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ICT SKILLS AS DETERMINANT OF USE Of ELECTRONIC INFORMATION RESOURCES AMONG POSTGRADUATE STUDENTS OF UNIVERSITY OF ABUJA NIGERIAN

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Abstract
This paper examined the influence of Information and Communication Technology (ICT) skills on the utilization of electronic information resources (EIRs) by postgraduate students at the University of Abuja, Nigeria. Survey research design was adopted for the study. *The population for the study comprised of 571 postgraduate students. The sampling technique used to select the sample size for the study was simple random sampling using Krejcie and Morgan table for sample size determination. The sample size for the study is 277 postgraduate students. The data is collected through a self-structured questionnaire. The findings show that postgraduate students at the University of Abuja possess high ICT skills and make extensive use of EIRs, particularly the World Wide Web, electronic mail, and e-news platforms. The study concludes that there is a significant positive influence of ICT skills on the use of EIRs among the postgraduate students. The study therefore recommended that level of ICT skills among postgraduate students should be sustained. The library management should provide an enabling environment for EIR use and organize sensitization workshops to promote access and utilization of electronic resources in the academic context.*
Keywords: *ICT skills, Use electronic information resources, Postgraduate student*

Introduction

Advent of Information and Communication Technology (ICT) has created an information environment that requires new skills, and this is known as ICT skills. ICT skills, also known as Information and Communication Technology skills can be referred to as the abilities and knowledge required to effectively use

and navigate digital technologies and information systems. These skills encompass a wide range of competencies related to technology, digital tools and communication (Schleicher, 2017). ICT skills play a crucial role in conducting effective and efficient information searches. These skills enable individuals to navigate digital resources, access vast amounts of information, and evaluate the credibility and relevance of sources. These skills empower individuals to navigate digital platforms, effectively use search engines, critically evaluate online information, and make informed decisions based on credible and relevant sources. Developing and honing ICT skills enhances individuals' ability to access and utilize the vast wealth of digital information available today.

The National ICT Skills Framework by NITDA (2018) outlines the essential skills required in the Nigerian ICT sector. It provides a comprehensive framework that categorizes skills into various domains such as software development, networking, cybersecurity, data analytics, and digital entrepreneurship. The framework highlights the importance of ICT skills in driving Nigeria's digital economy. Odionye and Ismaila (2019) explores the acquisition of digital skills in Nigeria and its impact on sustainable development. It discusses the need for individuals to possess ICT skills for economic empowerment, innovation, and job creation. The study emphasizes the role of ICT skills in bridging the digital divide and promoting inclusive growth in Nigeria. The World Bank's Digital Economy Diagnostic report on Nigeria provides an assessment of the country's digital landscape, including ICT skills development. The report highlights the importance of enhancing ICT skills to leverage the potential of the digital economy in Nigeria. It emphasizes the need for targeted investments in digital skills training and education (World Bank Group, 2019).

The significance of ICT skills in Nigeria's digital transformation this is because the role of ICT skills in economic development, job creation, and bridging the digital divide. Enhancing ICT skills in Nigeria is crucial for individuals to participate in the digital economy, leverage technological advancements, and contribute to the country's socio-economic growth. Bilal (2017) examines the information search behaviour of children using web search engines. It emphasizes the role of ICT skills in effectively utilizing search tools, query formulation, and evaluating search results. The study highlights the importance of ICT skills in successfully completing research tasks. The ACRL Framework for Information Literacy (2016) emphasizes the integration of ICT skills in information search and evaluation. It highlights the need for individuals to possess technological competencies to effectively access and evaluate information from diverse digital sources. The framework acknowledges the role of ICT skills in developing

information literacy. Hargittai and Shafer (2016) examines gender differences in online skills and information search behaviour. It demonstrates that individuals with higher ICT skills exhibit more effective information search strategies, including better query formulation and evaluation of search results. The study emphasizes the significance of ICT skills in optimizing information search processes. Postgraduate students need to possess ICT skills in order to access and utilise electronic information resources. Sander (2019) investigated the influence of ICT skills on the digital divide among school students, including postgraduate students. It suggests that postgraduate students with higher ICT skills are more likely to bridge the digital divide by effectively using electronic information resources. The study highlights the role of ICT skills in reducing disparities in accessing and utilizing digital resources.

Electronic information resources refer to digital content that is available and accessed through electronic means. These resources include but are not limited to online databases, digital libraries, e-books, e-journals, websites, online videos, and multimedia content. Deegan and Tanner (2019) discussed digital futures and strategies for managing electronic information resources in the information age. They highlight the importance of electronic information resources in providing quick and convenient access to a wide range of content, including scholarly articles, books, and multimedia resources. The use of electronic information resources refers to the utilization of digital content that is accessed through electronic means. This includes accessing, searching, retrieving, evaluating, and utilizing various types of digital resources such as online databases, e-books, e-journals, websites, multimedia content, and other digital materials (Tenopir & King, 2014).

The impact of ICT skills on the use of electronic information resources is particularly pronounced at the tertiary level. Mahmud and Shahbodin (2019) investigated the utilization of electronic resources among postgraduate students and found that those with higher ICT skills were more inclined to utilize digital platforms for research and study purposes. This demonstrates that as students progress through their academic journey, their reliance on electronic information resources increases, emphasizing the significance of ICT proficiency in higher education. Furthermore, the relationship between ICT skills and the use of electronic information resources is not limited to academic settings. Mardhani and Angriyani (2017) conducted research in Indonesian higher education institutions and found that students with stronger ICT skills were more likely to access e-learning platforms and educational websites outside of the classroom. This indicates that students with higher ICT proficiency tend to engage in self-directed

learning and take advantage of digital resources beyond the prescribed curriculum.

Statement of the Problem

In today's digital age, Information and Communication Technology (ICT) has become an essential aspect of education. Electronic resources such as e-books, online databases, and multimedia content offer students a vast array of information at their fingertips. However, the effective utilization of these electronic resources heavily relies on the students' ICT skills. With the increasing emphasis on technology integration in the educational system, it is imperative to understand how students' ICT skills influence their use of electronic resources. Despite the availability of advanced technologies, some students may still face challenges in accessing, navigating, and evaluating digital information due to their limited ICT skills. This raises concerns about the potential impact on their academic performance and overall learning experience. It is on this background that, this study influence of ICT skills on use of electronic information resources among postgraduate students in University of Abuja.

Objectives of the Study

The main objective of the study is to investigate the influence of ICT skills on use of electronic information resources among postgraduate students in University of Abuja. The specific objectives are to:

1. Find out the level of ICT skill of postgraduate students in university of Abuja.
2. Ascertain the extent of use of electronic information resources among postgraduate students in University of Abuja
3. Determine the influence of ICT skills on use of electronic information resources among postgraduate students in University of Abuja.

Hypothesis

The research hypothesis was tested at 0.05 level of significance.

H0: ICT skills do not significantly influence use of electronic information resources of postgraduate students in University of Abuja.

Review of Related Literature

Information and Communication Technology (ICT) has revolutionized the way students' access and utilize educational resources. This literature review aims to explore the relationship between students' ICT skills and their utilization of electronic resources. Smith and Johnson (2019) examined the influence of ICT

skills on electronic resource access in underserved communities. The study highlighted that student with lower ICT proficiency faced greater barriers in accessing and utilizing electronic resources. Addressing this digital divide necessitates targeted interventions to bridge the gap and ensure equitable access to educational materials. In the same vein Kim and Park (2020) investigated how students' ICT skills influenced their online information seeking behaviour. The study revealed that students with advanced ICT skills displayed more efficient and effective information-seeking patterns, leading to enhanced utilization of electronic resources and improved academic performance. In addition, Chen and Liu (2021) conducted a case study in a Chinese higher education context to explore the impact of ICT competency on electronic resource utilization. The findings suggested that students' ICT proficiency positively correlated with the frequency and depth of their engagement with electronic resources, emphasizing the importance of integrating ICT training into the curriculum.

In a study by Jones (2019) investigated the digital behaviours of Generation Z students, often referred to as digital natives. The research explored how frequently students accessed electronic resources and identified key factors influencing their usage, including technological proficiency and the availability of high-speed internet. The study found that digital natives extensively used electronic resources for research, study materials, and collaboration, suggesting a high level of integration into their academic lives. Smith and Johnson (2020) conducted a cross-sectional study comparing the electronic resource usage patterns between undergraduate and postgraduate students. Their research revealed that postgraduate students tended to make more extensive use of electronic resources, particularly academic databases and online journals, due to the demands of advanced research and higher academic expectations. In contrast, undergraduates were more inclined to use social media and online forums for learning.

Research Methodology

The research design adopted for this research work is the survey research design. This research design is considered most appropriate for the study because it would give a better understanding of the situation at hand in terms of the influence of independent on dependent variable. The population for this study comprised of 571 postgraduate students at university of Abuja, Nigeria that have graduated at least one set of postgraduate students. The sample size for the study is 227 determined using Krejcie & Morgan (1970) table for sample size. The instrument for data for the study is a self-structure questionnaire. The data

collected for this study were coded and analysed using descriptive and inferential statistics. Descriptive statistics such as frequency distribution, percentages, mean and standard deviation were used to analyse the research questions. Hypothesis was analysed using simple linear regression with the aid of Statistical Package for Social Sciences (SPSS).

Data Analysis

Research Question One: What is the level of ICT skills of postgraduate students in university of Abuja, Nigeria?

Table 1. Level of ICT skills of postgraduate students

Level of ICT skills of librarians	Very High (4)	High (3)	Low(2)	Very Low(1)	Mean	Std.
Ability to use the computer devices					**3.19**	**0.736**
My ability in using MS Word to type my documents is	117 (51.5%)	88 (38.8%)	20 (9.1%)	2 (0.6%)	3.41	0.681
My ability in using google drive to store files on the servers is	109 (47.9%)	91 (40.0%)	27 (12.1%)	-	3.36	0.689
My ability in using google docs to create and edit files online while collaborating with other with other colleagues is	95 (42.4%)	98 (43.0%)	32 (13.9%)	2 (0.6%)	3.27	0.719
My ability in using google drive to synchronize files across devices is	83 (36.4%)	114 (50.3%)	26 (11.5%)	4 (1.8%)	3.21	0.714
My ability in using reworks to Management reference management software is	81 (35.8%)	99 (43.6%)	44 (19.4%)	3 (1.2%)	3.14	0.764
My ability in using Mendeley to manage and share papers and manage reference is	71 (31.5%)	110 (48.5%)	44 (19.4%)	2 (0.6%)	3.11	0.724
My ability in using statistical software such as SPSS for data analysis is	74 (32.7%)	106 (46.7%)	40 (17.6%)	7 (3.0%)	3.09	0.787
My ability in using google drive to share files for research is	70 (30.9%)	114 (50.3%)	33 (14.5%)	10 (4.2%)	3.08	0.789
My ability in using my skills in using endnote to manage bibliographies and references is	66 (29.1%)	113 (49.7%)	43 (18.8%)	5 (2.4%)	3.05	0.759

Ability in using electronic databases					**3.35**	**0.687**
My ability in using internet search engine to search for information resources is	107 (47.3%)	99 (43.6%)	18 (7.9%)	3 (1.2%)	3.37	0.683
My ability in using online databases to access resources such as EBScohost, HINARI, AGORA, Scopus, JSTOR, SciELO, ScienceDirect, etc. is	106 (46.7%)	98 (43.0%)	21 (9.1%)	3 (1.2%)	3.35	0.697
My ability in using Online Public Access Catalogue (OPAC) to access resources is	100 (44.2%)	99 (43.6%)	28 (12.1%)	-	3.32	0.681
Ability in using research tools					**3.40**	**0.645**
My ability in using e-mails to send out research work for editing and publication is	119 (52.7%)	94 (41.2%)	12 (5.5%)	2 (0.6%)	3.46	0.630
My ability in using WhatsApp to collaborate with colleagues is	117 (51.5%)	98 (43.0%)	12 (5.5%)	-	3.46	0.600
My ability in using storage devices such as flash drive, CD plate, memory card etc.to store document is	119 (52.7%)	88 (38.8%)	18 (7.9%)	2 (0.6%)	3.44	0.665
My ability in using video conferencing to collaborate with colleagues is	103 (45.5%)	96 (42.4%)	25 (10.9%)	3 (1.2%)	3.32	0.716
My ability in using ResearchGate to share papers, ask and answer questions, and find collaborators is	90 (39.4%)	119 (52.7%)	18 (7.9%)	-	3.32	0.613
Grand Mean					**3.31**	**0.689**

Source: Researcher's Field Survey, 2023

Decision rule: 1.5 – 2.0 = Very low, 2.1 – 2.49 = Low, 2.5 – 3.49 = High, 3.5 – 4.0 = Very high

Postgraduate students in university of Abuja, Nigeria were asked to indicate their level of ICT skills in Table 1. The result indicates high level of ICT skills among postgraduate students in university of Abuja, Nigeria (overall mean score = 3.31) on a scale of 4. ICT skills was divided into three constructs namely ability in using the computer, ability in using electronic databases and ability in using research tools. The result shows the average mean of each of the construct to be ability in using the computer (mean = 3.19), ability in using electronic databases (mean = 3.35), ability in using research tools (mean = 3.40) This result indicates that the postgraduate students in university of Abuja, Nigeria have more ability in using research management tools than using electronic databases in carrying out research activities. This could be because of the role these research management

tools play in promoting library and information services research activities.

Research Question 2: To what extent do the students of the postgraduate students in university of Abuja, Nigeria use electronic information resources?

Table 4.5 shows the extent of use of electronic information resources by the postgraduate students in university of Abuja, Nigeria.

Table 2: Extent of use of electronic information resources

Use of EIR	Very high extent (%)	High extent (%)	Low Extent (%)	Very low Extent (%)	X	Std. Dev
World Wide Web	152(67.1)	45(20.0)	11(4.7)	19(8.2)	3.46	.916
Electronic mail	133(58.5)	56(24.7)	18(7.9)	20(8.9)	3.33	.957
E-news	101(44.5)	77(34.0)	23(10.2)	26(11.4)	3.12	.995
E-book	96(42.4)	77(33.6)	29(12.8)	25(11.2)	3.07	.998
E-reference	70(30.8)	81(35.9)	38(16.6)	38(16.6)	2.81	1.051
E-journal	63(27.7)	82(36.1)	46(20.5)	36(15.8)	2.76	1.027
E-Archives	66(28.9)	81(35.7)	38(16.6)	42(18.7)	2.75	1.069
CD-ROM	62(27.3)	81(35.6)	45(19.8)	39(17.3)	2.73	1.045
Library OPAC	66(29.1)	68(29.9)	50(22.1)	43(18.9)	2.69	1.048
Online databases	52(22.8)	74(32.6)	46(20.5)	55(24.1)	2.54	1.091
Grand Mean & STD					**2.93**	**1.019**

Source: Field survey, 2023

Decision rule: 1.5 – 2.0 = Very extent low, 2.1 – 2.49 = Low extent, 2.5 – 3.49 = High extent 3.5 – 4.0 = Very high extent

Table 2 reveals the extent of use of EIR by the respondents is to high extent. The result shows that the respondents used e-resources to high extent (Grand mean = 2.93). The extent of use of the World Wide Web had a mean score of 3.46. This is followed using electronic mail ($\bar{x}$ = 3.33), E-news ($\bar{x}$ = 3.12) and E-book ($\bar{x}$ = 3.07). However, the respondents reported little use of the other EIRs considering the grand mean 2.93 of the extent of use of electronic information resources.

Moreover, Library OPAC ($\bar{x}$= 2.69) and online databases ($\bar{x}$ = 2.54) were the least used. The finding from Table 4.5 shows that majority of the respondents claimed to exhibit high levels of use of electronic information resources. It can be said that the postgraduate students in university of Abuja, Nigeria use electronic information resources has not reach it optimal extent.

Test of Hypothesis

Table 3: Influence of ICT skills on Use of electronic information resources

Model	R	R^2	Adjusted $_R2$	Std. Error of Est.	Df	F	t.	Sig.
(Constant)					1	136.13	6.617	.000
ICT skills	.439	.193	.192	6.5211	569		11.667	.000

Dependent variable: Use of electronic information resources

Linear regression analysis was carried out to determine the influence of ICT skills on the use of electronic information resources by the respondents. The result on Table 3 shows a correlation coefficient R = .439 and adjusted (R^2 = 0.192, F (1,569) = 136.13, p< 0.05) which is significant. The hypothesis is therefore rejected. This implies that the respondents' ICT skills level accounted for 19.2% of the variance in the use of electronic information resources. There is a significant influence of ICT skills on the use of electronic information resources by the respondents.

Discussion of Findings

Finding on the relative influence of ICT skills to use of EIRs showed that ICT skills had a significant influence on the use of EIRs. The result of the finding also revealed that there is relative effect of independent variable on the use of electronic information resources. This implies that ICT skills had effect on the use of electronic information resources by the postgraduate students. This means that lack of ICT skills by the students will result in low usage of electronic information resources; on the other hand, increase in ICT skills level of the postgraduate students in University of Abuja, Nigeria will boost their use of electronic information resources. The finding agrees with the study by Hamutunwa (2018) who indicated that lack of ICT skill contributes to the learners' negative attitude towards the use of electronic resources. This implies that the more skilled students are in ICT they become will result into effective use of e-resources.

The finding on ICT skills of university of Abuja postgraduates' students revealed that the respondents are skilled as they rated themselves high in ICT skills. They rated themselves high in the basic computer skills, electronic communication skills, and Internet skills. This finding supports that of Obasuyi, 2019 which revealed that students have the basic computer skills and possess Internet searching skills. Finding on the extent of use of electronic information resources revealed that the electronic information resources were used to high extent by the postgraduate students in University of Abuja, Nigeria. The finding corresponded with the findings by (Smith & Johnson, 2020) that revealed that the students in Nigerian universities use e-books, e-journals and e-news mostly and that they often utilize electronic information resources.

Conclusion

The study concludes that ICT skills had significant influence on electronic information resources of postgraduate students in University of Abuja. Consequently, this study has revealed that postgraduates in University of Abuja, Nigeria are skilled in ICT skills. The study also revealed that the postgraduate students' extent use EIRs is to high extent.

Recommendations

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

1. Postgraduate students in University of Abuja should sustained their ICT skills level to enhance the use electronic information resources.
2. University of Abuja management should provide an enabling environment in the library and in the university at large in order to facilitate the use of e-resources. Thus, adequate investments in ICT infrastructural facilities such as the computers, the internet, intranet, virtual/e-library, mobile technology to match the trends in the globalization of education.
3. The University of Abuja library should organise a sensitization workshop on the available electronic resources provided by the library to enhance use of electronic resources.

References

Association of College & Research Libraries (ACRL). (2016). Framework for Information Literacy for Higher Education. Retrieved fro https://acrl.ala.org/framework/

Bilal, D. (2017). Children's use of the Yahooligans! Web search engine: II. Cognitiveand physical behaviours on research tasks. *Journal of the American*

Society for Information Science, 51(7), 646-665.

Chen, Y., & Liu, C. (2021). The Impact of ICT Competency on E-resource Utilization:A Case Study of Chinese College Students. *International Journal of Educational Technology in Higher Education, 18*(1), 32.

Deegan, M., & Tanner, S. (2019). Digital futures: Strategies for the information age.*Library Review, 51*(4), 182-188.

Hargittai, E., & Shafer, S. (2016). Differences in actual and perceived online skills: The role of gender. *Social Science Quarterly, 87*(2), 432-448.

Jones, A. (2019). "Digital Natives: A Comprehensive Study of Student Engagement with Electronic Resources. *Journal of Educational Technology, 35*(3), 456 472.

Kim, S., & Park, H. (2020). Understanding the Role of ICT Skills in Online Information Seeking Behaviour: A Study of University Students. *Library & Information Science Research, 42*(2), 178-191.

Mahmud, M. R., & Shahbodin, F. (2019). The Impact of ICT Skills on the Utilization of Electronic Resources Among Postgraduate Students. *Turkish Online Journal of Educational Technology, 18*(4), 92-100.

Mardhani, A., & Angriyani, N. (2017). Relationship between ICT Skills and Electronic Resources Use in Indonesian Higher Education. *International Journal of Emerging Technologies in Learning, 12*(5), 59-64.

National Information Technology Development Agency (NITDA). (2018). National ICT Skills Framework. Retrieved from https://nitda.gov.ng/national-ict-skillsframework/

Obasuyi, L. O. (2019). Information and Communication Technology literacy skills and class instruction: a comprehensive perception survey of University of Benin first year students. *Nordic Journal of Information Literacy in Higher Education, 7*(1), 63-79

Odionye, G., & Ismaila, Y. S. (2019). Digital Skills Acquisition and Sustainable Development in Nigeria. *International Journal of Advanced Research inComputer Science, 10*(5), 362-369.

Smith, B., & Johnson, C. (2020). A Comparative Analysis of Electronic Resource Usage Among Undergraduate and Postgraduate Students. *Higher Education Research, 42*(1), 89-104.

Smith, J., & Johnson, R. (2019). The Digital Divide: Exploring the Relationship Between ICT Skills and Electronic Resource Access Among Students in Underserved Communities. *Journal of Education and Social Justice, 25*(4), 532-547.

Tenopir, C., & King, D. W. (2014). The use and users of electronic library

resources: An overview and analysis of recent research studies. Council on Library and Information Resources.

World Bank Group. (2019). Digital Economy Diagnostic: Nigeria. Retrieved from https://openknowledge.worldbank.org/bitstream/handle/10986/33087/137184.pdf

Schleicher, A. (2017). Schools for 21st-Century Learners: Strong Leaders, Confident Teachers, Innovative Approaches. OECD Publishing.