

*Full Length Research*

# Information and Communication Technology (ICT) Skills and Usage of Online Information Resources by Postgraduate Students of Universities

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The purpose of the study was to determine whether postgraduate students at Anambra state institutions used online information resources more frequently when they had information and communication technology (ICT) abilities. Three research questions were asked. The correlational research design was used for the study and the population of the study was 6,150 postgraduate students from six (5) universities in Anambra State, Nigeria for the study. The sample of the study is 615 respondents. The researcher used a proportionate random sampling technique to select the number of students from the six (5) universities in Anambra State, Nigeria for the study. The instruments that were used for this study are “Information and Communication Technology Skills” (ICTS) and “Utilization of Online Information Resources” (OIR). The findings of the study revealed that: there is a high coefficient of relationship between utilization of online electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State; there is a very high coefficient of relationship between utilization of online public access catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State; there is a very high coefficient of relationship between utilization databases and ICT skill possession by postgraduate students of the universities in Anambra State.

**KEYWORDS:** ICT, Skills, Usage, Online Information Resources, Postgraduate, Students and Universities.

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## INTRODUCTION

Computer has been found to be one of the greatest inventions of mankind which has changed the landscape of human and organization activities around the world from which libraries are not exempted. In collaboration to that, Dhanavandan, Esmail, Mohammed and Nagarajan (2012) observed that computer technology has drastically changed every facet of human endeavours including libraries, in such a way that many libraries are now deeply engaged in digitization of almost all of their resources in order to provide fast, interactive, and dynamic information services to users. A reflection of this is that information can therefore be disseminated speedily around the globe due to advancement in the channel of communication. Library resources are being converted from print to digital and web resources, which are being used extensively and subsequently resulted in tremendous growth of information dissemination and service delivery in the library. The use of computer and its facilities in performing library functions makes service delivery to the users faster and more efficient.

The basic library functions are books selection and acquisition, cataloguing and classification, reference service, current awareness just to mention a few are now being carried out with the use of ICT. Saka and Haruna (2013) categorized library jobs into cataloguing and classification of materials, provision of reference services, charging and discharging materials to users, among others were being carried out manually by librarians are now by automated. Currently, computer is being used to accomplish a large volume of what can be done manually. Other functions in the library include: reprographic services, binding services, indexing services, abstracting services, internet services, current awareness services, user education, information retrieval services etc. With the advent and use of Information and Communication Technology (ICT), the job performance are getting more cumbersome and changing every day. The complexities of these library activities or routines vary with the size, needs and objectives of the library, and the way they are carried out matters a lot. The computer has become a basic tool for generating and processing information in libraries. Nwachukwu (2014) contended that using computer to make information accessible and consumable engages diverse skill needed by information professionals, especially librarians. The author further stated that computer skills for librarians will mean the use of computer for giving service quickly and inexpensively. Computers have enhanced efficiency and librarians must acquire relevant computer skills and competencies to make their profession and roles relevant in this information-driven age.

However, throughout the world, information is perceived as an essential resource in decision-making. Every decision about life is based on some level of information received but one's ability to find and utilise appropriate information is key in decision making. In entirety, the concept of information skills/literacy (ISL) must be promoted without compromise as adequate use of information and its resources are vital for human development. In any discipline, the backbone of teaching, learning and research is information resources. Thus beyond the classroom, postgraduate students are expected to utilize information resources provided by the library in complementing classroom instructions, especially in this age of globalization where Information and Communication Technology (ICT) provide quick and easy access to a wide range of information resources worldwide. The provision and utilization of Information and communication technologies (ICTs) are part and parcel of the entire system because of their relevance to postgraduate students, information professionals, staff, and researchers of an institution. The importance of Information and Communication Technology (ICT) in education sector is enormous (Maxwell, 2018).

Throughout the history of the world, libraries have been known as important institutional repository center for human knowledge. The ability to use computer effectively and efficiently for various tasks has become a skill that is increasingly necessary as an essential part of one's education to access information in all formats. (Anandara, 2010). Skills such as bookkeeping, clerical and administrative work, stock taking, and so forth now constitute the main subset of computerized practices that form the core "Information Technology skills" package, spreadsheet, word processors and databases (Todd, 2012). Computers, according to Cockrane (2013), provide some advantages to libraries, which include: allowing easy integration of various activities, facilitating co-operation and the formation of library networks, helping to avoid duplication of effects within a library and between libraries in a network as well as eliminating some uninteresting and irrelevant task. It also helps to increase the range of services offered and increases efficiency. Merina (2013) asserted that computer helps librarians to accomplish special tasks involving editing, organizing and disseminating text. The adoption of computers in university libraries requires that the library professionals (librarians) possess ICT skills which will enable them to manipulate the machine. Ivencevich and Matteson (2014) noted that the information age which is sweeping the world requires personnel (staff) who understand and can use computers. ICT skills are essential because they subsequently enhance job performance to postgraduate students.

In order to use the online information resources (OIRs), postgraduate students need to possess ICT skills. In this regard, Israel and Edesiri (2016) stated that Information and Communication Technology (ICT) skill is one essential requirement for one to operate in the knowledge society of the 21st century. Ukaegbu and Wegwu (2019) defined Information and Communication Technology (ICT) skills as the abilities to use computer or any technologies for processing, storing, transmitting and dissemination information. Information and communication technology (ICT) skills are of great demand and significance in effective and efficient management of educational resources in the school system. The importance of ICT in the educational management is quite evident worldwide and especially in Europe and United States of America (Empirica, 2006). Governments are increasingly including the integration of ICT in education, enhancing infrastructure, and training human resources into national policies in order to develop their educational systems (UNESCO Institute for Statistics, 2010). It has impacted positively in teaching, learning, and research and school administration in a number of ways and based on the educational policy of governments, the aim is the complete utilization of ICT in teaching and management, which constitutes the object and tool for better learning and execution of all school functions. The ICT has become one of the basic building blocks of a modern society and this has made it necessary for different nations to lay emphasis on understanding ICT and mastering the basic skills and concepts. The ICT devices are electronic devices used for information processing, education, administration, management, commerce, engineering, agriculture, etc. With the possession of appropriate skills, ICT devices could be very useful in different

human activities. Acquiring ICT skills is a worthy asset that every school administrator must have if they desire to be effective and efficient in discharging his/her responsibilities. The aim of ICT integration is to improve and increase the quality, accessibility and cost-efficiency of the delivery of instruction to students, and it also refers to benefits from networking the learning communities to face the challenges of current globalization (Albirini, 2006). The findings of the 2009 meta-analysis paper indicate that teachers have a strong desire to integrate and integrate ICT in education, but they face numerous barriers and obstacles.

Postgraduate student in simple terms is anyone who is studying a postgraduate course, including a Postgraduate diploma, masters' course, and a PhD that requires an undergraduate degree as part of the entry requirements. A postgraduate is a student who has successfully completed an undergraduate degree level course at a college or university and is undertaking further study at a more advanced level. A postgraduate course is typically of minimum of one year duration full time but can take two or three years or more to complete depending on the course or institution. A postgraduate diploma, postgraduate degree or master's degree, doctorate degree or post-doctoral degree offer the student an advanced level of education in their chosen area of study. In this study, postgraduate students are students who are current studying postgraduate courses (i.e. postgraduate diploma, master, doctorate or postgraduate degree courses) in universities, either in Nigeria or abroad and are fully registered with their university libraries. The postgraduate students need information in various formats to satisfy their needs and enhance their academic pursuit during their postgraduate studies in the universities. The mandate of the university library is therefore to provide adequate and relevant information resources both in print and online for postgraduate students to support course work, assignments, research works, term papers, seminar presentations by providing relevant information and services provision for effective and efficient achievement of academic pursuit (Ogbole & Morayo, 2017).

Therefore, for postgraduate students to utilize the library online information resources maximally, they need information technology skills. Governments have invested billions of naira on acquisition of resources such as personal computers, online databases subscription, e-journals and e-books in the university libraries. If these resources are not accessed and utilized by the students, including postgraduate students, then, the investment by the governments may be considered a waste. Abubakar (2019) emphasized that many students may lack basic information technology skills on how to use the library while others may find it relatively hard to retrieve the information they needed.

However, there is a growing acceptance among academics, education policy-makers and employers that the development of ICT skills is part of the role of higher education. Employers are seeking graduates with a range of knowledge on ICT skills and personal attributes in addition to degree status. According to Akintunde (2018), Information and Communication Technology (ICT) as a terminology has overtaken information technology (IT) because of its appropriateness and utilization. Beebe (2017) posited that ICT is a short term for computers, software, networks, satellite links and related systems that allow people to access, analyze, create, exchange and use data, information and knowledge. The use of ICT has increased and broadened the impact and skills of students on how to seek information electronically. The ICT has become increasingly important in the pursuance of a degree-level education will affect both how students manipulate these e-learning resources and the way they are used for learning. ICT skills deal with the application of ICT to specific purposes. It is not just about using software package or using operating systems, neither is it concerned only with key board use skills and students' ability to copy-type or follow instructions. Rather, ICT skills among postgraduates is about students' ability to use their knowledge about ICT to find, develop and present information; whether it is text, image, or number, or all of these in an integrated task.

## **Statement of the Problem**

The university education system is developing and advancing both in the application of technology to teaching, learning and research processes. Online information resources have indeed become very important to higher education students in accessing up-to-date information at the right time and in the right form. Despite the high dependence of learning on Information and Communication Technology (ICT) and the great potentials Online information resources (OIR) holds for effective teaching, learning and research in universities, studies have shown that electronic information resources are grossly underutilized (Omoike, 2016). Perhaps a low level of ICT skills by students in tertiary institutions could be responsible for this situation.

The researcher wonders if this could be attributed to phobia for emerging technologies, lack of awareness of software packages related to one's discipline, inability to access the electronic information, unfriendly user interface, inadequate online information resources gadgets, slow network problem, lack of technical know-how and lack of consistent training on users research tools. These are capable of depriving postgraduate students the access to and use of relevant online information resources that are essential for the furtherance of their studies. Considering the indispensable role of OIRs to learning in this 21<sup>st</sup> century, it becomes imperative to empirically examine comparatively

postgraduates' use of online information resources in public and private university libraries since no preliminary studies reveals the extent of postgraduates' use of online information resources in public and private university libraries in the area of the study as to ascertain users challenges and proffer solution so as to ensure effective and efficient learning. Hence, the need for this study which seeks to investigate ICT skills for effective utilization of online information resources by postgraduate students in universities.

### Purpose of the Study

Specifically, the study sought to:

1. examine the relationship between utilization of electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State.
2. ascertain the relationship between utilization of online public access catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State.
3. determine the relationship between utilization of Internet Resources and ICT skill possession by postgraduate students of the universities in Anambra State

### Research Methods

The correlational research design was used for the study and the population of the study was 6,150 postgraduate students from six (5) universities in Anambra State, Nigeria for the study. The sample of the study is 615 respondents. The researcher used a proportionate random sampling technique to select the number of students from the six (5) universities in Anambra State, Nigeria for the study. The instruments that were used for this study are "Information and Communication Technology Skills" (ICTS) and "Utilization of Online Information Resources" (OIR) The study is delimited to five universities in Anambra State, such as federal, state, and private, namely: Nnamdi Azikiwe University, Awka; Chukwuemeka Odumegwu Ojukwu University Uli/Igboriam; Madonna University, Okija; Paul University, Awka; and Tansian University, Umunya.

### Analysis of the Research Questions

**Research Question One:** What is the relationship between utilization of electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State?

**Table 1.** Correlation scores on utilization of electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State

	N	r	MR	DR	Remark
Utilization of electronic resources ICT skill possession	615	0.891	Very high	positive	Very high positive relationship

Sample Size (n), Pearson (r), Magnitude of Relationship (MR), and Direction of relationship (DR)

The result in the table above shows the relationship between utilization of electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State. With the sample size of 615 and a correlation result of 0.891, it shows that there is a high positive relationship between utilization of electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State.

**Research Question Two:** What is the relationship between utilization of Online Public Access Catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State?

**Table 2:** Coefficient of relationship between utilization of online public access catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State

	n	r	MR	DR	Remark
Utilization of online public access catalogue (OPAC) ICT skill possession	615	0.911	Very high	positive	Very high positive relationship

Sample Size (n), Pearson (r), Magnitude of Relationship (MR), and Direction of relationship (DR)

From the result on table 2, the coefficient of relationship between utilization of online public access catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State was revealed. Also, the sample size of 615 and a correlation result of 0.911 were revealed. With the correlated coefficient of 0.911, it shows that there is a very high positive coefficient of relationship between utilization of Online Public Access Catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State.

**Research Question Three:** What is the relationship between utilization databases and ICT skill possession by postgraduate students of the universities in Anambra State?

**Table 3:** Coefficient of relationship between utilization databases and ICT skill possession by postgraduate students of the universities in Anambra State

	n	r	MR	DR	Remark
Utilization databases ICT skill possession	615	0.870	Very high	positive	Very high positive relationship

Sample Size (n), Pearson (r), Magnitude of Relationship (MR), and Direction of relationship (DR)

Table 3 above revealed the coefficient of relationship between utilization databases and ICT skill possession by postgraduate students of the universities in Anambra State. With the correlated coefficient of 0.870, it shows that there is a very high positive coefficient of relationship between utilization databases and ICT skill possession by postgraduate students of the universities in Anambra State.

## Discussion of Findings

### Utilization of electronic resources and ICT skill possession by postgraduate students of the universities

The finding shows that there is a high coefficient of relationship between utilization of electronic resources and ICT skill possession by postgraduate students of the universities in Anambra State. This finding is in agreement with the study of Ankrah and Atuase (2018) on the use of electronic resources by postgraduate students of University of Cape Coast. It was revealed that most of the postgraduate students were aware of the e-resources in the library. Most postgraduate students rather preferred to access information from Google scholar, and other web based databases more frequently than the databases in the library.

### Utilization of online public access catalogue (OPAC) and ICT skill possession by postgraduate students of the universities

The findings revealed that there is a very high coefficient of relationship between utilization of online public access catalogue (OPAC) and ICT skill possession by postgraduate students of the universities in Anambra State. The finding is in agreement with the study by Kumar (2017) on awareness and use of Online Public Access Catalogue services among the students of department of English, Mathematics and Commerce of Kurukshetra University, Kurukshetra, Haryana, India.

The Findings of the study revealed that students use OPAC for various purposes such as: to know about the availability of a document without visiting the library; to know what a library have as given author, title or subject, for easy search of different document; to know latest addition list, to know the status of a document, give the recommendation of library to purchase of title/books as well as to know the bibliographical details of title/documents. Also the most popular search approaches of OPAC by students are by title, author, and subject. Finding further revealed some of the problems faced by students while using OPAC to include lack of proper guidelines, lack of awareness programme, lack of computer system, network/server problem, and library staff not helpful as well as book not found on shelves as indicated by OPAC.

### Utilization of Internet Resources and ICT skill possession by postgraduate students of the universities

The findings revealed that there is a very high coefficient of relationship between utilization of Internet Resources and ICT skill possession by postgraduate students of the universities in Anambra State. The finding is in agreement with the study of Odede and Odede (2016) on undergraduates' computer skills and the use of online information resources: a case study of library and information science students of Delta State University, Nigeria. It was revealed that 98.5% agreed that Computer skills enhanced their use of online information resources in the library as well as being confident

in using online information resources due to their level of computer skills respectively. Also, 200 (100%) undergraduate students agreed that they could use mouse to right-click menu as well as save, print, and preview documents. While 191 (95.5%) undergraduate students agreed that they could use Microsoft word. 139 (69.5%) undergraduate students agreed that they can search engines to locate desired online information in the library. The study also revealed that the undergraduate students are computer literates.

## Conclusion and Recommendations

The study was carried out to investigate Information and Communication Technology (ICT) skills as correlates of utilization of online information resources by postgraduate students of the universities in Anambra state. Three research questions were asked. The correlational research design was used for the study and the population of the study was 6,150 postgraduate students from six (5) universities in Anambra State, Nigeria for the study. The sample of the study is 615 respondents. The researcher used a proportionate random sampling technique to select the number of students from the six (5) universities in Anambra State, Nigeria for the study for the study. The instruments that were used for this study are "Possessed "Information and Communication Technology Skills" (PICTS) and "Utilization of Online Information Resources" (UOIR).

From the findings of the study, the researcher therefore made the following recommendations:

1. The management of tertiary institutions should ensure that every form of electronic resource is made available in the school environment for students' access, to help source information for their academic progress.
2. Online public access catalogue (OPAC) should be provided in the school by the school authority for students' use, to help students see the trend of technology in the world and the need for them to know the different types of ICT facilities and ways they can be accessed.
3. The use of ICT should be made compulsory in tertiary institutions to enable students blend into the trend of technology in improving their knowledge for academic progress.

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