Academic Staff in Universities in Ekiti State, Nigeria
- Onyebinama, C. (2021). Information and communication technology (ICT) skills usage amongst Undergraduate Students in Universities in Imo State.
- Simisaye, A. O. (2016). Information literacy skills, emotional intelligence, socio-economic factors and research productivity of Academic Staff of Research Institutes in South-West Nigeria. (unpublished doctoral dissertation). Babcock University, Ilisan Remo.
- Wisdom O.A. (2018). Assessment of ICT literacy skills of digital library users and staff in Salem University Lokoja, Kogi. *Library Philosophy and Practice (e-journal)*