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Impact of Gender Mainstreaming Policies on the Operational Efficiency of the Nigerian Air Force <b>Halima Lamie Musa, Francis Ojonugwa Onu</b>	214-226
Attitude and Use of Electronic Appointment System by Health Workers in University of Abuja Teaching Hospital, Abuja <b>Abdullahi Ibrahim, Nasiru Sani</b>	227-237
Assessment of Personal Protective Equipment (PPE) Utilization Among Rapid Response Teams in Federal Capital Territory Abuja, Nigeria <b>Isyaku Jamilu Haladu, Muhammad Abdullahi Sabo</b>	238-250
Digital Competencies and Usage of Electronic Information Resources by Postgraduate Students of Faculty of Social Sciences in Delta State University, Abraka <b>Mercy A. Igere, Ngozi Perpetua Osuchukwu</b>	251-261
Prevalence of pfrp2/3 Gene Deletions among Symptomatic Malaria Patients in Kebbi State Nigeria <b>Ukasha Abdullahi, Mukhtar Salihu Anka, Kabir M. Yakasai, &amp; Abdullahi M. Sabo</b>	262-271
Library Electronic Information Resources and Percieved Ease of Use for Academic Activities by Postgraduate Students in North-Central, Nigeria <b>Chuks-Ibe Prisca Oluchi, Udensi Juliana Nkechi, Madu Everest Chibuogwu, Saka Katamba Abubakar</b>	272-283
Impact of Electronic Health Records on Healthcare Service Delivery: An Overview <b>Nasiru Sani, Abdullahi Ibrahim, David Chibuike Ikwuka, Abdullahi Habib, Danladi Makpa Jibrin</b>	284-292
Examination of Collection Development Practices at College Libraries in Northwest Nigeria <b>Sahabi Abubakar Kaoje, Abdullahi Shuaibu, Murtala Aminu</b>	293-302

## LIBRARY ELECTRONIC INFORMATION RESOURCES AND PERCEIVED EASE OF USE FOR ACADEMIC ACTIVITIES BY POSTGRADUATE STUDENTS IN NORTH-CENTRAL, NIGERIA

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### Abstract

*The study determined the types of library electronic information resources and perceived ease of use for academic activities by postgraduate students in North-central, Nigeria. The specific objectives of the study were to: identify the types of library electronic information resources utilised for academic activities by postgraduate students in North-central, Nigeria and determine the level of perceived ease of use of library electronic information resources for academic activities by postgraduate students in North-central, Nigeria. The descriptive survey design was adopted for the study. The population of the study consisted of 15,338 postgraduate students enrolled in the government owned universities in North-central, Nigeria as at 2015/2016 academic session. A multi-stage sampling procedure was used, first by using random sampling technique to select one university from each of the states in North-central, Nigeria and the second stage was using Browler's allocation formula to determine the sample size of each of the universities. Questionnaire was the instrument used for data collection. Collected data were analysed using descriptive and inferential statistics such as, percentages, mean scores and standard deviation. The study revealed that postgraduate students highly consulted e-books for needed information, had a very high access to e-books, online and offline databases, high level of utilisation of e-books, online and offline databases and e-journals. Postgraduate students found it easy to navigate the library electronic information resources for academic activities, poor Internet connectivity and erratic power supply affected the ease with which they use the LEIR for academic activities. It was concluded that postgraduate students had access to e-books and e-journals among other relevant electronic information resources. It was recommended among others that university management should take it as a point of duty to provide other relevant electronic information resources which will serve not only postgraduate students but the entire category of library users.*

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### Introduction

University libraries are primarily established to support the university learning process, serve as storehouses of knowledge, help in research development and satisfy the

information needs of the staff and students of the institution. This is in line with the submission of Okiy (2012) that the university libraries share similar roles with other academic libraries like polytechnic libraries and College of Education libraries, which are to effectively support their institutions in meeting the key functions of teaching, research and community service.

university libraries are established to provide adequate and relevant information resources both in print and non-print formats (Quadri *et al.* 2014). The print formats include; journals, text books magazines, newspapers and many reference materials while the non-print materials include: CD-ROM, audio visual materials, microfilms, databases, micro fitches, electronic journals and other electronic resources. With the advent of Information and Communication Technology (ICT) facilities in almost every sector, libraries that were formerly regarded as storehouses of knowledge totally have a new look with the integration of modern Information and Communication Technologies.

The advent of ICT heralded the centre stage which electronic information resources have taken. The introduction of global networking such as internet, affordable availability of technology and new media technologies made electronic information resources more accessible. These resources have become useful for postgraduate students because of the ubiquitous access they provide to postgraduate students for academic activities.

In a related study, Adebayo and Adekunjo (2013) ICT has brought about electronic libraries, which changed the nature as well as job profile of librarians and information professionals, giving new way to demands and expectations both from library users and librarians. Electronic libraries are libraries in which significant proportion of their resources are available in machine readable formats and accessible via computers (Tiwari, 2008). Today academic libraries all over the globe are embracing advancement of the twenty-first century information and communication technology. Different countries are at different stages in this advancement. Before the introduction of ICT into the library, information services were carried out using analogue data; but today, there is a shift from manual ways of handling information services to electronic ways of accessing, storing and retrieving using electronic gadgets such as computers and handsets. To support this, Omekwu and Echezona (2008), posited that this shift was indispensable because for the academic library to be where their users are, they had to fully recognise the fact that the world is living in virtual realities where library services will be on the web and not affected by opening and closing hours.

Electronic information resources have tremendously helped in improving the academic activities of postgraduate students by providing them with current and relevant literature to carry out their researches. Undergraduate students, Postgraduate students and other researchers have benefited from electronic information resources in so many ways which include; provision of current literature, carrying out their assignments, participating in online discussions, seminar presentations, academic conferences and most importantly, acting as a guide to write their projects/theses. Electronic information resources are categorised as information resources in various formats such as e-books, e-journals, films, CD-ROM and other fixed media. Many electronic information resources are brand new creations that represent traditional media; they include the millions of web pages and databases produced

all over the world by individuals, corporate organisations, institutions and government agencies. These creations represent a variety of different types of information including descriptive materials, corporate reports, datasets, educational offerings, theses and dissertations, and many more. Many universities now require that their students submit their theses and dissertations in electronic format for easy access and utilisation (Tiwari, 2008).

Perceived ease-of-use (PEOU) is defined as the degree to which postgraduate students in North central Nigeria believes that using library electronic information resources (LEIR) for their academic activities would be free of effort or require minimal effort. Perceived Ease of Use (PEOU) of library electronic information resources addressed the degree to which a person believes that using a system would be free of effort, (Adetunla, 2016).

### **Statement of the Problem**

The global competitiveness index (2011-2012) indicated that Nigeria ranked 114 out of 319 countries surveyed in provision and quality higher education and training in the world. The findings of Ani, (2013) also stated that Nigerian students and researchers in the universities are reportedly lagging behind their counterparts in West Africa in terms of academic productivity and research output. This is a very worrisome situation for Postgraduate students in Nigerian higher institutions because all the academic activities are linked together.

To achieve effective academic activities, it is expected that Postgraduate students access and use electronic information resources especially the ones subscribed by the university. Could the poor global competitiveness in terms of academic productivity and research output be as a result of difficulties it utilising these resources? It is against this backdrop that this study sought to study library electronic information resources and perceived ease of use for academic activities of Postgraduate students in North Central Nigeria.

### **Objectives of the Study**

The objectives of this study are to:

1. Identify the types of library electronic information resources utilised for academic activities by postgraduate students in North Central Nigeria.
2. Determine the level of perceived ease of use of library electronic information resources for academic activities by postgraduate students in North Central Nigeria.

### **Literature Review**

According to Hornby in Udofot (2016), Postgraduate students are students who have continued to study for an advanced degree after earning a bachelor's degree or other first degree. Postgraduate students are usually involved in more advanced study which requires succinct information resources in order to accomplish their research. Library electronic information resources (LEIR) are those sources of information which the library provides access to and are usually in an electronic format. University libraries provides EIRs to support the teaching learning and research activities of their parent institution which is made

up of the undergraduate students, postgraduate students, staff and other faculty members. EIR are products of information and communication technologies, and they have been found relevant to the learning and research process in universities (Okiki and Asiru, 2011). Mohammed (2014) defined electronic information resources (EIR) as any library material that is electronically available, such as e-books, e-data bases and journal articles. The researcher further described EIR as resources which require computer access or any electronic product that delivers a collection of data in bibliographic information or full text bases, electronic journals, image collections, multimedia products and so on. And these may be delivered on CD-ROMs, tapes or via the internet. Sharma (2009) also pointed out in another study that EIRs include electronic journals, e-data archives, e-manuscripts, e-books, e-zines, e-theses, e-newspapers, e-mails, e-reports and bibliographic data bases. Ibrahim in Mohammed (2014) also included library websites, online catalogues and online reference works. In the same vein, Aramide and Bolarinwa in Mohammed (2014) added audio visual resources, instructional radio tapes, instructional video tapes, radio, television, multimedia projectors, electronic databases which include; e-documents, internet/e-mail facilities, CD-ROMs, computers, telephone facility (land line/intercom), printers and digital cameras. It offers researchers quick and relevant information. This agreed with Ellis and Oldman in Gakibayo *et al.* (2013) that through the use of e –resources, researchers and postgraduate students in particular now have access to global information resources especially the internet for their research activities.

In the work of Mawere and Sai, (2018), e – resources are described as collection of information in an electronic or digital format which are accessed using electronic devices such as phone, computer and other fixed media, and that they are published in an electronic version such as encyclopaedias, pamphlets, e- books, e –journals, databases and so on. This is also in line with Nicholas (2009) who further pointed out that electronic information resources include databases, books, journals, Newspapers, magazines, archives, theses, conference papers, examination papers, government papers, research reports, scripts and monographs in an electronic format.

In a related study, Adetunla (2016) carried out a research on the perceived ease and use of electronic information resources by the undergraduate students in private universities in Oyo state. The aim of the study was to examine the awareness, perceived ease and use of electronic information resources by undergraduate students of private universities in Oyo state. The study used descriptive survey design with a population of 2,171 undergraduate students. The sample size of the study was determined using the multi stage sampling technique. The instrument for data collection was questionnaire and the data were analysed using descriptive statistics. The study found that electronic information resources was perceived to be complex, non-flexible and non-easy to use. The study concluded that students perceived electronic information resources as complex and flexible to use. It was recommended that there should be technical support and training of undergraduate students to ensure optimal use of electronic information resources.

The former study is closely related to the current research in terms of design, sampling technique, instrument for data collection and analysis, but differs in terms of

audience and geographical scope. The former studied undergraduate students in only one state in the south western Nigeria while the present research focuses on postgraduate students in the north central zone of Nigeria.

### Methodology

The study adopted the descriptive survey design. It was considered most appropriate because it gives the permission for a variation of methods to involve participants, collect data and use different methods of instrumentation (Ponto, 2015). The population of the study consists of 15, 338 postgraduate students in five federal and five state universities in North central Nigeria as at 2015/2016 academic session. A multi-stage sampling procedure, comprising stratified random sampling and proportionate sampling techniques were used to guide the study. The first stage involved using the stratified random sampling technique to clearly select one university from each state in North-central, Nigeria, as this granted equal representation of all the states in the North-central, Nigeria including the Federal capital territory, Abuja. Then the second stage involved adopting Browler's allocation formula to proportionately allocate sample size to the selected universities where this research was conducted. Sample size of 566 was determined using Browler's allocation formula as in (Abedoh, 2018). Questionnaire titled; Library Electronic Information Resources and Perceived Ease of Use Questionnaire (LEIRPEUQ) was used as the instrument for data collection. Data was analysed using descriptive statistics such as percentages, mean scores and standard deviation. Because of the adaption and use of the four-point Likert type scale for the instrument, decision rule was based on a mid-point mean value of 2.50, while values above that were considered acceptable, those that are less than 2.50 were considered as negative and unacceptable.

### Findings and Discussions

A total number of 566 copies of questionnaire were distributed to postgraduate students in the seven universities under study; a total of 539 copies of questionnaire representing 95 percent were returned, Table 1 presents the questionnaire return rate.

**Table 1. Response Rate**

Copies of Questionnaire Administered	Copies of Questionnaire Returned	Response Rate
566	539	95%

**Table 2. Mean (X) and Standard Deviation (SD) on responses of postgraduate students on the types of library electronic information resources utilised for academic activities. N= 539**

Items	SA	A	D	SD	X	S	Decision
I consult e-books for information needed	301(55.9)	211(39.2)	18(3.3)	9(1.7)	3.49	0.64	Accepted

I utilise e-journals for research purposes	215(40.0)	270(50.2)	42(7.8)	12(2.2)	3.28	0.69	Accepted
I use E-theses to guide me in my research	193(35.8)	264(49)	73(13.5)	9(1.7)	3.19	0.72	Accepted
Films are used for recreational purposes	112(20.8)	255(47.4)	134(24.9)	38(6.9)	2.82	0.84	Accepted
I use CD-ROMs mainly for research	83(15.4)	212(39.4)	199(37.0)	45(8.3)	2.62	0.84	Accepted
E-zines are consulted for current information	96(17.8)	258(48.0)	145(27.0)	40(7.4)	2.76	0.83	Accepted
E-newspapers are consulted for current and up to date information	191(35.4)	235(43.7)	90(16.7)	23(4.3)	3.1	0.83	Accepted
I use e-reports to get campus news update	104(19.3)	255(47.3)	132(24.5)	48(8.9)	2.78	0.86	Accepted
I use electronic information resources to get information on bibliographic databases	152(28.3)	273(50.7)	87(16.2)	27(5)	3.03	0.79	Accepted
Others please specify							

Research question one sought to identify which types of library electronic information resources consulted by postgraduate students for academic activities, 301 respondents representing 55.9% postgraduate students strongly agreed that e-books were consulted for needed information, 211 representing 39.2% agreed, 18 representing 3.3% disagreed and 9 representing 1.7% strongly disagreed that e-books were consulted for needed information. On the item on, utilising e-journals for research purposes, 215 respondents representing 40.0% of the postgraduate students strongly agreed that e-journals are the type of e-resources they utilise for research purposes is, 270 representing 50.2% agreed, 42 representing 7.8% disagreed and 12 representing 3.28% strongly disagreed. On identifying e-theses as a guide for research, 193 respondents representing 35.9% of the postgraduate students strongly agreed that e-theses is the type of electronic information resources that guide them in research, 264 representing 49% agreed, 73 representing 13.5% disagreed and 9 representing 1.7% strongly disagreed that e-theses guide them in research. Moreso, 112 representing 20.8%

of the respondents strongly agreed that films are used for recreational purposes, 255 representing 47.4% agreed, 134 representing 24.9% disagreed and 38 representing 6.9% strongly disagreed. On CD-ROMS, 83 respondents representing 15.4% postgraduate students strongly agreed on the use of CD-ROM for research, 212 representing 39.4% agreed, 199 representing 37.0% disagreed and 45 representing 8.3% strongly disagreed that CD-ROMs are used for research. On e-zines, 96 of the respondents representing 17.8% postgraduate students strongly agreed that e-zines were the type of e-resources they consult for current information, 258 representing 48.0% agreed, 145 representing 27.0% disagreed and 40 representing 7.4% strongly disagreed. On e-newspapers, 191 respondents representing 35.4% postgraduate students strongly agreed on consulting e-newspapers for current and up to date information, 235 representing 43.7% agreed, 90 representing 16.7% disagreed and 23 representing 4.3% strongly disagreed that e-newspapers were consulted for current and up to date information. On e-report, 104 respondents representing 19.3% postgraduate students strongly agreed that e-reports were the type of information resources that were used to get campus news update that they use to get campus news update, 225 representing 47.4% agreed, 132 representing 24.5% disagreed and 48 representing 8.6% strongly disagreed that e-reports were used to get campus news update. Finally, on Bibliographic databases, 152 respondents representing 28.3% strongly agreed that they utilised electronic information resources to get information on bibliographic databases, 273 representing 50.7% agreed, 87 representing 16.2% disagreed and 27 representing 5% strongly disagreed that electronic information resources were used to get information on bibliographic databases.

**Table 3. Mean (X) and Standard Deviation (SD) scores of responses of postgraduate students on level of Perceived Ease of Use of Library Electronic Information Resources. N= 539.**

S/N	Statements	VH	H	L	VL	X	S	Decision
1	I can easily search and use the LEIR for academic activities	244(45.2)	230(42.6)	43(8.00)	22(4.2)	3.2 9	0.7 7	Accepted
2	I can easily access and use LEIR for academic activities	259(48.2)	194(36.1)	65(12.1)	21(3.91)	3.2 8	0.8 1	Accepted
3	I can easily select resources from the LEIR databases for academic activities	113(21)	194(36)	135(25)	97(18.0)	2.6 0	1.0 1	Accepted

4	Poor internet connectivity affects how easy I use LEIR for academic activities	134(25)	294(55)	66(12)	45(8)	2.6 0	1.0 1	Accepted
5	I can easily navigate the LEIR for academic activities	364(67.5)	133(24.7)	33(6.1)	9(1.7)	3.5 8	0.6 7	Accepted
6	Erratic power supply affects how easy I use LEIR for academic activities	133(24.7)	175(32.5)	134(24.9)	97(18)	2.6 0	1.0 1	Accepted

Research question 2 sought to investigate the level of perceived ease of use of library electronic information resources for academic activities. Table 3 revealed that 244 postgraduate students representing (45.4%) indicated that the level of ease of searching and using the LEIR for academic activities was very high, 230 (42.8%) rated high, 43 (8.00%) rated low and 22 (4%) rate very low. At a very high level, 259 (48.2%) indicated that they can easily access and use LEIR for academic activities, 194 (36.1%) high, 65 (12.1%) low and 21 (3.91%) very low. In selecting resources from the LEIR databases for academic activities, 113 (21%) indicated very high, 194 (36%) high, 135 (25%) low and 97 (18.0%) very low. At a very high level, 134 (25%) postgraduate students indicated that poor internet connectivity affects how easy they use LEIR for academic activities, 294 (55%) rated high, 66 (12%) rated low and 45 (8%) rated very low. 364 (67.5%) indicated at a very high level that they can easily navigate the LEIR for academic activities, 133 (24.7%) high, 33 (6.14%) low and 9 (1.7%) very low. At a very high level, 113 (21%) indicated that erratic power supply affects how easy they use LEIR for academic activities, 175 (32.5%) indicated high, 134 (24.9%) indicated low and 97 (18%) indicated very low.

### Discussion of Findings

Table 2 revealed that the types of electronic information resources that postgraduate students utilise for academic activities. The Table has also revealed that all the question items in research question one met the decision rule of 2.50 mean score. The Table revealed that e-books are the type of library electronic information resources consulted by postgraduate students for needed information, followed by utilisation of e-journals for research purposes, utilisation of e theses as a guide for research work and consultation of e-newspapers for

current and up to date information. From the Table, it was discovered generally that postgraduate students highly utilise all the types of library electronic information resources for their academic activities. But CD-ROMs, e-zines and e-reports are the types of library electronic information resources that are not highly used by the postgraduate students as well as many other types. These findings can also be attributed to the fact that the major academic activities of postgraduate students' centres mainly on quality reading and outstanding research. The findings of the current research align with the findings of Anyim (2018) who pointed that electronic journals and electronic books among others as types of electronic resources in digital libraries in universities in Kogi State Nigeria. The findings of the current research are also in agreement with that of Adeleke and Nwalo (2017) who in their studies, pointed CD-ROMs among others as the type of electronic resources that the postgraduate students utilise on a very low scale at the university of Ibadan.

Table 3 also revealed that all the question items relating to perceived ease of use of library electronic information resources by postgraduate students for academic activities met the decision rule of 2.50 mean score. The Table revealed that postgraduate students can easily navigate the library electronic information resources with the mean score of 3.58. this shows that the postgraduate students find it easy to choose from any resources of their choice at all times. This does not agree with that of Adetunla (2016) but it is in conformity with the findings of Akpojotor (2017) which revealed with a mean score of 4.22 that the perception of postgraduate students of library and information science students in southern Nigeria towards the use of electronic information resources is very easy. The Table further revealed that poor internet connectivity and erratic power supply affects how easy they utilise the library electronic information resources for academic activities. These findings are also related to the findings of Ugwu and Orsu (2017), which found that low internet bandwidth, unstable power supply etc. are the challenges that have to do with the university online resources. This finding also supports that of Sejane (2017) which pointed low internet connectivity as one of the major challenges influencing access and use of electronic resources in academic libraries. Owolabi et.al. (2016), Adeleke and Nwalo (2017) and Okorie et al. (2018) also pointed power supply as one of the major bottle necks hindering the effective use of electronic information resources in the university libraries.

### Summary of Major Findings

The following are the major findings of this study:

**Research Question One:** *Types of library electronic information resources for academic activities*

The study revealed that postgraduate students strongly agreed that they consult e-books for needed information.

**Research Question Two:** *Level of perceived ease of use of library electronic information resources for academic activities.*

The study revealed that postgraduate students finds it easy to navigate the library electronic information resources for academic activities and that poor internet connectivity and erratic power supply affects how easy they use the LEIR for academic activities.

### Conclusion

The research concludes that library electronic information resources ranging from e-books and e-journals amongst others have proven to be very important instruments for the Postgraduate students in carrying out their research activities by providing them with relevant and timely information. The study also concludes that despite the numerous challenges like low internet connectivity, erratic power supply to mention but a few, encountered by Post graduate students in accessibility and utilisation of library electronic information resources, Postgraduate students have positively demonstrated the usefulness of these resources and how easy it is to utilise them.

### Recommendations

In line with the findings of the study, the following recommendations were made:

1. The study revealed that the postgraduate students strongly agreed that e-books and e-journals are the types of electronic information resources consulted for needed information, thus, the university management should take it as a duty to provide other relevant electronic information resources which will serve not only postgraduate students but the entire category of library users.
2. Having found that postgraduate students find it easy to navigate the library electronic information resources for academic activities and that poor internet connectivity and erratic power supply affects how easy the postgraduate students utilise the library electronic information resources for academic activities. It is therefore recommended that use of library (electronic) should be included in the postgraduate curriculum of every university so as to give them in-depth knowledge on how the various library electronic information resources could be used with ease. Poor internet connectivity and erratic power supply were strongly pointed out as the major bottle neck hindering the ease of use of library electronic information resources. It is also recommended that there should be an uninterrupted internet facility in the various campuses that host postgraduate programmes and also there should be an independent source of power supply for the entire library building, because, no library can boast of being stable in the provision of electronic information resources without regular and reliable source of power supply and internet connectivity.

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