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Evaluation Practices of Electronic Resources in University Libraries in South East Nigeria

By

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Abstract

This paper is an empirical study of evaluation practices of electronic resources in university libraries in South East Nigeria. The study determines the criteria considered in evaluating electronic resources, the adequacy of use of the electronic resources and the extent of use of the electronic resources by university libraries in South East Nigeria. It employed a descriptive survey design. The population of the study was 2595 respondents consisting of 2509 postgraduate users and 86 librarians in collection development, serials and digital library (e-library). A 10% proportionate sampling technique was used to select a sample of 251 user respondents while all the 86 librarians working in collection development, serials and digital library units (e-library) were used. The survey used questionnaire and interview as instruments of data collection. Data collected were tabulated and analyzed using simple statistics (mean). The result revealed the criteria used by the libraries under study to evaluate their resources which include cost effectiveness based on the number of searches; relevance of the research on campus and the curriculum of the library users; dissatisfaction with a resource; access criteria on the technical reliability of the content provider; the database can be ranked by acquiring statistics; comparing duplication in various formats or overlap in full-text resources. The result also revealed that the greater number of the electronic resources is high adequacy and that all the electronic resources are used to a great extent by the users. That shows that the users are accessing it and using it for their research and learning. The study recommended regular evaluation of library electronic resources considering the stated criteria to ensure that users' needs are met; the university libraries should ensure that electronic resources under subscription are properly evaluated and accessed by library users to guide in continuity or cancellation of the resources if otherwise.

Keywords: Electronic Resources; Evaluation; University Libraries; Information and Communication Technology

Introduction

In university libraries, developing a balanced and usable collection is an important aspect of library services especially with the emergence of Information and Communication Technology (ICT). University library collections are built to meet specific research and information needs of the university academic programmes. In this era, university libraries endeavor to build their collections with electronic resources in order to meet with the specific research, teaching and learning activities of the university. The university libraries ensure that the library collection must meet with the information needs of library users in all the university programmes to ensure effective teaching and research activities. And the only way to ensure that such needs are met is through an effective evaluation of the collection within the framework of the university programmes. University programmes are not static and as such must respond to changes and the university libraries are positioned to attain to the information needs of the users through evaluation of the resources especially in this era of electronic resources.

Evaluation according to Ifidon (1997) is the assessment of the extent to which a resource meets the library objectives. It is concerned with how good an electronic resource is in terms of the kinds of materials in it and value of each item in relation to the community being served. The author further observed that the aim of evaluation exercise is to determine the scope of depth and usefulness of the collection, test the effectiveness, utility and practical applicability of the written collection development policy, assess the adequacy of the collection and thereby highlights the inadequacies and suggest ways of rectifying them. It also reallocates resources or that the areas that really need them can receive greater attention, convince the library's authorities that the allocated resources are not only being judiciously utilized, but also inadequate and to identify areas where weeding is required or cancellation as relates to electronic resources.

Electronic resources are described by International Federation of Library Association (IFLA) (2012) as those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile devices. They may be accessed remotely via the internet or locally. The concept of electronic resources encompasses the following: e-zine, e-text or e-book, abstracting and indexing databases such as MEDLINE, e-journal, locally loaded databases, e-library, CD-ROMs, websites, among others. According to Sadeh and Ellingsen (2005), an e-resource is a package of e-journals or a database of abstracts and indexes that include the full text of some or all articles referenced by the indexes. Electronic resources also include products that aid in resource access for users, namely, A-Z lists, Open URL, servers, federated search engines, resources that provide full-text content such as publishers' electronic journal content, journal content platforms like Project Muse or JSTER and content aggregators such as EBSCOHOST's Academic Search Premier and proxy servers or other authentication tools (Bothmann & Holmberg, 2008). With electronic resources, users can have multi access to the resource at a given time. Information resource can be browsed, extracted and integrated into other material and references can be cross referred between various publications. .

In evaluation of electronic resources, the assessment/evaluation is done through various means which include; statistical report from the vendor on series of downloads which are captured electronically, access criteria based on the technical reliability of the content provider, cost effectiveness; satisfaction or dissatisfaction of the users with the resource; relevance of the resources to the curriculum of the library users. The effectiveness of the library collection is determined by how much students rely on it for their information needs. One way to ensure that the needs of the library users are met is through evaluation of its collection in line with the academic programmes. The library electronic resources should be positioned to efficiently and

effectively respond to the academic programmes, changes and development. In evaluating electronic resources, a satisfactory report of the usage will encourage the renewal of the subscription or eventual cancellation of the resource. A satisfactory report can be evaluated through the extent of usage of the resources by the users. This has been considered a factor in evaluation of electronic resources for continuity of subscription or cancellation. The focus of this paper is to examine how university libraries in South East Nigeria evaluate their electronic resources and the possible criteria considered when evaluating electronic resources.

Justification of the study

With the emergence of information and communication technology, university libraries acquire library resources of varied types be it prints and electronic resources to satisfy the information needs of the library users. These resources can be accessed by the library users from within and outside the university and the university library has the opportunity to plan, implement and evaluate learning programmes to ensure that the resources acquired satisfy the users' needs. Most of these resources may not have attended to the information needs of the library users. One way of ensuring that such needs are met is through collection evaluation of the electronic resources within the framework of the academic programme.

Objectives of the Study

The purpose of the study is to examine the evaluation practices of electronic resources in university libraries in South East Nigeria. The specific objectives are to:

1. determine the criteria considered in evaluation of electronic resources in university libraries in South East Nigeria;

2. determine the adequacy of accessing electronic resources in the university libraries in South East Nigeria.

3. determine the extent of use of electronic resources in university libraries in South East Nigeria.

Research Questions

Three research questions derived from the objectives of the study were formulated to guide the study:

1. What are the criteria considered in evaluating electronic resources in university libraries in South East Nigeria?

2. How adequate are the access to the electronic resources by library users in university libraries in South East Nigeria?

3. What is the extent of use of electronic resources in university libraries in South East Nigeria?

Conceptual clarification

Electronic Resources

Electronic resources are concepts which evolved as a result of the rapid growth of information and communication technology. It has been described by different authors in different ways. Shukla and Mishra (2011) described electronic collection as the collection of information which can be accessed only by the use of electronic gadgets. International Federation of Library Association (IFLA) (2012) described electronic resources as those materials that require computer access, whether through a personal computer, mainframe, or handheld mobile devices. They may be accessed remotely via the internet or locally.

Similarly, Mansur (2012) described electronic resources as electronic products that deliver a collection of data, be it text referring to full text databases, e-journals, e-books, image

collections, other multimedia products and numerical, graphical or time based, as commercially available title that has been published with a sole aim of being marketed and for information dissemination. These may be delivered on any optical media or via the Internet. Graham (2003) sees electronic resources as the mines of information that are explored through modern Information and Communication Technology (ICT) devices, refined and redesigned and more often stored in the cyber space in the most concrete and compact form and can be accessed simultaneously from infinite points by a great number of audience. The phrase electronic resources has broadly been defined as, information accessed by a computer, may be useful as bibliographic guides to potential sources but, as of yet, they infrequently appear as cited references in their own right. E-resources, therefore, refer to that kind of documents in digital formats which are made available to library users through a computer based information retrieval system.

In describing the concept of electronic resources, Bavakenthy, Veeran and Salih (2003) viewed electronic resources as resources in which information are stored electronically and are accessible through electronic systems and networks. 'E-resource' is a broad term that includes a variety of publishing models, including Online Public Access Catogues (OPACs), CD-ROMs, online databases, e-journals, e-books, internet resources, Print-on-demand (POD), e-mail publishing, wireless publishing, electronic link and web publishing, etc. In this context, the term primarily denotes "any electronic product that delivers collection of data be it in text, numerical, graphical, or time based, as a commercially available resource". According to Tsakonas and Papatheodorou (2006) electronic information resources are information resources provided in electronic form, and these include resources available on the Internet such as e-books, e-journals,

online database, Compact Disk Read Only Memory (CD-ROM) databases and other computer–based electronic networks, among others.

In addition, Reitz (2004) defined electronic resource as "material consisting of data and/or computer program (s) encoded for reading and manipulation by a computer, by the use of a peripheral device directly connect ed to the computer, such as a Compact Disk Read Only Memory (CD-ROM) drive, or remotely via a network, such as the Internet." According to her the category includes software applications, electronic texts, bibliographic databases, institutional repositories, websites, e-books, collections of e-journals, etc. Electronic resources not publicly available free of charge usually require licensing and authentication.

Evaluation of Electronic Resources

The fulfillment of university library objectives does not end with just the acquisition of library materials. In the library, at the end of each fiscal year, the library evaluates its electronic resources for replacement or deselection. These resources acquired are continually evaluated to determine how adequately they meet the needs of the users. To do this the librarian needs to have a comprehensive data on how researchers actually work and what materials they need and use. Collection evaluation is crucial to ensuring efficient, effective and usable collections. Collection evaluation according to Spiller (2001) is the process of identifying the strength and weaknesses of a library's resources, and attempting to correct existing weaknesses while maintaining the strength. Collection assessment is used interchangeably in this study It is the evaluation of library collections (print, e-resources, and non-print materials), which can be carried out on a periodic basis with the help of feedback and suggestions received from the regular users of the library observed, Har and Mahajan (2015).

In addition, Ifidon (1997) defined collection evaluation as the assessment of the extent to which a collection meets the library's objectives. The aims of the exercise are to determine the scope/depth and usefulness of the collection, test the effectiveness, utility and practical applicability of the collection development policy, assess the adequacy of the collection and thereby highlighting the inadequacies and suggest ways of rectifying them, reallocate resources so that the areas that really need them can receive greater attention; convince the library's authorities that the allocated resources are also inadequate; and to identify areas where weeding is required for an evaluation to be properly done. In the e-resources collection development practice, it identifies areas where cancellation of subscription is required hence resources are meant to be accessed and not owned. Evans (1979) suggests reason for the assessment as can vary from curiosity to the need to defend the manner in which funds were used to build the collection. Assessment requires that the collection be measured, analysed, and judged according to specific criteria for relevance, size, quality and use. It seeks to examine or describe collections either in their own terms or in relation to other collections and checking mechanisms such as lists. Both evaluation and assessment provide a better understanding of the collection and the user community observed Johnson, (2009).

One of the ways of ensuring that such needs are met is through collection evaluation within the framework of the curriculum, Osagie (2008). Collection evaluation is the process of assessing the effectiveness of a collection to meet the identified information needs of the institution. Just like evaluation before selection is important, so also evaluation of e-resources before the renewal process is critical. Yu and Breivold (2008) listed the criteria the selectors should consider when evaluating e-resources for renewal and continuity to include the following;

ranking based on quality and usage; access; cost-effectiveness; breadth; audience and uniqueness of the resource.

They further revealed that once a decision has been made based on the above criteria, the acquisitions department is notified to renew or cancel the subscription. They process the invoice for payment or communicate with the provider for cancellation. No matter how good a resource is, if the users are not accessing it, it is not of value to the collection. Ifidon (1999) asserts that compiling statistics is one of the commonest methods by which collections are assessed; that one way in which almost all libraries routinely engage themselves in collection evaluation is the compilation of statistics. In addition, Yu and Breivold (2008) suggested that usage statistics is not the only deciding factor, rather the use of overlap analysis report will aid in the determination of a resource. For example, if a library owns two resources that have exact same materials and coverage but one is not being used, that one resource would be a good candidate for cancellation. In addition to the aforementioned assessment techniques, word of mouth and user reaction are great indicators of how well an electronic resource is working in or for your library.

Steuart in Johnson (2009 page 153) described the process of selecting to acquire and selecting to weed (cancel) as linear:

> on the one hand one must evaluate materials before purchasing them,
> and on the other hand, one must re-evaluate their usefulness to the
> collection and then remove them, if they have lost their value.
> The removal requires judgment just as selection, and involves added
> pressures that the initial purchase did not.

Slote (1997) recommends an objective, scientific approach to collection weeding in which the amount and time of use are the principal criteria for deciding what items to remove. He further proposes a macro methodology in which library materials are divided into two groups, a core collection that serves 90-95 percent of current use and a "weedable" collection consisting a

larger group of materials that provides the remaining 5-10 percent of use. Evaluation in the context of this study is the assessment of the extent to which electronic resources acquired or subscribed to meet the library's objectives.

Research Method

The study was a descriptive study that examined evaluation practices of government owned university libraries in South East Nigeria established before 2010. These practices included the criteria considered in evaluation of electronic resources in university libraries in the South East Nigeria. The study covered government owned university libraries in Abia, Anambra, Ebonyi, Enugu and Imo States. They are University of Nigeria Nsukka, Federal University of Technology Owerri, Nnamdi Azikiwe University Awka, Michael Okpara University of Agriculture Umuahia, Enugu State university of technology, Abia State University, Uturu, Imo State University Owerri, Anambra State University (Chukwuemeka Odimegwu Ojukwu University) and Ebonyi State University, Abakaliki. The study was conducted in four federal government and five state government owned university libraries using questionnaire and structured interview as instruments of data collection.

The respondents were all the librarians in collection development, serials and e-library (digital libraries) and the post graduate students' users of the libraries under study. The population of this study consists of 2509 postgraduate library users and 86 librarians of the e-library, serials and collection development units in the state and federal universities libraries in South East Nigeria were used for this study. The sample size of this study consists of 337 respondents made up of 86 librarians and 251 postgraduate students. A proportionate stratified random sampling technique was used in order to have a sample proportional to the size of the

postgraduate library users of the libraries under study for data collection. The sample of the postgraduate library users was obtained using 10% of the population of the registered postgraduate library users in each university library under study. This is in line with the recommendation of Nwana (1981) for a population of a few thousands. All the librarians were used since the number was manageable. The questionnaire items were distributed personally by the researchers by visiting the units of the university libraries used for this study and the research libraries for the postgraduate students to access the electronic resources policy of the library. They were collected by the researchers to ensure maximum return and correctness. Data collected were tabulated and analyzed using simple statistics (mean).

Results and Discussion

Research Question 1: What are the factors considered in evaluating electronic resources in university libraries in South East Nigeria?

The data providing answers to the above research question are presented in table 1 below.

Table 1: Responses on what informs decision when evaluating electronic resource for renewal/ cancellation

		Name of institution									Overall
		MOUA	NAU	FUTO	UNN	ABSU	ASU	EBSU	ESUT	IMSU	$\bar{x}$
		$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	$\bar{x}$	N=86
		N=6	N=8	N=23	N=16	N=8	N=6	N=8	N=8	N=3	
1	Cost effectiveness based on the number of searches per year/	3.50	2.88	3.13	3.19	3.63	2.50	3.13	2.63	2.67	3.08
2	Relevance of the research on campus and the curriculum of the library users	3.00	3.13	3.22	2.88	3.38	3.17	2.63	2.75	3.33	3.05
3	Dissatisfaction with a resource	3.33	3.13	3.00	2.75	3.13	2.33	2.75	3.13	3.33	2.95
4	Access criteria based on the technical reliability of the content provider	3.00	2.38	3.13	3.00	2.75	2.33	3.00	2.63	3.33	2.88
5	The databases can be ranked by acquiring statistics	3.67	3.00	2.61	2.94	2.75	2.33	2.63	2.25	3.33	2.77
6	Comparing duplication in various formats or overlap in full-text resources	2.33	2.75	2.70	2.44	2.75	3.17	2.50	2.00	3.00	2.59
	Grand mean	**3.14**	**2.88**	**2.97**	**2.87**	**3.07**	**2.64**	**2.77**	**2.57**	**3.17**	**2.89**

Keys: SA-Strongly Agree A- Agree D-Disagree SD-Strongly Disagree

The data presented in table 1 reveals that, the mean ratings of the responses of the respondents on the six (6) identified items on what informs decision when evaluating e-resource for renewal/ cancellation had mean values ranging from 2.59 to 3.08 which are all above the cut-off point of 2.50 on a 4-point rating scale. The above findings indicated that the respondents agreed that all the six (6) identified items in the table are what informs decision when evaluating electronic resource for renewal/ cancellation.

Also, the overall mean showed that cost effectiveness based on the number of searches per year (mean = 3.10) is ranked highest, while comparing duplication in various formats or overlap in full-text resources (mean = 2.59) is ranked lowest.

The interview responses from the nine university libraries studied also revealed that ease of access, relevance of research on the curriculum of the users are considered when evaluating resources for cancellation and or renewal of subscription of electronic resources. Also the copyright agreements are considered to ensure that they are in agreement with the library's interest. The renewal processes are also looked into to avoid cumbersome processes that may affect the renewal of the subscription. Other considerations are frequency of publication and price adjustments.

Research Question 2: How adequate are the access to the electronic resources by library users in university libraries in South East Nigeria.

The data providing answers to the above research question are presented in table 2 below.

Table 2: Mean responses on adequacy in accessing electronic resources through the university library

		MOUA $\bar{x}$ N=38	NAU $\bar{x}$ N=43	FUTO $\bar{x}$ N=16	UNN $\bar{x}$ N=65	ABSU $\bar{x}$ N=16	ASU $\bar{x}$ N=8	EBSU $\bar{x}$ N=12	ESUT $\bar{x}$ N=17	IMSU $\bar{x}$ N=9	Overall $\bar{x}$ N=224	D
1	Access to Global Online Resources in Agriculture (AGORA)	3.11	3.16	3.38	3.26	3.19	3.13	3.00	2.71	3.22	3.16	HA
2	E-journals)	3.13	3.33	3.50	3.23	3.00	3.38	2.67	2.47	2.78	3.13	HA
3	Publishers Medline (PUBMED)	2.95	2.90	3.44	3.06	3.19	3.00	2.75	3.24	3.22	3.05	HA
4	E-books	2.87	3.23	3.19	2.88	3.19	3.25	2.75	3.41	3.00	3.04	HA
5	Health Internetwork Access to Research Initiative (HINARI)	3.21	2.95	2.63	3.05	2.56	3.38	3.17	3.25	2.78	3.01	HA
6	E-zines	2.71	2.95	3.19	3.15	3.13	3.50	3.25	2.71	2.56	3.00	HA
7	Web of Science	3.05	2.95	3.31	3.02	2.75	2.75	2.50	3.06	3.22	2.99	HA
8	African Journals Online (AJOL)	2.97	2.95	3.38	3.22	2.38	2.50	2.50	3.06	2.44	2.97	HA
9	Online Access to Research in the Environment (OARE)	3.03	2.63	2.75	2.94	3.38	3.25	3.25	3.12	2.78	2.95	HA
10	Scopus	3.05	2.74	2.94	2.97	3.19	3.38	3.25	2.47	2.11	2.91	HA
11	MEDLINE	2.97	2.58	2.81	2.98	3.06	3.00	3.08	2.71	3.22	2.89	HA
12	Directory of open access repository (OpenDOAR)	2.84	3.00	2.94	3.03	2.88	2.25	2.17	2.71	3.11	2.88	HA
13	Emerald	2.78	3.07	2.63	3.15	2.69	1.63	1.83	3.00	3.00	2.86	HA
14	EBSCO Host Integrated Search	3.03	2.81	2.75	2.83	2.69	3.00	2.42	2.88	3.00	2.84	HA
15	Online Public Access Catalogue (OPAC	2.82	2.86	2.94	2.83	2.06	2.75	2.92	2.94	2.89	2.80	HA
16	The Essential Electronic Agricultural Library (TEEAL)	2.82	2.44	2.81	3.00	3.00	2.75	2.92	2.47	3.00	2.79	HA
17	JayPee Digital Resources	2.84	2.74	2.50	3.03	2.50	1.88	2.75	2.41	2.67	2.75	HA
18	Nigerian Virtual Library	2.03	2.88	2.44	2.69	3.19	2.63	3.25	3.29	2.78	2.71	HA
19	International Network for the Availability of Science Publication (INASP)	2.58	2.88	2.94	2.66	2.44	2.75	2.83	2.88	2.44	2.71	HA
20	NetWellNess	2.53	2.58	2.94	2.51	3.19	2.50	3.33	2.88	2.89	2.69	HA
21	Cellpress	2.47	2.84	2.75	2.78	2.63	2.38	2.67	2.29	2.67	2.67	HA
22	DOAB	2.50	2.72	2.69	2.69	2.56	2.00	2.83	2.47	3.11	2.64	HA
23	Educational Resources Information Centre (ERIC)	2.55	2.74	2.31	2.65	2.38	2.50	2.92	2.94	2.67	2.64	HA
24	Nature Bundle	2.63	2.88	2.56	2.49	2.44	1.63	2.67	2.65	3.00	2.60	HA
25	IEEE	2.37	2.63	2.75	2.60	2.56	2.25	2.75	3.06	2.56	2.60	HA
26	Science Direct	2.08	2.60	2.69	2.83	2.44	2.13	3.25	2.18	2.11	2.54	HA
27	Open Access Scholarly Information Sourcebook (OASIS)	2.53	2.40	2.69	2.49	2.56	1.88	2.00	2.59	3.33	2.49	LA
28	ProQuest	2.58	2.33	2.25	2.58	2.69	1.63	2.42	2.82	2.56	2.4	LA
29	Research pro	2.16	2.56	2.50	2.51	2.75	2.75	2.92	2.24	2.33	2.48	LA
30	Directory of Open Access Journals (DOAJ)	2.61	3.02	2.88	2.54	3.00	2.75	3.00	2.76	2.00	2.48	LA
31	Plant Resources of Tropical Africa (PROTA)	1.97	2.40	2.56	2.38	2.81	3.00	2.75	2.41	2.22	2.40	LA
32	Sabinet	2.53	2.09	2.50	2.40	2.31	2.75	2.00	2.59	2.56	2.38	LA
33	Database of African Thesis and Dissertation (DATAD)	2.32	2.40	2.13	2.17	2.75	2.25	2.58	2.59	2.56	2.35	LA
34	JSTOR NEXUS	2.18	2.30	2.13	2.31	2.50	3.00	2.25	2.47	2.89	2.34	LA
	Grand Mean	**2.67**	**2.75**	**2.788**	**2.79**	**2.77**	**2.63**	**2.75**	**2.76**	**2.76**	**2.76**	

Keys: VHA-Very High Adequate, HA-High Adequate, LA- Low Adequate, VLA-Very Low Adequate

Table 2 above shows the mean rating of the respondents on adequacy in accessing e-resources through the University library. Using the principle of real limit of numbers, the results of the data analysis shows that the respondents were of the opinion that twenty six (26) items out of the thirty four (34) electronic resources are highly adequate while eight (8) are of low adequacy.

Research Question 3: What is the extent of use of electronic resources in university libraries in South East Nigeria
The data providing answers to the above research question are presented in table 3 below.

Table 3: Mean responses on extent of the use of these electronic resources in university libraries in South East Nigeria

		Name of institution									Overall	D
		MOUA	NAU	FUTO	UNN	ABSU	ASU	EBSU	ESUT	IMSU	$\bar{x}$=224	
		$\bar{x}$ N=38	$\bar{x}$ N=43	$\bar{x}$ N=16	$\bar{x}$ N=165	$\bar{x}$ N=16	$\bar{x}$ N=8	$\bar{x}$ N=12	$\bar{x}$ N=17	$\bar{x}$ N=9		
1	Access to Global Online Resources in Agriculture (AGORA)	3.08	2.91	3.19	3.23	3.00	3.13	3.08	2.76	3.67	3.09	GE
2	E-zines	3.21	2.86	3.00	3.15	3.00	2.88	3.33	3.35	2.78	3.08	GE
3	Publishers Medline (PUBMED)	3.13	2.98	3.13	3.09	2.81	2.88	3.50	2.88	2.89	3.05	GE
4	Health Internetwork Access to Research Initiative (HINARI)	3.11	2.72	3.19	3.00	3.06	3.13	3.42	2.65	3.33	3.00	GE
5	MEDLINE	3.16	2.86	3.06	3.05	2.81	2.50	3.08	2.94	2.78	2.98	GE
6	African Journals Online (AJOL)	3.03	2.47	3.25	3.28	3.06	2.88	3.08	2.88	2.56	2.98	GE
7	Science Direct	2.82	3.19	3.63	2.86	2.75	3.25	3.17	2.76	2.78	2.98	GE
8	NetWellNess	2.89	2.84	3.25	3.09	2.94	2.13	3.00	2.94	3.67	2.98	GE
9	Sabinet	2.79	2.86	3.44	3.03	3.00	3.00	3.33	2.59	2.56	2.95	GE
10	Database of African Thesis and Dissertation (DATAD)	2.95	2.60	3.19	3.17	3.50	2.88	2.83	2.24	2.78	2.93	GE
11	Plant Resources of Tropical Africa (PROTA)	2.92	2.51	3.13	3.12	3.00	2.75	3.25	2.88	2.89	2.93	GE
12	E-journals	2.89	2.88	3.13	2.94	2.38	3.00	3.33	2.82	3.11	2.92	GE
13	Online Access to Research in the Environment (OARE)	3.18	2.84	2.88	2.88	2.38	2.88	2.67	3.35	2.78	2.91	GE
14	Open Access Scholarly Information Sourcebook (OASIS)	2.89	3.07	2.25	2.74	3.06	3.25	2.42	3.29	3.11	2.88	GE
15	Educational Resources Information Centre (ERIC)	2.89	2.60	3.44	3.00	2.56	2.63	2.92	2.76	3.00	2.87	GE
16	Online Public Access Catalogue (OPAC	2.71	2.86	2.94	2.86	3.13	2.38	2.92	2.94	3.11	2.86	GE
17	Emerald	2.73	2.93	3.13	2.89	2.81	2.38	2.75	2.47	2.89	2.83	GE
18	Research pro	2.76	2.63	3.31	2.94	2.94	2.50	2.67	2.82	2.89	2.83	GE
19	DOAB	3.11	2.77	2.75	2.89	2.81	2.38	3.17	2.65	1.78	2.82	GE
20	Nigerian Virtual Library	2.74	2.35	3.19	3.23	2.81	2.50	2.42	2.75	2.78	2.82	GE
21	JSTOR NEXUS	3.32	2.95	2.56	2.60	2.00	3.50	3.17	2.35	2.78	2.79	GE
22	IEEE	2.71	2.79	3.25	2.92	3.00	2.25	2.08	2.82	2.33	2.79	GE
23	ProQuest	2.61	2.86	3.13	2.83	2.94	1.63	3.25	2.71	2.33	2.78	GE
24	Directory of Open Access Journals (DOAJ)	2.61	2.47	2.69	2.97	2.88	3.38	3.33	2.59	2.56	2.77	GE
25	E-books	2.76	2.84	3.00	2.89	3.31	2.88	2.33	1.76	2.56	2.77	GE
26	JayPee Digital Resources	2.58	2.70	2.81	2.89	3.19	2.75	3.08	2.12	2.78	2.76	GE
27	Scopus	2.50	2.63	3.06	2.82	3.06	2.13	3.42	2.76	2.56	2.75	GE
28	Directory of open access repository (OpenDOAR)	2.61	2.72	2.69	2.80	2.44	2.13	2.25	3.35	3.33	2.73	GE
29	EBSCO Host Integrated Search	2.37	2.86	2.38	2.72	2.88	3.25	2.92	2.88	3.11	2.73	GE
30	Cellpress	2.66	2.53	2.69	2.60	3.25	2.88	3.08	2.71	3.11	2.71	GE
31	The Essential Electronic Agricultural Library (TEEAL)	2.42	2.63	2.19	2.62	3.19	2.88	3.33	2.53	3.33	2.67	GE
32	Web of Science	2.47	2.65	2.13	2.92	2.88	2.50	2.33	2.53	3.00	2.66	GE
33	International Network for the Availability of Science Publication (INASP)	2.71	2.53	3.06	2.55	3.19	3.00	2.33	2.47	2.44	2.65	GE
34	Nature Bundle	2.50	2.37	2.44	2.82	2.44	2.88	2.67	2.29	2.56	2.57	GE
	Grand Mean	**2.82**	**2.74**	**2.96**	**2.92**	**2.90**	**2.75**	**2.94**	**2.72**	**2.85**	**2.85**	

Keys: VGE-Very Great Extent, GE-Great Extent, LE-Low Extent, NA-Not At All

Table 3 above shows the mean ratings of the respondents on the extent of the use of electronic resources in university libraries in the South East Nigeria. Using the principle of real limit of numbers, the results of the data analysis revealed that all the electronic resources are used to a great extent by the users. That shows that they are accessing it and using it for their research and learning. Also, the overall mean showed that Access to Global Online Resources in Agriculture (AGORA) (mean = 3.08) is ranked highest, while nature bundle (mean = 2.57) is ranked lowest when evaluating electronic resources by users in university libraries in the South East Nigeria.

Summary of Findings

The findings of this study showed that the libraries under study are informed by all the six (6) items when evaluating electronic resources for renewal and or cancellation. These items are, access criteria based on the technical reliability of the content provider, cost effectiveness based on the number of searches per year, dissatisfaction with a resource, the databases can be ranked by acquiring statistics of usage, relevance of the research on campus and the curriculum of the library users and comparing duplication in various formats or overlap in full-text resources. This finding supported the works of Yu and Breivold (2008) that listed the criteria the selectors should consider when evaluating e-resources for renewal and continuity to include the following, ranking based on quality and usage, access, cost effectiveness, breadth, audience and uniqueness of the resources. This finding supported another scholarly work on collection development by Ifidon (1999) which asserted that compiling statistics is one of the commonest methods by which collections are assessed; that one way in which almost all libraries routinely engage themselves in collection evaluation is the compilation of statistics. The finding of this study is in corroboration with the study by Idiegbeyan-ose and Osazuwa (2014) that revealed

some criteria for evaluating e-resources to include authority, cost relevance, coverage and currency.

Also the assessment of the electronic resources collection development policy by the postgraduate student's users revealed that majority of the electronic resources is used to a great extent by the users. That shows that they are accessing it and using it for their research and learning.

Conclusion and Recommendations

Electronic resources should be evaluated on a regular basis by considering relevant factors to disclose those electronic resources that are of high and maximum utilization. This will encourage cancellation or continuity of existing electronic resources collection development practices. And evaluating the library electronic resources using the users is imperative since the resources are meant to serve the users' needs and may be discontinue if they are not been accessed by the users.

Based on the findings the researchers recommend the followings:

- Regular evaluation of library electronic resources to ensure that users' needs are met.
- The university libraries should ensure that the electronic resources under subscription are properly evaluated and accessed for effective result.

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