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Awareness and Utilization of Electronic Databases for Scholarly Research by Faculty of Education Lecturers in Federal Universities in South East, Nigeria

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Abstract

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This study was designed to investigate the awareness and utilization of electronic databases for scholarly research by faculty of education lecturers in federal universities in South East, Nigeria. Six (6) research questions were formulated to guide the study. In conducting this research, the researcher used descriptive survey design which was considered most appropriate for this study. The study was conducted in the South East zone with a population of five hundred and ninety-one (591) lecturers in faculties of education from three selected federal universities. The instruments used for data collection was the questionnaire and interview schedule. The validity of the research instrument was established by three experts. One of the instruments which is a questionnaire, contains 86 items from cluster 1-6. A total of 591 copies of the questionnaires were distributed and 527 were filled and returned for the study. Data obtained from the questionnaire was analyzed using mean and percentages. Findings from the study revealed that faculty of education lecturers are aware of the electronic databases highlighted in the study and electronic databases listed are utilized by faculty of education lecturers for scholarly research. The study identified erratic power, shaky network, indifference, know-how deficit and poor computer literacy as hiccups of awareness and utilization of electronic databases for scholarly research. The study recommends that institutional heads and management should be sensitized on the need and importance of subscribing to relevant databases; Training and Re-training of lecturers as well as library staff should be constant; Internet facilities of the University like the local and wide area networks (LAN and WAN) should also be improved and maintained to facilitate easy access to the databases among others.

Keywords: Electronic Databases, Utilization, Research, Awareness, Scholarly Research

Introduction

Awareness can be seen as understanding a lot about what is happening around someone and the person or persons paying attention to it either positively or negatively. Awareness is a situation where someone is informed of something. It is the act of knowing

about the existence of something. Awareness in this context, means being aware of the electronic databases that are in existence and how it can assist lecturers in their studies as well as in carrying out scholarly research. The word utilization is derived from the root word "utilize" which means the action of making practical and effective use of something. It is the extent to which electronic databases provided are used for scholarly research by lecturers in the federal universities under study.

Research is the systematic application of the scientific method in finding solutions to problems or answers to questions. It is a careful and detailed study into a specific problem, concern, or issue using the scientific method. Scholarly research on the other hand is a research carried out by an expert having or showing knowledge, learning, or devotion to academic pursuit. A research can be deemed scholarly when the research makes use of credible and peer-reviewed articles in his research and the electronic databases contain these kinds of articles. Electronic databases may be available and identified as relevant to scholarly research in universities but lecturers may not be aware of them and even if they are aware, they may not be able to make use of them effectively for scholarly research.

An electronic database is a group of electronic information sources by publishers in various fields of study. Urhiewhu and Omah (2016) are of the view that an electronic database is a searchable electronic collection of resources that can be accessible locally or via the web. Electronic databases are regularly updated to reflect current literature and trends in research which serve as a catalyst to research, development, teaching, study and learning as well as to the overall enhancement of academic excellence. According to Pathshala (2010), electronic databases contain virtually millions of records and keep increasing on daily basis which leads to quicker retrieval of information. They not only contain textual information but also have images, audio and videos (multimedia).

Despite the importance of electronic databases in carrying out scholarly research, universities in developing countries like Nigeria and in particular Bayero University Kano, University of Ibadan, University of Nigeria Nsukka, Ahmadu Bello University Zaria, Nnamdi University Awka among others are reaping the benefits of utilizing electronic databases but then, it may be observed that most of the lecturers still dwell on print-based as well as out-dated resources due to one reason or the other but most importantly maybe because they are unable to utilize or that they have little or no knowledge about the existence of electronic databases with its enormous benefits. It is in regard to this that the justification to study the extent of awareness and utilization of electronic databases in carrying out scholarly research in three selected Federal Universities in South East; Nigeria becomes pertinent to the researcher.

Statement of the Problem

Enhancing or supporting scholarly research activity is a major concern, mission and vision for institutions of higher learning like the university in this case. Scholarly research is essential most especially to lecturers as they are carried out by consulting credible, authentic, primary and current sources of information that have undergone rigorous peer-review by other experts with similar experience in the field. This is important as it ensures the authenticity and credibility of research papers as well as making valid contributions to the expansion of knowledge and to national development.

In carrying out a scholarly research in a timely manner, with current materials effectively and efficiently, the researcher needs appropriate scholarly research tools such as electronic databases. They are the most powerful tool a researcher can harness to boost and accelerate his research. The electronic database is a rich pool of updated, peer-reviewed and digitized information and a powerful ingredient used to facilitate research in present times.

Unfortunately, it has been observed that in the faculty of education, lecturers do not utilize electronic databases; this could be as a result of the rigors of their academic pursuit

that they lack the time or as a result of know-how deficit or technophobia. This is evident in the dated print resources that are used for research papers which in most cases lead to poor research output and obsolescence.

This work is essential and timely because to the best of the researcher's knowledge, not much has been written on awareness and utilization of electronic databases for scholarly research as it concerns faculty of education lecturers generally. Therefore, the problem of this study put in question form is what is the extent of awareness and utilization of electronic databases for scholarly research by faculty of education lecturers in Federal Universities in South East, Nigeria?

Purpose of the Study

The general purpose of the study is to investigate the awareness and utilization of electronic databases for scholarly research by faculty of education lecturers in Federal Universities in South East, Nigeria. Specifically, the study intends to;

1. Determine extent of awareness of electronic databases by Faculty of Education lecturers.
2. Identify the mode of awareness of electronic databases by Faculty of Education lecturers.
3. Determine the extent of utilization of electronic databases for scholarly research by faculty of education lecturers.
4. Identify areas of scholarly research in which Faculty of Education lecturers use electronic databases.
5. Identify challenges associated with the awareness and utilization of electronic databases by Faculty of Education lecturers.
6. Determine strategies for enhancing the awareness and utilization of electronic databases among Faculty of Education lecturers.

Research Questions

In order to accomplish the specified objectives of the study, the researcher posed the following research questions to give focus to the study: -

1. What is the extent of awareness of electronic databases by Faculty of Education lecturers?
2. What are the modes of awareness of electronic databases by Faculty of Education lecturers?
3. What is the extent of utilization of electronic databases for scholarly research by faculty of education lecturers?
4. What are the areas of scholarly research in which Faculty of Education lecturers use electronic databases?
5. What are the challenges associated with the awareness and utilization of electronic databases by Faculty of Education lecturers?
6. What are the strategies for enhancing the awareness and utilization of electronic databases among Faculty of Education lecturers?

Review of Literature

Scholarly Research

Academic research is the core of any higher institution especially universities. While graduate level students must still take courses, the bulk of their work is focused on doing original scholarly research and writing a compelling paper that they will have to defend in front of a panel of professors or others with expertise in the field. Research has been defined in a number of different ways, and while there are similarities, there does not appear to be a single all-encompassing definition that is embraced by all who engage in it. According to Nworgu (2015), research has to do with an inquiry into the unknown. It is the search for solutions to problems or answers to questions. He further defines it as a systematic approach which involves the application of the scientific method in finding solutions to problems.

Research is a systematic search and investigation for increasing the sum of knowledge. It is the most important tool for promoting progress and development, and enables man to relate more effectively to his environment and to accomplish purposes and solve problems. Organization of Economic Cooperation and Development (OECD) (2015) asserted that research and experimental development is creative work undertaken systematically to increase the stock of knowledge, including knowledge of humanity, culture and society, and the use of this knowledge to devise new applications. Research is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support theorems, or develop new theories. It includes the search and application of knowledge for the development of new products, to improve existing products, services and industrial processes that will enhance capital development of any nation and society. It is a commonly systematic, objective and accurate search for the solution to a well-defined problem.

When research employs a systematic approach or activity (the scientific method), it is said to be scientific research or investigation. Creswell (2008) opines that research is a process of steps used to collect and analyse information to increase our understanding of a topic or issue. It consists of three steps: pose a question, collect data to answer the question and present an answer to the question. Research according to Reitz (2010) is a systematic, painstaking investigation of a topic, or in a field of study, often employing techniques of hypothesis and experimentation, undertaken by a person intent on revealing new facts, theories, or principles, or determining the current state or knowledge of the subject. Research has been a relevant tool to human society and useful in enabling many to widen knowledge of the world around them, identify some of these problems, discover relationships existing between the phenomena and formulate and test theories and hypothesis (Ojo, 2011). Okonofa (2010) observed that without research, teaching would be old-fashioned, monotonous and static. It is in the outcome of research that institutions of higher learning, like the universities

with their faculties and departments, make relevant and solid contributions to improve the society.

Research in all fields of human endeavor is becoming increasingly detailed and sophisticated. Research is a vital tool in the educational enterprise and is the systematic study of a problem with a view to advancing the frontiers of human knowledge. In recent times research has emerged to occupy the main center stage in the activities of the universities worldwide. This is understandable because research has become the most enduring and effective means of boosting sustainable economic development and reinforcing competitiveness in the face of a rapid growth taking place between countries, industries and people in the world. Ample evidence does show that research generated by higher education has contributed in no small measure to the rise and expansion of the world knowledge economy and the establishment of the on-going process of globalization, (Ozurumba and Asuquo- Thomas, 2014). It is for this that the main criteria for ranking the world class universities is not so much on the volume of teaching, student population or community services a university could muster, but on research output measured by the breakthrough findings published in first class and medal winning journals and books, which could increase the volume and rate of knowledge accumulation (Bako, 2005). Organization of Economic Cooperation and Development (OECD) (2015) defined scholarly research as a research carried out by an expert having or showing knowledge, learning, or devotion to academic pursuit. The term ‘scholarly’ means involving or relating to serious academic study. It is concerned with or relating to formal study or research. Scholarly research therefore is a research carried out by an expert or professional in a particular field adhering to the scientific method of inquiry.

A research is considered of scholarly value when it is done or carried out by an expert or scholar in-line with the scientific processes of research and with the use of scholarly

articles that is, peer-reviewed materials written by experts based on original research or experimentation. It is written by a researcher or expert in the field who is often affiliated with a college or university. Scholarly articles are the most credible sources you can find because of the rigorous peer-review process. They are written by people who have studied for many years and they have been reviewed by other people with similar experience. There are several basic forms of scholarship, which are: Discovery of new knowledge, Development of new technologies, methods, materials, or uses and integration of knowledge leading to new understanding. Scholarly research have been made much easier in contemporary times with the proliferation of electronic information resources like the databases where up-to-date peer-reviewed, scholarly journals and articles are found and used to facilitate research of scholarly nature. Electronic databases can only be utilized for scholarly research if lecturers are aware of its existence.

Electronic Databases

Electronic information is anything communicated digitally. It involves using the internet and other electronic communication system to retrieve, store, organize and disseminate information. Electronic information is one that is accessed by means of a computer or other electronic device, especially over a network. Electronic information resources therefore are systems in which information is stored electronically and made accessible through electronic systems and computer networks. These resources include online public access catalogue (OPAC), CD-ROMs, online databases, e-journals, e-books, internet resources etc. Multiple access speed, rich content, timeliness, ubiquity are some of the features of e-resources. (Velmurugan, 2016). However, electronic database is the central focus of this study.

When something is said to be “electronic”, it involves a computer or device. A database according to Prytherch (2015) is any grouping of data for a particular purpose or for

the use of a particular set of End users, usually organized via fields, and providing tools to enable manipulation of the data such as sorting, grouping, extraction and reporting. A database might contain bibliographic data, or numerical, statistical material, and may be assembled and marketed commercially, or by an organization, library, or individual. Access to an online database may be obtained via a Host. Information stored in a database is systematically structured and organized and thus requires special search skills or strategies to retrieve it. A database can be likened to a store house of information or data which can be online that is, situated on the World Wide Web or offline, situated in CD-ROMs and other external storage device. In order to ensure currency of information, a database is regularly updated with new information, changes, updates or additional discoveries in a specific area; this is due to the colossal inflow of information at the shores or beaches of the civilized world so as to serve as a catalyst to research, development, teaching, study and learning as well as contribute to the overall enhancement of academic excellence.

An electronic database is defined according to Pathak and Das (2000) as information stored in a medium, which requires an electronic device to read its content. Digital data may be processed or stored on various types of media, including magnetic (Ram, hard drive, diskettes, tapes) and optical (CD-ROM, DVD) media. The data can be accessed through portable media or increasingly, online. Urhiewhu and Omah (2016) are of the view that an electronic database is a searchable electronic collection of resources that can be accessible locally or via the web. Abubakar and Akor (2017) assert that electronic databases are a collection of electronic information sources (e-journals/e-books) by publishers from various fields and disciplines. Most academic libraries now subscribe to databases of books and journals that are relevant to the university curriculum which help to facilitate teaching and learning in the university environment. A database is accessible from a local network or the

internet, as opposed to one that is stored locally on an individual computer or its attached storage (such as a CD).

Electronic databases are stored locally or on websites, made available as software as a service products accessible via a web browser. Adeyemi (2009), noted that electronic databases contain information on specific subjects which vary in format, with the organization of the resources contained in these databases according to their various subject and disciplines, the researcher faces less challenge of large recall and low precision. In order words, with the use of electronic databases, the level of precision during information retrieval is higher especially when compared with the use of internet. The researcher when retrieving information through the internet may get a drastically high recall of information materials useful or not so far it is related to the search term but when making use of electronic databases, the reverse is the case. This is because these databases contain only structured information which will be useful to the academic researcher. Some examples of electronic databases being used today in academic libraries include – journal storage (JSTOR), AGORA, HINARI, EBSCO, Science Direct, ProQuest, TEEAL, Directory of open access journals (DOAJ), OPAC, online computer library catalogue (OCLC), Directory of open access books (DOAB), OARE, MIT Open Courseware, LEXIS NEXIS, West Law, Law Pavilion, legalpedia, CD-ROM etc. Kahn, Zaidi and Bharati (2009) also opined that literature shows electronic databases with their retrieval capabilities, have been gradually replacing many of their printed counterparts. This is because library users especially academics have little or no time to go through the rigors of searching for print resources to make use of, they therefore settle for electronic databases.

Electronic databases have the following features – huge information reservoir, up-to-date information, multimedia format, quick information retrieval, multidisciplinary approach, peer-reviewed information sources, various search options, special services i.e. Selective

Dissemination of information (SDI), Alerts, etc. (Pathshala, 2010). Furthermore, these databases contain virtually millions of records and keep increasing on daily basis. They not only contain textual information but also have images, audio and videos. All these databases have inbuilt search engines which allow a user to carry out search by author, title, subject and keywords. It also leads to quicker retrieval of information. Electronic databases allow a user to have additional value added services like SDI and article alerts. As and when an article or information appears in the database of a reader's choice or interest, he or she is immediately informed by email. This saves a lot of time and leads to effective utilization of resources. According to Tennessee State University (2014), the main types of databases include – Bibliographic, full-text, numeric, image, audio and mixed databases. It can also be broadly categorized into two namely – local databases or databases locally stored like in the case of CD-ROMs and online databases or databases situated on the international network like the Lexis Nexis, JSTOR, AJOL, EBSCO Host, AGORA, DOAJ, DOAB amongst others.

Challenges associated with Awareness and Utilization of Electronic Databases for scholarly research

Electronic databases no doubt is an indispensable tool that have contributed immensely to learning, research, teaching and communication but in this part of the universe, it has been bedeviled by many problems such as: poor technical know-how, poor subscription to relevant databases, erratic power supply, unstable internet connectivity, inadequate finance, apathy and phobia for utilization of technology and unavailability of a particular database among others. Poor technical know-how is one of the major problems or factors affecting utilization of electronic database. Students, academic research scholars and staff lack adequate skills, techniques and knowledge needed for effective search, retrieval and evaluation of information (Baro, Eze & Nkanu, 2013).

Many students and research scholars depend on friends and cybercafé assistants for their assignments and research. Another factor affecting awareness and use of databases is the lack of subscription to relevant databases. Majority of the relevant journals and books on the databases can only be accessed through subscription. Many universities have internet connectivity but do not subscribe to databases. Dilek-Kayaoglu (2008) observed the lack of subscription to relevant databases in the universities also cause problems in the use of these databases. Also, Lack of Maintenance and Poor Infrastructure is a contributory factor as well. According to Baro and Asaba (2010), our universities lack maintenance culture. They lack the skilled manpower to maintain and manage the system after the initial installation. Sharma (2009) also comments that infrastructure is inadequate.

One of the biggest problems in the use of e-databases and e-resources as a whole is fluctuations in both electricity supply and internet connectivity. Okiki and Asiru (2011), states that slow internet connectivity, incessant power outage and lack of information technology skills are the problems that affect the use of electronic databases. Finance is the bedrock of any organization, institution or firm and it is an indispensable tool in the utilization of electronic databases in our universities. Finance is needed to carryout awareness campaigns to bring to light the existence of these databases, how they can be accessed as well as used to ensure timeliness in research. Subscriptions to these databases as well as renewal of existing ones are done with finance. Bozimo (2008) submitted that inadequate funding and support to procure and maintain equipment, retrospective conversion of library documents in digital formats, training of skilled manpower in computer literacy and internet training, inability to subscribe to relevant online databases or renew existing ones are some of the problems that affect the effective utilization of databases for scholarly research works.

Again, apathy and technophobia is also seen as one of the factors affecting awareness and utilization of electronic databases. Some researchers in contemporary times lack interest

and entertain fear when it comes to information technology. Due to this fact, they become unaware of the existence of these databases and the role they can play in their research. Most times, the address or domain name of a website on which a particular database was hosted tend to change may be due to some issues with the site, and as a result of this, the researcher is unable to access that database leaving him/her unsatisfied or frustrated. Nok (2006) also highlighted factors that could militate against the awareness and utilization of electronic databases to include – inadequate Local Area Network (LAN) or Wide Area Network (WAN) within universities; lack of computer literacy education; poor state of power generation; poor maintenance culture; and poor funding.

Strategies that can enhance awareness and utilization of electronic databases for scholarly research

The problems enumerated earlier are not insurmountable. They can be ameliorated by taking the following steps to enhance awareness and utilization of electronic databases for scholarly research in Nigeria: periodic training and re-training, subscription to relevant databases, adequate maintenance culture, alternative power supply, provision of adequate finance, awareness campaigns and sensitization and periodic updates as regards changes on a databases among others.

Training sessions for lecturers, students and researchers in the utilization of electronic databases is crucial. With this, the knowledge and skills to make use of these databases are instilled in them. In terms of subscription, most institutions especially their libraries fail to subscribe to important databases and this has enormous consequences on research activities. Therefore, to avert these consequences and ensure a smooth/successful research work, the libraries and institutions should ensure they subscribe to relevant databases so as to facilitate and accelerate scholarly research. Subscription to online databases can be very easy and cheap with the right management; by using the right management with necessary expertise and going on quality facilities. Adequate maintenance culture and infrastructure should be

imbibed and formed as a habit. Internet facilities should be properly installed and maintained to keep the service up and running to ensure durability of equipment. Gbaje (2007), Anioke (2009), Chete and Akukna (2004), advice that what will help to keep the facilities in good condition is proper management and maintenance. An alternative power supply should be installed like a generator, an inverter or a solar panel so as to make it available and stable which in turn keeps the internet connectivity fully functional. Etim (2006) advanced that since power supply is the basis for effective exploration of electronic databases, the federal government of Nigeria should do everything within its power to stabilize electricity supply in the country. Alternative power supply should be provided by the institution or the library and maintained at all times.

With regards to finance, the government should make available adequate budgetary allocation to various institutions and their libraries to enable them run its affairs like the subscription to databases, training of staff, carrying out sensitizations or workshops on availability, awareness and utilization of these databases etc. The libraries can also generate funds for themselves internally as well as solicit to non-governmental organizations if and when the government is non-responsive. The need for finance, training, motivation, awareness, and literacy skills cannot be over-emphasized as regards utilization of electronic databases in universities.

The library with reference to the issue of apathy and technophobia should carry out an awareness or sensitization campaign like current awareness services (CAS) to spark the interest as well as inform researchers and lecturers of the existence of electronic databases, to familiarize themselves with them and how to make use of them in carrying out research activities. This way, that phobia for information technologies will be eradicated or reduced to the barest minimum. Also, when there is a change in web address to a particular database, the

librarians should ensure to inform the researchers may be through a notice indicating the new web address so as to avoid researchers leaving unsatisfied or frustrated.

Research Methodology

The research design adopted for this study is a descriptive survey. The population of this study includes five hundred and ninety-one (591) lecturers, comprising three hundred and forty-two (342) lecturers from University of Nigeria Nsukka, one hundred and forty (140) from Michael Okpara University of Agriculture Umudike and one hundred and nine (109) lecturers from Nnamdi Azikiwe University Awka respectively. There was no sampling as the size was manageable. A questionnaire and an interview schedule were designed based on the objectives and research questions of the study. The questionnaire was administered to all the 591 lecturers and oral interview with few heads of departments in the Faculty of Education. A total of 527 copies were returned and found useable, thus 89% return rate. The data collected from the questionnaire was analyzed using mean and percentages. The mean scores were interpreted in-line with the 4 points scale ranging from four (4) highest to one (1) which is the lowest. Any item with a mean response of 2.50 and above was accepted and any below 2.50 was rejected.

Results

Table 1: *Frequency and Mean score on the extent of lecturers' awareness of electronic databases for scholarly research.*

S/N	ELECTRONIC DATABASES	UNN (N = 301)				NAU (N = 104)				MOUAU (N = 122)			
		F	$\bar{X}$	R	D	F	$\bar{X}$	R	D	F	$\bar{X}$	R	D
1	elFL.net	730	2.42	17th	SA	240	2.30	18th	SA	338	2.77	16th	MA
2	OPAC	940	3.12	6th	MA	320	3.07	10th	MA	382	3.13	8th	MA
3	DOAB	949	3.15	5th	MA	330	3.17	7th	MA	379	3.10	10th	MA
4	DOAJ	939	3.11	7th	MA	330	3.17	7th	MA	395	3.23	4th	MA
5	INASP	780	2.59	16th	MA	262	2.51	17th	MA	338	2.77	16th	MA
6	KOHA	781	2.59	16th	MA	303	2.91	12th	MA	357	2.92	14th	MA
7	JSTOR	1023	3.39	2nd	MA	388	3.73	1st	VMA	417	3.41	1st	MA
8	AJOL	1024	3.40	1st	MA	386	3.71	2nd	VMA	414	3.39	2nd	MA
9	Emerald	882	2.93	9th	MA	348	3.34	5th	MA	414	3.39	2nd	MA
10	BioOne	726	2.41	18th	SA	266	2.55	16th	MA	356	2.91	15th	MA
11	ERIC	968	3.21	4th	MA	357	3.43	4th	MA	401	3.28	3rd	MA
12	Sage OARE	839	2.78	10th	MA	341	3.27	6th	MA	384	3.14	7th	MA
13	Science Direct	1014	3.36	3rd	MA	380	3.65	3rd	VMA	380	3.11	9th	MA
14	AGORA	912	3.02	8th	MA	323	3.10	9th	MA	394	3.22	5th	MA
15	HINARI	806	2.67	12th	MA	291	2.79	13th	MA	370	3.03	11th	MA
16	IPL	799	2.65	14th	MA	285	2.74	14th	MA	360	2.95	13th	MA
17	EBSCOHost	820	2.72	11th	MA	317	3.04	11th	MA	385	3.15	6th	MA
18	ProQuest	802	2.66	13th	MA	329	3.16	8th	MA	383	3.13	8th	MA
19	TEEL	795	2.64	15th	MA	281	2.70	15th	MA	363	2.97	12th	MA

Key: Summation (F), Mean Score (X), Rank (R), Decision (D), Number of questionnaire returned (N), Very Much Aware (VMA), Much Aware (MA), Somewhat Aware (SA)

Table 1 shows that faculty of education lecturers in UNN are much aware of electronic databases that exist as items 2-9 and 11-19 have their mean scores greater than 2.50 except for items 1 and 10 (eiFL.net and BioOne). This shows that the databases are not well known to the lecturers. In NAU, the table depicts that lecturers are aware of e-databases with JSTOR, AJOL and Science Direct ranking first, second and third except for elFL.net with a mean score of 2.30 which shows that they are not too aware of it. Also in MOUAU, the table revealed that faculty of education lecturers are much aware of virtually all the electronic databases listed as all the items have their mean greater than 2.50

In the cause of the interviews conducted in this regard, both respondents revealed that on a general note, faculty of education lecturers are aware of the existence of databases as Mrs. Okafor mentioned those she is highly aware of to include – Academia.edu, EBSCOHost, CAB ABSTRACT, JSTOR, AJOL, Emerald, OPAC and Science Direct databases.

Table 2: *Frequency and Mean scores on mode of awareness of e-databases by faculty of education lecturers.*

S/N	ITEMS	UNN (N = 301)				NAU (N = 104)				MOUAU (N = 122)			
		F	$\bar{X}$	R	D	F	$\bar{X}$	R	D	F	$\bar{X}$	R	D
1	User Education/orientation program	944	3.13	7th	A	301	2.89	6th	A	403	3.30	6th	A
2	Through friends	988	3.28	6th	A	377	3.62	4th	A	445	3.64	1st	A
3	Through display by the library	803	2.66	8th	A	281	2.70	7th	A	345	2.82	7th	A
4	Through conferences	1069	3.55	3rd	A	385	3.70	1st	A	430	3.52	2nd	A
5	Through publications	1068	3.54	4th	A	381	3.66	2nd	A	421	3.45	3rd	A
6	Through seminars	1094	3.63	1st	A	379	3.64	3rd	A	419	3.43	5th	A
7	Through mass media	771	2.56	9th	A	235	2.25	9th	R	338	2.77	9th	A
8	Through workshops	1065	3.53	5th	A	370	3.55	5th	A	420	3.44	4th	A
9	Through the internet	1089	3.61	2nd	A	385	3.70	1st	A	420	3.44	4th	A
10	Through handbills	746	2.47	10th	R	270	2.59	8th	A	344	2.81	8th	A

Key: Summation (F), Mean Score (X), Rank (R), Decision (D), Number of questionnaire returned (N), Accepted (A), Rejected (R)

In Table 2, all the items presented were rated above the criterion mean scores of 2.5 in both NAU and MOUAU respectively which means all the items were accepted as the modes through which lecturers in the universities under study can be aware of electronic databases for research with the exception of the last item (through handbills) in UNN which was rejected as a result of a low mean score of 2.47. In NAU, item 7 (through mass media) with a mean score of 2.25 was also rejected as respondents didn't agree that mass media can be a mode through which lecturers can be aware of e-databases. However, the highest rated among the items in UNN, NAU and MOUAU is through seminars, conferences, friends and

the internet where awareness of the presence or existence of e-databases can be brought to limelight. This is closely followed by item 8 (attending workshops) which can greatly boost awareness levels as well. Others can be gotten through user education, and displays by the library while getting awareness can also be through mass media as can be seen in UNN and MOUAU.

This agrees with the responses given during the interview sessions when the question was asked thus: how did you come to know about e-databases? Both respondents confirmed that attending professional conferences, seminars and workshops can be a great avenue to get to know about the existence of certain databases for any type of research. Furthermore, Mr. Chibuike added that the internet as well plays a major role in this regard as people can from the comfort of their homes pop into the net and discover a whole lot of databases, both the ones that are in existence and the ones just created.

Table 3: *Frequency and Mean score on extent of utilization of electronic databases for scholarly research.*

S/N	ELECTRONIC DATABASES	UNN (N = 301)				NAU (N = 104)				MOUAU (N = 122)			
		F	$\bar{X}$	R	D	F	$\bar{X}$	R	D	F	$\bar{X}$	R	D
1	elFL.net	720	2.39	16th	LE	247	2.37	18th	LE	333	2.72	17th	HE
2	OPAC	914	3.03	6th	HE	331	3.18	10th	HE	380	3.11	7th	HE
3	DOAB	931	3.09	5th	HE	341	3.27	7th	HE	388	3.18	5th	HE
4	DOAJ	931	3.09	5th	HE	340	3.26	8th	HE	364	2.98	13th	HE
5	INASP	785	2.60	14th	HE	272	2.61	17th	HE	342	2.80	16th	HE
6	KOHA	786	2.61	13th	HE	310	2.98	11th	HE	345	2.82	15th	HE
7	JSTOR	1017	3.37	2nd	HE	386	3.71	2nd	VHE	416	3.40	2nd	HE
8	AJOL	1020	3.38	1st	HE	388	3.73	1st	VHE	423	3.46	1st	HE
9	Emerald	888	2.95	7th	HE	356	3.42	4th	HE	410	3.36	3rd	HE
10	BioOne	726	2.41	15th	LE	286	2.75	16th	HE	374	3.06	9th	HE
11	ERIC	939	3.11	4th	HE	349	3.35	6th	HE	387	3.17	6th	HE
12	Sage OARE	845	2.80	10th	HE	353	3.39	5th	HE	391	3.20	4th	HE
13	Science Direct	996	3.30	3rd	HE	381	3.66	3rd	VHE	370	3.03	11th	HE
14	AGORA	866	2.87	8th	HE	304	2.92	12th	HE	374	3.06	9th	HE
15	HINARI	821	2.72	14th	HE	302	2.90	13th	HE	373	3.05	10th	HE
16	IPL	829	2.75	11th	HE	301	2.89	14th	HE	370	3.03	11th	HE
17	EBSCOHost	828	2.75	11th	HE	331	3.18	10th	HE	366	3.0	12th	HE
18	ProQuest	848	2.81	9th	HE	335	3.22	9th	HE	377	3.09	8th	HE
19	TEEL	806	2.67	12th	HE	295	2.83	15th	HE	356	2.91	14th	HE

Key: Summation (F), Mean Score (X), Rank (R), Decision (D), Number of questionnaire returned (N), Very High Extent (VHE), High Extent (HE), Less Extent (LE)

From table 3, it was discovered that all e-databases in the three institutions under study are utilized to a high extent with the exception of two e-databases (elFL.net and BioOne) in UNN and NAU respectively having mean scores of 2.39 and 2.37 this signifies that the two e-databases in UNN and NAU are utilized on a low extent while all the e-databases in MOUAU are utilized on a high extent for scholarly research.

During the interview session, Mrs. Okafor concurred to the fact that she makes use of electronic databases for her research from time to time whenever the need arose, those databases used as listed include mainly CAB ABSTRACTS, EBSCOHost, AJOL, ERIC and JSTOR.

Table 4: *Frequency and Mean score on the areas of research to which e-databases can be applied or used.*

S/N	ITEMS	UNN (N = 301)				NAU (N = 104)				MOUAU (N = 122)			
		F	$\bar{X}$	R	D	F	$\bar{X}$	R	D	F	$\bar{X}$	R	D
1	Choice of research topic	1104	3.66	1st	A	415	3.99	1st	A	480	3.93	1st	A
2	Literature search	1085	3.60	2nd	A	407	3.91	2nd	A	468	3.83	2nd	A
3	Literature review	1084	3.60	2nd	A	394	3.78	3rd	A	446	3.65	3rd	A
4	Design of the study	924	3.06	3rd	A	321	3.08	6th	A	396	3.24	4th	A
5	Sampling	913	3.03	4th	A	331	3.18	4th	A	383	3.13	5th	A
6	Discussion of findings	885	2.94	5th	A	327	3.14	5th	A	379	3.10	6th	A
7	Abstracting of the study	798	2.65	8th	A	275	2.64	9th	A	354	2.90	7th	A
8	Indexing of the work	783	2.60	9th	A	277	2.66	8th	A	339	2.77	9th	A
9	Communication of the findings	806	2.67	7th	A	266	2.55	10th	A	343	2.81	8th	A
10	Instruments for data collection	847	2.81	6th	A	285	2.74	7th	A	335	2.74	10th	A

Key: Summation (F), Mean Score (X), Rank (R), Decision (D), Number of questionnaire returned (N), Accepted (A)

In Table 4, responses from UNN, NAU and MOUAU indicated an agreement to all the 10 items listed to elicit information on the areas of research to which electronic databases can be applied with a mean response above 2.50. Responses to choice of research topic ranked first in the three institutions with 3.66, 3.99 and 3.93 mean rating, followed by literature search and literature review with mean responses of above 2.50 respectively. Meanwhile in UNN, indexing of the work ranked last, in NAU, communication of findings and instruments for data collection in MOUAU also ranked last respectively. This indicates that those areas are the least areas of research where electronic databases can be applied.

Table 5: *Frequency and Mean scores on challenges associated with awareness and utilization of electronic databases among faculty of education lecturers.*

S/N	ITEM STATEMENT	UNN (N = 301)				NAU (N = 104)				MOUAU (N = 122)			
		F	$\bar{X}$	R	D	F	$\bar{X}$	R	D	F	$\bar{X}$	R	D
1	Apathy towards information technologies	1033	3.43	4th	A	385	3.70	3rd	SA	444	3.63	1st	SA
2	Indifference	1036	3.44	3rd	A	388	3.73	1st	SA	433	3.54	2nd	SA
3	Phobia for information technology operation	1020	3.38	8th	A	387	3.72	2nd	SA	407	3.33	9th	A
4	Poor computer literacy education	1023	3.39	7th	A	371	3.56	7th	SA	411	3.36	8th	A
5	Poor technical know-how	1029	3.41	6th	A	361	3.47	9th	A	427	3.50	4th	SA
6	Poor subscription to relevant databases	1003	3.33	10th	A	381	3.66	4th	SA	429	3.51	3rd	SA
7	Poor maintenance of equipments	1000	3.32	11th	A	376	3.61	6th	SA	420	3.44	5th	A
8	Inadequate infrastructure	1005	3.33	10th	A	356	3.42	10th	A	414	3.39	6th	A
9	Erratic power supply	1076	3.57	1st	SA	385	3.70	3rd	SA	413	3.38	7th	A
10	Epileptic network connectivity	1073	3.56	2nd	SA	380	3.65	5th	SA	433	3.54	2nd	SA
11	Inadequate finance	1030	3.42	5th	A	330	3.17	12th	A	395	3.23	12th	A
12	Unavailability of a particular database	864	2.87	13th	A	322	3.09	13th	A	375	3.07	13th	A
13	Inadequate local area network (LAN)	979	3.25	12th	A	355	3.41	11th	A	397	3.25	11th	A
14	Poor wide area network (WAN) connectivity	1015	3.37	9th	A	365	3.50	8th	SA	405	3.31	10th	A

Key: Summation (F), Mean Score (X), Rank (R), Decision (D), Number of questionnaire returned (N), Agree (A, Strongly Agreed (SA)

The result on the table above shows that challenges abound as regards the awareness and utilization of e-databases for scholarly research. Faculty of education lecturers in the three universities under study strongly agreed that epileptic network connectivity is the major challenge faced in utilizing e-databases with mean scores of 3.56 (UNN), 3.65 (NAU) and 3.54 (MOUAU); Erratic power supply with mean scores of 3.57 (UNN), 3.70 (NAU) and

3.38 (MOUAU); apathy towards information technologies with mean scores of 3.43 (UNN), 3.70 (NAU) and 3.63 (MOUAU); indifference with mean scores of 3.44 (UNN), 3.73 (NAU) and 3.54 (MOUAU);poor computer literacy education with mean scores of 3.39 (UNN), 3.56 (NAU) and 3.36 (MOUAU) among others.

This is in-line with the response given by Mr. Chibuike when he concurred to erratic network and power supply as being major challenges he experiences in trying to use and access the e-databases for his research. He went further to state that another problem that abound is the failure on the part of the university administration to subscribe to relevant databases to enable not just lecturers carry out research but students as well.

Table 6: *Frequency and Mean score on strategies for enhancing the awareness and utilization of electronic databases.*

S/N	ITEM STATEMENT	UNN (N = 301)				NAU (N = 104)				MOUAU (N = 122)			
		F	$\bar{X}$	R	D	F	$\bar{X}$	R	D	F	$\bar{X}$	R	D
1	Sensitization programs	1107	3.67	1st	SA	404	3.88	1st	SA	463	3.79	1st	SA
2	Proper orientation programs	1074	3.56	4th	SA	397	3.81	2nd	SA	448	3.67	2nd	SA
3	Current Awareness Services (CAS)	1076	3.57	3rd	SA	397	3.81	2nd	SA	429	3.51	4th	SA
4	Proper awareness campaign	1069	3.55	6th	SA	387	3.72	4th	SA	411	3.36	8th	A
5	Training and re-training sessions	1069	3.55	6th	SA	380	3.65	5th	SA	432	3.54	3rd	SA
6	Subscription to relevant databases	1015	3.37	10th	A	363	3.49	8th	A	432	3.54	3rd	SA
7	Regular maintenance culture	1013	3.36	12th	A	362	3.48	9th	A	409	3.35	9th	A
8	Provision of adequate infrastructure	1017	3.37	10th	A	369	3.54	7th	SA	413	3.38	7th	A
9	Provision of alternative sources of power	1074	3.56	4th	SA	380	3.65	5th	SA	433	3.54	3rd	SA
10	Provision of stable network connectivity	1089	3.61	2nd	SA	389	3.74	3rd	SA	416	3.40	5th	A
11	Provision of adequate finance both internally and externally	1055	3.50	8th	SA	372	3.57	6th	SA	414	3.39	6th	A
12	Keeping the researchers abreast with changes in database sites	969	3.21	14th	A	332	3.19	11th	A	397	3.25	11th	A
13	Provision of functional LAN connection	1014	3.36	12th	A	360	3.46	10th	A	393	3.22	12th	A
14	Proper installation of WAN networks	1040	3.45	9th	A	363	3.49	8th	A	406	3.32	10th	A

Key: Summation (F), Mean Score (X), Rank (R), Decision (D), Number of questionnaire returned (N), Agree (A), Strongly Agreed (SA)

Table 6 reveals that the mean for each of the strategies for overcoming the identified problems are greater than 2.50. This indicates that most of the listed strategies are strongly agreed on as ways of overcoming the identified problems associated with awareness and utilization of electronic databases for scholarly research by faculty of education lecturers in the three federal universities under study.

In suggesting the way forward during the interview sessions, both respondents made mention of providing alternative sources of power to combat the problem of erratic power supply, as well as carrying out regular maintenance of the network infrastructure to guarantee a more stable network. Mrs. Okafor specifically suggested knowledge exchange and training by a well-equipped resource person in that field so as to impart in lecturers the skills that are needed to effectively utilize available databases for their research.

Discussion of Major Findings

The result indicates that faculty of education lecturers in universities under study are much aware of the electronic databases and the benefits they have on their research. This was seen in table 1 where all the items listed recorded high mean scores, with the highest being AJOL and JSTOR databases. However, lecturers in the faculty of education are not very much aware of the elFL.net and BioOne databases as this can also have a negative impact on their research. The overall findings of awareness are supported by Ngozi, Opara and Ogaraku (2018) that faculty members are aware to some degree of the subscribed databases available in institutions for all aspects of academic pursuit. From some of the literatures consulted, it was seen that previously there was a low level of awareness of electronic databases by faculty of education lecturers but as the need for e-resources became more glaring in the present era, lecturers are now becoming more aware of e-databases, what it contains, how to make use of it and how it affects their research positively as can be seen from the findings of this study.

There is no denying the fact that electronic databases are used in the universities under study. This was evident in the analyzed result showed in table 3, which expressed the extent for which electronic databases are used for scholarly research by lecturers in federal universities, hence, AJOL, JSTOR, and Science Direct are revealed to be used on a very high extent for scholarly research as they are rich with more credible and peer reviewed articles relevant to faculty of education lecturers. This justifies the stand of Kuar and Verma (2006)

who proved that users use all the resources available to them regularly, like CD-ROMs, online databases, web resources and audio/video tape. However, the BioOne and elFL.net databases are used on a low extent. This means that as the awareness of the databases are low, so also is the usage level, as awareness is a precursor to utilization. Interestingly, it was observed by the researcher on a personal visitation to the universities under study that faculty of education lecturers use electronic databases on a moderate level.

It was discovered from the findings that a number of encumbrances to awareness and utilization of electronic databases abound but then, the respondents indicated that they strongly agreed with erratic power, shaky network, indifference, know-how deficit and poor computer literacy as the major barricades to awareness and effective utilization of electronic databases for scholarly research. This means that though other problems were agreed on, those just highlighted was strongly agreed on and thus requires keen and urgent attention. In support of these findings, Okiki and Asiru (2011) believe that one of the biggest problem or challenge in the use of e-databases and e-resources as a whole is fluctuations in both electricity supply and internet connectivity.

Findings showed that a number of strategies of enhancements were agreed upon but those that were strongly agreed on as major strategies include – sensitization, training and re-training, alternative sources of power and stable network connectivity. This means that these are the major strategies capable of enhancing awareness and utilization of electronic databases if given due consideration by the university management. In line with this finding, it is important to mention that this is in a bid to arm the academia with requisite skills that will play a major role in enhancing or combating the problems of database utilization. In agreement with the finding in Gbaje (2007), Anioke (2009), Chete and Akukna (2004), it is noted that what will help to keep the facilities in good condition is proper management and maintenance. An alternative power supply should be installed like a generator, an inverter or

a solar panel so as to make it available and stable which in turn keeps the internet connectivity fully functional. Since power supply is the basis for effective exploration of electronic databases, alternative power supply should be provided by the institution or the library and maintained at all times.

Conclusion

The study submitted that Faculty of Education lecturers in Federal Universities in South East, Nigeria possess good knowledge and made use of most of the electronic databases to obtain information for carrying out scholarly research. The awareness and use of e-databases as observed readily affirms the general perception by the lecturers in Faculty of Education that knowledge of e-databases will have a positive effect on scholarly research and on research productivity in general.

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