DIGITAL COMPETENCIES AND USAGE OF ELECTRONIC INFORMATION RESOURCES BY POSTGRADUATE STUDENTS OF FACULTY OF SOCIAL SCIENCES IN DELTA STATE UNIVERSITY, ABRAKA

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Abstract

This study investigated Digital Competencies and Usage of Electronic Information Resources amongst Postgraduate Students of Faculty of Social Sciences in Delta State University, Abraka. The study was made of 164 postgraduate students of the faculty of social sciences. The entire population was used as a result of the size of the population. A descriptive survey design of the correlational type was adopted for the study. Questionnaire was used to elicit information from the respondents. Retrieved data was analysed using mean with a criterion mean of 2.50. The study revealed that the overall result on the competencies of postgraduate students is high but the level of competencies in some of the individual items assessed is low. In conclusion, the study recommended that the various digital skills should be acquired to enable easy access to electronic tools and resources.

Keywords: *Electronic resources, competencies, Digital Competencies, Information, Usage of Electronic Resources*

Introduction

Electronic Information Resources (EIRs) which include digital journals, databases, e-books, institutional repositories, digital libraries, and open educational resources (OERs), serve as vital tools that facilitate academic research, knowledge dissemination, and lifelong learning. Electronic information resources (EIRs) are regarded as digital materials that are accessible through electronic means such as the internet, databases, and CD-ROMs. Obande and Abdulsalami (2020) define EIRs as collections of information in electronic or digital format that are used on electronic devices like computers and mobile phones. Igere (2020) has also described electronic information resources as data that are converted into a readable form through the connection of some device like the internet network and other computer related facilities like flash drive that ease the access of these electronic resources. These resources are e-journals,

electronic books, online encyclopedias, theses, conference papers, and research databases that are used primarily in academic and research settings to provide current, relevant, and easily accessible information to users. Adedokun and Fawole (2018) noted that some electronic resources that are used by students are e-journal, e-books, e-references, e-news, e-mail, CD-ROM databases, and Online Public Access Catalogue (OPAC). Buba and Lawal (2023) described EIRs as information materials stored, accessed, and delivered in electronic formats, encompassing databases online, digital libraries, e-books, e-journals, and multimedia resources that support academic work. Usage is typically via computers or mobile devices by connecting to the internet, allowing researchers and postgraduate students to search, retrieve, and use scholarly content efficiently, thereby promoting quality research, innovation, and knowledge dissemination in academic institutions. Singh (2024) further elaborates that EIRs are digitized academic or scholarly content accessible and used remotely or on-site via electronic devices, including subscription-based databases and open access platforms offering academic journals, technical reports, and bibliographic records.

The use of EIRs has become an essential part of academics, with important role in scholarly communication and learning, particularly in the area of postgraduate education. Digitally today, postgraduate students are expected to engage deeply with current, credible, and diverse information sources to enhance a qualitative academic and research activities. Oduwole and Akpati, (2022) noted that these students, with regard to their advanced study, are always required to conduct more specialized research that demands access to specialized, often expensive, and current sources of information. These EIRs resources are crucial in supporting educational and research by offering vast, up-to-date information that enhances academic productivity, especially in higher education and library environments where timely information access is critical. It was noted by Igere (2020; 2021) that EIRs for academics are easily accessible to everyone irrespective of their locations. Prior to now these resources were only accessible to users only by traveling to distant academic environments or other institutions where these resources are found. Presently, the skillfulness of students while using these EIRs is very important. According to Omotayo and Oduwole (2023), several factors lead to the effective usage of these electronic resources which are, digital competencies, information literacy skills, attitudes toward technology, and awareness of the available resources. Digital competency is broadly defined as the confident, critical, and responsible use of digital technologies for learning, work, and active participation in the society. According to the European Commission (2022), it involves the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately across various aspects of life such as education, employment, and social engagement. Vuorikari et al. (2022) emphasize that digital competence comprises a broad set of essential skills needed for effective engagement in the digital world. These include the ability to locate, evaluate, and manage information; communicate and collaborate through digital tools; create and adapt digital content; ensure safety and well-being online; and solve technical problems. In academic research, Information and Data Literacy is

important. It helps in empowering students to search for, access, and effective information analysis, which is needed for postgraduate research and the focus is often on primary and secondary data that must be located, verified, and evaluated critically. The Communication and Collaboration competency allows students to be involved with other researchers, sharing findings, and collaborating effectively in digital environments.

As noted by Bawack, Kamdjoug, and Wamba, (2023) that students who exhibit higher levels of digital competency tend to use EIRs more effectively and they demonstrate greater confidence in exploring a wide array of scholarly platforms and digital tools. On the contrary, Ifijeh and Yusuf (2020) stated that, students with lower digital competency may feel overwhelmed by the complexity of digital platforms, which could lead to frustration, disengagement, and reliance on outdated or less credible sources. Presently, students are to be vast in technological search activities but observations has shown that while some students are expert in using these resources, others continually rely on more traditional methods or less credible digital platforms. This discrepancy in usage raises important questions about the effectiveness of current digital literacy programs and the extent students are truly prepared to utilize EIRs for academic success hence, this study is to find out the digital Competencies of students and how it influence the use of EIRs among postgraduate students.

Objectives of the Study

The following specific objectives were addressed

1. Assess the level of digital competency among postgraduate students in the Faculty of Social Sciences, Delta State University, Abraka;
2. Investigate the extent to which postgraduate students use electronic information resources in their academic work;
3. Determine the relationship between digital competency and use of electronic information resources among postgraduate students.

Research Questions

The following research questions were raised in the study

1. What is the level of digital competency among postgraduate studentsin the Faculty of Social Sciences, Delta State University, Abraka?
2. To what extent do postgraduate students use electronic information resources in their academic work?
3. What is the influence of digital competency on the use of electronic information resources among postgraduate students?

Review of Related Literature

In today's technology-driven academic environment, digital competency happened to be a core requirement for postgraduate success. It is particularly critical for students at this level because postgraduate study emphasizes independent research, scholarly writing, and digital collaboration. Digital competency involves the effective use of technological tools, ability to

locate and assess online resources, and the capacity to get engaged in academic communication within digital spaces (Falloon, 2020). For postgraduate students, it supports essential tasks such as conducting literature searches, analyzing datasets, utilizing e-resources, and publishing scholarly work. Without sufficient digital skills, students often face difficulties in meeting academic demands. Universities increasingly require students to interact with digital submission portals, online learning platforms, and electronic libraries, highlighting the necessity of strong digital literacy. Chan et al. (2017) describe digital competencies as a combination of knowledge, skills, and attitudes required to use ICT and digital media, which is fundamental for success in academic and professional settings.

Ahmad et al. (2023) define digital competencies level among postgraduate students as the extent of effective application of digital skills to support research, academic communication, and learning. This includes abilities in analysis of data, online collaboration, use of virtual learning platforms, and responsible internet practices. Students with high digital competence demonstrate confidence in navigating platforms, evaluating content critically, and incorporating technology into academic work. Similarly, Jibrin et al. (2024) explain that digital competency reflects been able to employ technology in research, learning, and scholarly communication, covering areas like information retrieval, digital content creation, cyber security awareness, and ethical resource use. These competencies determine how effectively students adapt to evolving digital environments for academics and professionals.

Several recent studies have examined the extent of digital competence among postgraduate students in Nigeria universities and beyond, highlighting variations across contexts and disciplines. Bello, Balogun, and Shaibu (2023) investigated digital media literacy among postgraduate students from three universities in Kwara State. Their study revealed a higher level of digital media literacy. In a related study, Jibrin et al. (2024) assessed digital competencies in in Kaduna State and found that while many students could identify information needs, utilize search engines, and select relevant materials, literacy level was not high. Okonkwo and Adeyemi (2024) examined digital literacy among postgraduate students in Ibadan and it revealed that students generally exhibited low levels of digital skills. Every individual in this era would need the capacity to engage fully in electronic resources usage. Falloon, (2020) has noted that in today's technology-driven academic environment, the capacity to engage in electronic search in digital space is of paramount. In order words, a high rate at which EIRs is use is needed among postgraduate students.

According to Uwandu, (2022), the use of EIRs has brought change to the academic landscape, particularly at the postgraduate level where access to timely and comprehensive information is vital. Igere (2022) has also noted that most establishments have adopted the provision of computerized/electronic resources to users as a result of its timely and easy access. These resources comprise digital materials such as online journals, e-books, institutional repositories, dbases, and other internet-based scholarly content that can be accessed electronically). By definition, Anyim (2018) explains that electronic information resources are

digital materials that enable the retrieval and use of information through electronic means. Their formats include e-books, databases, electronic journals, multimedia resources, and websites. Such resources are important because they serve as educational, research and professional developmental tools, granting students access conveniently to vast collections of information that support their academic and intellectual growth. EIRs usage has become particularly indispensable in higher education because they allow postgraduate students to discover, retrieve, and utilize information beyond the boundaries of traditional print materials. Igere (2023) stated that the presence of these information resources in a digitized format attracts visibility of invisible resources and also create improvement in accessing and acquiring resources by various users' at the same time and without any problem of distance. As institutions continue to invest in ICT infrastructure and expand digital collections access, the extent to which postgraduate students get engaged with these resources is presently a focal area of research in library and information science. In a study by Yahaya et al. (2017) on electronic usage by Postgraduate Students of Universities in North Central Nigeria revealed that students accessed EIRs almost daily, with many reporting use at least twice weekly. Ankrah and Atuase (2018) study also affirm that postgraduate students rely heavily on electronic resources for research projects, coursework, and thesis writing showing a high extent of usage of electronic resources. Igere and Achugbue (2022) study on social media addiction showed how students spend excessive time in accessing electronic resources showing a high extent of internet usage. Uwandu (2022) investigated EIR use among postgraduate at Imo State University, Owerri and revealed a low extent in the use of EIRs. Bello, Balogun, and Shaibu (2023) discovered that Nigerian postgraduate students frequently used electronic journals and online databases, showing a clear preference over traditional print resources. it is observed that most students who frequently utilize electronic information resources are skilled or competent in digital utiisation.

According to Adeleke and Emeahara, (2016), digital competency has emerged as a fundamental requirement for students' academic success. It refers to been capable to effectively search, evaluate, use, and create information using digital tools and platforms. For postgraduate students, digital competency is not merely an additional skill but an essential capability that directly influences the extent they can EIRs. Coşkunserçe and Aydoğdu (2022) noted that students who demonstrate higher competency levels are better able in navigating and exploiting EIRs academically. For postgraduate students, digital competency do not only include navigating search engines or online databases but also critically assessing credibility, managing references, organizing data, and engaging ethically with information. Oseghale (2023) found in a study of humanities graduate students at the University of Ibadan, those with stronger digital information literacy skills engaged more frequently with library e-resources and demonstrate greater confidence in retrieval. Daniel Abubakar and Adetimirin (2015) investigated Computer Literacy influence on Postgraduates' Use of E-Resources in Nigerian University Libraries and findings revealed a strong, positive, and significant correlation ($r = .740$, $p < .05$) between literacy and e-resource use. Adeniran and Onuoha (2018) study on Information Literacy Skills on

Postgraduate Students' Use of Electronic Resources in Private University Libraries in South-West Nigeria also found a positive relationship between higher information literacy and increased electronic resource use. The implication is that, when students are digitally competent, they easily access EIRs.

Research Methods

The research design for this study was the correlational type**.** The population is 164 postgraduate students in the Faculty of Social Sciences, Delta State University, Abraka, for the 2024/2025 academic session. Total enumeration sampling was adopted for the study as a result of the size of the population. The questionnaire divided into three sections was the instrument used for collecting data. The first section of the questionnaire was on level of digital competency, the second on extent to which postgraduate students use EIRs while the third is on the relationship between digital competency and usage of electronic information resources with each of them on four likert point scale. Retrieved data were analysed using with the use of descriptive statistics such as mean with a criterion mean of 2.50.

Results and Discussion of Findings

Research Question One: What is the level of digital competencies among postgraduate students, Faculty of Social Sciences, Delta State University, Abraka?

Table 1: Level of Digital Competencies among Postgraduate Students in the Faculty of Social Sciences, Delta State University, Abraka

ITEM	VHL	HL	LL	VLL	x̄
I am confident using basic computer software (e.g., word processing, spreadsheets).	47	46	36	35	2.64
I can effectively use online databases for academic research.	68	68	16	12	3.17
I am skilled in using digital communication tools (e.g., email, instant messaging).	47	46	37	34	2.65
I understand how to evaluate the credibility of electronic information resources.	25	23	54	62	2.07
I can use advanced search techniques to retrieve electronic information efficiently.	19	26	58	61	2.02
I am comfortable using digital tools for academic collaboration.	13	17	67	67	2.07
I can troubleshoot basic technical problems when using electronic resources.	22	24	59	59	2.10
I can use software for data analysis and presentation effectively.	19	21	62	62	1.98
I regularly update my digital skills through	63	62	20	19	3.03

training or self-learning.					
I am confident using mobile applications related to academic research and study.	47	46	36	35	2.64
Average Mean					**2.64**

Data presented in Table 1 answers Research Question one on digital competencies among postgraduate students. The average mean score of 2.64 is above the criterion benchmark, indicating a generally high rate of digital competency among the students. Specifically, students demonstrated strong competency in using online database for research (mean = 3.17), updating digital skills (mean = 3.03), skilled in digital communication tools (mean= 2.65), confident in using basic computer software (mean =2.64). Other items evaluated revealed low level of competencies. Using software for data analysis and presentation has a mean of 1.98, Using advanced search techniques to retrieve electronic information efficiently has a mean (2.02), using digital tools for academic collaboration, evaluating the credibility of EIRs both has a mean of (2.07) and troubleshooting basic technical problems when using EIRs has a mean of (2.10). It could be noted that the overall findings shows the level of competencies in digital usage is high but the competencies level in some of the individual items assessed is low. This finding is related to Bello, Balogun, and Shaibu (2023) findingd that the level of digital media literacy among postgraduate students from three universities in Kwara State was high. On the contrary, Jibrin et al. (2024) assessed competencies level in Kaduna State and found that the literacy level was not high.

Research Question Two To what extent do postgraduate students use electronic information resources in their academic work?

Table 2: Extent of Usage of Electronic Information Resources

ITEM	VHE	HE	LE	VLE	x̄
Online academic journals and articles	82	62	14	6	3.51
E-books and digital libraries	45	49	40	30	2.85
Institutional repositories and theses	38	31	45	50	2.35
Online citation and reference management tools	29	42	45	48	2.32
Multimedia resources (videos, podcasts) for learning	33	44	39	48	2.38
Academic social networks (e.g., ResearchGate, Academia.edu)	59	57	31	17	3.20
Digital archives and historical databases	48	46	39	31	2.88
Online academic forums and discussion groups	32	39	46	47	2.34

E-learning platforms and course management systems	25	38	49	52	2.22
Mobile apps for accessing academic content	49	42	39	34	2.97
Average Mean					**2.70**

Table 2 revealed the extent of EIRs used academically. The overall average mean of 2.70, which is above the criterion mean of 2.50, indicates a high extent of usage of electronic resources. Among the items assessed, online academic journals and articles are the frequently EIRs used (mean = 3.51), the next most use ER is academic social networks such as ResearchGate and Academia.edu (mean = 3.20), followed by e-learning platforms and course management systems (mean = 3.09), then online citation and reference management tools (mean = 3.00). Other resources show low usage. This indicates that postgraduate students make utilise of some of the EIRs to support their academic activities, with more preference on peer-reviewed journals and interactive platforms that facilitate scholarly communication and research efficiency while some others (E-learning platforms and course management systems, Online citation and reference management tools, Online academic forums and discussion groups, Institutional repositories and theses and Multimedia resources (videos, podcasts) for learning) are not used. This finding is in relation to that of Bello, Balogun, and Shaibu (2023) that postgraduate students in Nigeria frequently utilise electronic journals and online databases. On the contrary, Uwandu (2022) found that EIR use among postgraduate students in the Education faculty at Imo State University, was on a low extent.

Research Three: What is the influence of digital competency on the use of electronic information resources among postgraduate students?

Table 3: Influence of Digital Competency and Effective Use Electronic Information Resources

ITEM	SA	A	D	SD	x̄
Higher digital competency improves my ability to find relevant electronic information.	41	46	49	28	2.80
My digital skills help me use electronic resources more effectively in my academic work.	47	50	42	25	2.93
Understanding digital tools enhances the quality of my academic research.	45	48	44	27	2.86
Digital competency reduces the time I spend searching for information.	54	53	38	19	3.09
I can easily integrate electronic resources into my academic assignments.	57	55	35	17	3.16
Digital competency increases my confidence in	50	54	38	22	3.02

using academic technology tools.					
I use digital tools to critically analyze and evaluate electronic information sources.	30	42	54	38	2.52
Proficiency in digital skills helps me stay updated with recent academic materials.	48	49	42	25	2.95
Effective use of electronic resources depends on one's level of digital literacy.	40	43	45	36	2.79
Improving digital skills would enhance my academic research performance.	32	41	48	43	2.58
Average Mean					**2.87**

Table 3 showed the influence of digital competency on EIRs usage. The average mean score of 2.87, which is above the benchmark of 2.50, indicates a generally positive influence of digital competency on the effective use of electronic resources. The items with the highest mean scores include the ability to integrate electronic resources into academic assignments (mean = 3.16), reduction in time spent searching for information due to digital competency (mean = 3.09), and increased confidence in using academic technology tools (mean = 3.02). Other notable items on the influence of digital skills on use of ER were higher than the criterion mean. Although slightly lower, items such as using digital tools to critically evaluate sources (mean = 2.52) and believing that improving digital skills would enhance research performance (mean = 2.58) were still accepted. The findings overall suggest that postgraduate students recognize digital competency as a significant enabler in their ability to access, utilize, and benefit from electronic information resources for academic purposes**.** This is in relation with Adeniran and Onuoha (2018) study that there is a positive relationship between higher information literacy and increased electronic resource use. Similarly, Abubakar and Adetimirin (2015) investigation Influence of Computer Literacy on Postgraduates' Use of E-Resources in Nigerian University Libraries revealed a strong, positive, and significant correlation.

Conclusion

This digital era demands competencies in order to be able to effectively access and utilize EIRs. This study on Digital Competencies and Usage of EIRs among Postgraduate Students has shown that the overall findings on the competencies of postgraduate students is high but the level of competencies in some of the individual items assessed (using software for data analysis and presentation, using advanced search techniques to retrieve electronic information efficiently, using digital tools for academic collaboration, evaluating the credibility of EIRs and troubleshooting basic technical problems when using electronic resources) is low. Postgraduate students utilise some EIRs to support their academic activities, with more preference on peer-reviewed journals and interactive platforms, while some others (E-learning platforms and course management systems, Online citation and reference management tools, Online academic forums and discussion groups, Institutional repositories and theses and Multimedia resources (videos,

podcasts) for learning) are not used. It was also found that digital competencies is a significant enabler in accessing, utilizing and benefiting from EIRs for academic purposes.

Recommendations

From the findings of this study, the following recommendations were made.

1. Postgraduate students should put in effort to be skillful in the following area (using software for data analysis and presentation, using advanced search techniques to retrieve electronic information efficiently, using digital tools for academic collaboration, evaluating the credibility of electronic information resources and troubleshooting basic technical problems) to ease accessibility to EIRs.
2. Postgraduate students should venture into the use of other electronic resources such as online citation and reference management tools, online academic forums and discussion groups, institutional repositories and theses and multimedia resources (videos, podcasts) for learning).
3. Since digital competencies positively influence the use of ER, institutions should ensure that training is organized for postgraduate students.

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