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## Extent of Utilisation and Satisfaction of Open-Access Electronic Resources by Postgraduate Students of Federal Universities in South South, Nigeria

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# **Extent of Utilisation and Satisfaction of Open-Access Electronic Resources by Postgraduate Students of Federal Universities in South South Nigeria**

## **Abstract**

Open-Access electronic resources are the unrestricted information resources the students find readily accessible for use. This study examined the extent of utilisation and satisfaction of open-access resources by Postgraduate students of federal Universities in South South, Nigeria. Descriptive survey design was used, while the instrument for data collection was the questionnaire. A sample of 349 was arrived at from a population of 1401 Doctoral (PhD) and Masters of Education (M.Ed) postgraduate students from four federal Universities of the south-south geo-political zone of Nigeria using multi-stage sampling techniques. 293 of instrument were retrieved after administration, given 84% of the sample population. The findings of the study revealed that M.Ed Postgraduate students of Federal Universities in South South, Nigeria utilised Open-Access e-resources to a high extent with a pooled mean of 2.56 while the PhD Postgraduate students utilised them to low extent with a pooled mean of 2.22. The finding also revealed that the level of satisfaction derived by both the M.Ed and PhD Postgraduate students of Federal Universities in South South, Nigeria on the use of Open-Access e-resources were all to high extent, with a pooled mean of 2.56 and 2.89 for M.Ed and PhD respectively. The study recommended among other things that Libraries should organise more awareness programme on the availability of Open Access e-resource and encourage students to use them.

**Keywords: Open-Access, Electronic Resources, Utilisation, and Satisfaction**

## **Introduction**

Utilisation of electronic-resources is essential to the acquisition of information resources in academic libraries. In fact, throughout history, the use of information resources has been of great interest to libraries and librarians. The technical services in information processing are to ensure that ultimately the information contents are utilised, directly or indirectly. Ntui and Udah (2015) consider the use of information as a practical and optimal utilization of library resources that a user can identify and acquire in order to solve a problem or to achieve a specific goal. In line with this view, utilisation can be said to be an effective use of e-resource for teaching, learning and research in order to reap the optimal benefits. Libraries have been established to support teaching, learning and research, as such; access to her e-resources is for the utilisation of the postgraduate student's academic pursuit. Utilisation of e-resources is largely dependent on the

accessibility of such resources.

The paradigm shift experienced in the academia with the advent of ICT did not elude postgraduate students in their studies. Postgraduate students are students engaged in advance study in any given field beyond first degree. Among the objectives of academic libraries is to support teaching, learning and research. Sambo, et al (2016) maintained that the quality of teaching, learning and research in any academic or research institution depends, to a large extent, on its library's information resources and services. Postgraduate studies curricula are mainly centered on research. The students are involve in a lot of independent as well as group research works, which are facilitated by the e-resources provision and access of academic libraries. Research, which engage students and researchers to formally take an in-depth or critical look at issues, ideas, the environment or situations for possible clarity, insights or solutions to existing or possible issues, require postgraduate students to access, utilise and in most cases review extensively Open-Access e-resources to ensure a detailed acceptable research study that will facilitate the award of the expected degree.

For academic excellence, the postgraduate students are expected to maximally utilise the wealth of information resources that Open-Access e-resources offer. The use of Open-Access e-resources offer postgraduates an ocean of information resources, They provide valuable information free of charge to the users, an archive of materials dating back some years, index of previously published articles related to the new item offer a power search option, enabling users to focus their searches more precisely and they provide access to knowledge that is readily available in the free information environment, mainly newspaper and journal articles. In addition, pre-formatted collections of resources, in particular company profiles and statistical data are provided (Ntakumba, 2002). Today's academic libraries are exploiting the current

technological trend and expectation of provision and access to Open-Access e-resources. The existence of Open-Access e-resources would technically provide students with easy and all round access to these e-resources for learning and research. But observable complaints and challenges expressed by students prompted concerns into postgraduate access and use of these e-resources. Notable researchers have shown various studies on e-resources (Chandra, 2002; Salau & Gama, 2015; Ankrah & Atuase, 2018) but this study takes a look at how the Open-Access e-resources are accessed and utilised by the students.

### **Statement of the Problem**

Application of information technology in libraries has brought about a paradigm shift from acquisition of only print resources to subscription and acquisition of open content licenses/resources of electronic resources to enhance library's collection. In an effort to boost teaching, learning and research, as well as ensure that libraries meet the current standard and demand for information resources in the information age, libraries create access to Open-Access e-resources. Open-Access e-resources are web based resources that are accessed free of charge. These resources are accessible through the internet, computers and Personal Device Assistant (PDA) such as smart-phone and laptops.

The National Universities Commission (NUC) also has included E-library; accessibility and subscription to e-resources, as one of the major criteria that libraries must meet for accreditation of academic programmes in any University. In line with the aforementioned, and not to be limited by the economics of subscription to e-resources, libraries now adopt Open-Access e-resources to boost their collections. Accessibility and utilisation of Open-Access e-resources promotes teaching, learning and research. With the adaption of Open-Access e-resources to libraries collections and benefit of unrestricted access it is pertinent to empirically

examine the extent of utilisation and satisfaction of Open-Access Electronic Resources by Postgraduate Students of Federal Universities in South South, Nigeria.

### **Purpose of the Study**

The purpose of this study was to examine the use of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria. The study specifically:

1. Examined the extent of use of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria;
2. Determined the level of satisfaction derived from the use of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria;

### **Research Questions**

The accompanying research questions were put up for the study.

1. What is the extent of use of Open-Access electronic-resources by Post-graduate students of Federal Universities in South South, Nigeria?
2. What level of satisfaction is derived from the use of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria?

### **Hypotheses**

The accompanying hypotheses were formulated and tested at 0.05 alpha level to guide the study.

- H<sub>0</sub><sub>1</sub> - There is no significant difference between the mean responses of M.Ed and PhD students on the extent of utilisation of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria.

H<sub>02</sub> - There is no significant difference between the mean responses of M.Ed and PhD students on the level of satisfaction derived by postgraduate students from the use of Open-Access e-resources of Federal Universities in South South, Nigeria.

### **Conceptualisation of Utilisation**

Utilisation of library and information resources has been a subject of utmost interest to libraries and librarians through decades. This interest dimmed with the progression of libraries from knowledge custodians to sources and repositories of knowledge in present information age. Information access is important but utilisation of the information is often a challenge. This is because users do not always understand which information resources are most appropriate for their needs. Access to library resources creates an environment for the use of library resources. Utilisation is the process of using something in a practical and effective way (Oxford, 2019). Borgman, as cited in Budu (2015) stated that the ability to use electronic information resources in research and application of e-resources demonstrates the ease of use of e-resources through ICT. In a similar view, Atinmo as cited in Ogbonnaya (2020) stated that the ability to use resources and services effectively and independently means that products are in the appropriate form and language for use. It furthers the continued use of information resources and the relative benefits derived from the resources.

Ntui, and Uдах (2015) considered information utilisation as the practical and optimal use of the library resources that a user has identified and acquired with the aim of solving a problem or achieving a specific goal. Ankrah and Atuase (2018) in consensus with Madhusudhan (2010) were of the view that, when users of a library are exposed to information resources available in a particular library, they stand a chance of accessing them and are also encouraged to utilise them judiciously to satisfy their information needs. The availability, accessibility and use of e-

resources is cardinal to the academic success of any student more so postgraduate students as researches have shown that resources may be available but not accessible for use by researchers. In support of this, Olorunsaje and Adetunji (2012) opined that it is hopeful that majority of university libraries in Nigeria (Africa) would have effectively computerized their library services by 2020 for the provision of efficient library service and proper utilisation of library e-resources and services.

Contextually, utilisation refers to be the effective use of e-resources for teaching, learning and research, in order to derive optimal benefit. Utilisation is the act of using processed resources and services that will aid teaching, learning and impact behaviour positively. The utilisation of e-resources is essential for the attainment of the organisational or individual academic objectives. Ushie (2008) outlined certain factors that influence the utilisation of internet resources to include attitude of users, rank of users, genders of users, teaching experience, areas of specialization and qualification. To subscribe to the above assertions, Effiong (2010) also emphasized that students' characteristics influence the utilisation of academic libraries. Those characteristics which the author outlined included age, gender, academic discipline, level of study and knowledge of library services.

Substantiating student's role, Emojorho (2013) stated that the utilisation of library information e-resources and services is highly dependent on patrons being aware of the availability of the library information e-resources and services and also developing positive attitude towards their use. Akanwa and Aniche (2012) opined that library services and e-resources can be fully utilised if these services are organized because patrons enjoy libraries that are well organised where they can have easy access to the resources and services they need without wasting time. This organisation can of course be done with established e-resource centres

or unit, proper internet and ICTs facilities, subscriptions to e-resources, user accessibility, easy retrieval and utilisation of the information resources. This gives light to the idea that utilisation of e-resources is colligated by accessibility, enabling information users utilise the resources that are made accessible to them.

### **E-resources Use: Postgraduate Student's Satisfaction.**

According to Essay (2013), a university, as a public institution should try to create a positive image for its different audiences. It must know each one of them deeply to satisfy them adequately and to know what the variables that influence a positive assessment of the university are. For students, it is important to analyze all variables that affect both: their university experience, as well as their previous and post-experience. Therefore, universities gradually build, maintain and integrate relationships with their diverse audience, especially with their students (Hasan, Ilias, Rahman, & Razak, 2008).

Satisfaction is a pleasant feeling you get when you get what you want or when you do what you want to do (Cambridge, 2019). After reading various definitions of satisfaction in her study, Sharmin (2012) noted that satisfaction is the customer's (student's) fulfillment response. It is an assessment that a product or service feature, or product or service, automatically provides a pleasing amount of consumption-related fulfillment. This definition approached feedback from both sides, where the first approach defined satisfaction as the final state as a result of a consumer experience and the second approach emphasized the cognitive, evaluative, and psychological processes that contribute to satisfaction (Evangelos & Yannisas cited in Sharmin, 2012). The university and the library are responsible for satisfying the electrical resources. Satisfaction, therefore, is considered to be the achievement of postgraduate students in academics examination from knowledge, research and learning derived from access and utilisation of open-



access e-resources in their various institutions.

Rust and Oliver, as cited in Essay (2013), claimed that the level of satisfaction reflects the level at which a consumer believes that owning or using a service creates positive emotions. Shankar, Smith and Rangaswamy (2003) found that accessing information on the Internet and the depth of information increase overall satisfaction. To a large extent, student satisfaction is similar to the service provided by universities because it depends on many factors in the long run. In addition, students do not have the opportunity to easily change providers, thus causing opportunity dissatisfaction. Modern academic libraries are students-centred. Library utilisation and postgraduate students' satisfaction are good methods to study and diagnose various challenges in libraries and help librarians with their decision-making. In this study, the level of satisfaction gained by postgraduate students through the use of Open-Access e-resources will be determined. As the satisfaction of students can be expressed and achieved in the institution from their successes and performances (Alves & Raposo as cited in Essay, 2013).

## **Methodology**

The study adopted a descriptive survey research design. The population for the study was 1401 Doctoral (PhD) and Masters of Education (M.Ed) postgraduate students from four federal Universities of the south-south geo-political zone of Nigeria, namely: University of Calabar, University of Uyo, University of Port-Harcourt and University of Benin. The sample for the study was 349 postgraduate students in the faculty of education of Federal Universities in South South, Nigeria. The study employed the multi-stage sampling techniques precisely; purposive and disproportionate stratified-simple random sampling techniques. A structured questionnaire titled "Utilisation and Satisfaction of Open-Access Electronic Resources Questionnaire (AUOAERQ)" was used for the study. The reliability of the instrument for the study was

determined with a trial test on 20 postgraduate students of College of Education, Michael Okpara University of Agriculture, Umudike, Abia state, which was outside the study area, but has similar characteristics with the target respondents using Cronbach Alpha statistics to determine the internal consistency of the questionnaire items which yielded a reliability coefficient of 0.84. The data collected were analyzed using mean, standard deviation to answer the research questions while t-test statistic was used to test the hypotheses at .05 level of significance.

## Data Analysis

### Research Question 1

What is the extent of utilisation of Open-Access electronic-resources by Post-graduate students of Federal Universities in South South, Nigeria?

Data for answering research question 1 are presented in table 1.

**Table 1: Mean and Standard deviation of the Responses of Respondents on the Extent of Utilisation of Open-Access Electronic-resources by Postgraduate Students of Federal Universities in South South, Nigeria (n=293)**

| S/<br>N | Item statement         | M.Ed        |             |            | PhD         |             |            |
|---------|------------------------|-------------|-------------|------------|-------------|-------------|------------|
|         |                        | $\bar{x}_1$ | $S_1$       | Remark     | $\bar{x}_2$ | $S_2$       | Remark     |
| 1       | DOAJ                   | 2.46        | 1.17        | L E        | 2.41        | 1.14        | L E        |
| 2       | Hindawi                | 2.45        | 1.03        | L E        | 1.89        | 0.91        | L E        |
| 3       | OAPEN                  | 2.51        | 1.05        | H E        | 2.29        | 1.08        | L E        |
| 4       | Google Scholar         | 2.67        | 1.01        | H E        | 2.33        | 1.17        | L E        |
| 5       | World Library          | 2.54        | 0.99        | H E        | 2.19        | 1.14        | L E        |
| 6       | Digital Common Network | 2.62        | 1.13        | H E        | 2.20        | 1.17        | L E        |
| 7       | Biomed central         | 2.55        | 1.11        | H E        | 2.28        | 1.12        | L E        |
|         | <b>Pooled Mean</b>     | <b>2.56</b> | <b>1.07</b> | <b>H E</b> | <b>2.22</b> | <b>0.10</b> | <b>L E</b> |

$\bar{x}$  = Mean,  $S$  = Standard deviation, L E = Low Extent, HE = High Extent.

The data presented in Table 1 showed that the mean responses of M. Ed students on the items 1 and 2 were 2.46 and 2.45 respectively which were within the real limit of 1.50-2.49 which also indicated low extent responses while items 3,4,5,6, and 7 ranged between 2.51 to 2.67 and fall within the real limit of 2.50 to 3.49 indicating high extent responses. Also, the table further

showed that the mean responses of PhD students on all the items ranged between 1.89 to 2.41 which fall within the real limit ranged of 1.50 and 2.41 indicating low extent responses. The pooled mean responses of M.Ed and PhD students on the extent of utilisation of Open-Access electronic-resources were 2.56 and 2.22 respectively. These equally implied that the M. Ed and PhD Postgraduate students agreed that the extent of utilisation of Open-Access electronic-resources for academic purpose in the federal universities was to high extent and low extent respectively. The table 1 also showed that the pooled standard deviations of 1.07 and 1.10 for M. Ed and PhD respectively indicated that the respondents were not far from one another in their responses.

### Research Question 2.

What level of satisfaction is derived by the use of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria?

Data for answering research question 4 are presented in table 2.

**Table 2: Mean and Standard deviation of the responses of respondents on the level of satisfaction derived by the use of Open-Access e-resources by Postgraduate Students of Federal Universities in South South, Nigeria (n=293)**

| S/<br>N | Item statement         | M, Ed       |             |            | PhD         |             |            |
|---------|------------------------|-------------|-------------|------------|-------------|-------------|------------|
|         |                        | $\bar{x}_1$ | $S_1$       | Remark     | $\bar{x}_2$ | $S_2$       | Remark     |
| 1       | DOAJ                   | 2.61        | .96         | H S        | 2.59        | 1.09        | H S        |
| 2       | Hindawi                | 2.56        | 1.01        | H S        | 2.76        | .97         | H S        |
| 3       | OAPEN                  | 2.61        | 1.03        | H S        | 2.99        | .74         | H S        |
| 4       | Google Scholar         | 2.69        | 1.15        | H S        | 2.84        | 1.14        | H S        |
| 5       | World Library          | 2.49        | 1.17        | L S        | 2.96        | .96         | H S        |
| 6       | Digital Common Network | 2.51        | .99         | H S        | 3.20        | .92         | H S        |
| 7       | Biomed central         | 2.37        | .93         | L S        | 3.17        | .94         | H S        |
|         | <b>Pooled Mean</b>     | <b>2.56</b> | <b>1.03</b> | <b>H S</b> | <b>2.89</b> | <b>0.98</b> | <b>H S</b> |

$\bar{x}$  = mean,  $S$  = Standard deviation, LS = Lowly Satisfied, HS = Highly Satisfied.

The data presented in table 2 revealed that the mean responses of M. Ed students in all the items except items 5 and 7 ranged from 2.51 to 2.69 which were within the real limit range of 2.50 to 3.49 which indicated high extent. Items 5 and 7 were 2.49 and 2.37 and within the real limit range of 1.50 -2.49 indicating low extent mean responses. The table further showed that the mean responses of PhD students in all the items ranged from 2.59 to 3.20 which were within the real limit range of 2.50-3.49 indicating highly satisfied mean responses. The pooled mean of 2.56 and 2.89 for M.Ed and PhD respectively which fall within the real limit range of 2.50-3.49 indicated that they agreed that the level of satisfaction derived by the use of Open-Access e-resources by Postgraduate students of Federal Universities in South-South was to high level. The table 2 also showed that the standard deviation of the items ranged from 1.03 to 0.98. This indicated that the respondents were not far from the mean and from one another in their responses.

### **Hypothesis 1**

There is no significant difference between the mean responses of M.Ed and PhD students on the extent of utilisation of Open-Access e-resources by Postgraduate students of Federal Universities in South-South, Nigeria.

Data for testing hypothesis 1 were presented in table 3.

**Table 3: t-Test analysis of the mean ratings of M.Ed and PhD students on the extent of utilisation of Open-Access e-resources by Postgraduate students of Federal Universities in South South, Nigeria (n=293)**

| <b>Status</b> | <b>N</b> | <b>X</b> | <b>Sd</b> | <b>Df</b> | <b>t-cal.</b> | <b>P-value</b> | <b>Remark</b> |
|---------------|----------|----------|-----------|-----------|---------------|----------------|---------------|
| <b>M.Ed</b>   | 219      | 2.56     | 1.07      |           |               |                |               |
|               |          |          |           | 291       | 1.313         | .158           | NS            |
| <b>Ph.D</b>   | 74       | 2.22     | 1.10      |           |               |                |               |

$\bar{x}$  = mean, *S* = Standard deviation, *S* = Significant, NS = Not Significant.

Data in Table 3 revealed a P-value of 0.158 which is greater than 0.05 alpha value. Since the P-value of 0.158 is greater than 0.05 alpha value, the null hypothesis stated was upheld. Therefore, there is no significant difference between the mean responses of M.Ed. and PhD students on extent of utilisation of Open-access e-resources by Postgraduate students of Federal Universities in South South, Nigeria.

### **Hypothesis 2**

There is no significant difference between the mean responses of M.Ed and PhD students on the level of satisfaction derived by postgraduate students from the use of Open-Access e-resources of Federal Universities in South South, Nigeria.

Data for testing hypothesis 2 were presented in table 4.

**Table 4: t-Test analysis of the mean ratings of M.Ed and PhD students on the level of satisfaction derived by postgraduate students from the use of Open-Access e-resources of Federal Universities in South South, Nigeria (n=293)**

| Status | N   | X    | Sd   | Df  | t-cal. | P-value | Remark |
|--------|-----|------|------|-----|--------|---------|--------|
| M. Sc  | 219 | 2.56 | 1.03 |     |        |         |        |
|        |     |      |      | 291 | -2.472 | .303    | NS     |
| Ph.D   | 74  | 2.89 | 0.98 |     |        |         |        |

$\bar{x}$  = mean, S = Standard deviation, S = Significant, NS = Not Significant.

Data in Table 4 showed a P-value of 2.023 which is greater than 0.05 alpha value. Since the P-value of 2.023 is greater than 0.05 alpha value, the null hypothesis stated was upheld. Therefore, there is no significant difference between the mean responses of M.Ed. and PhD students on the level of satisfaction derived by postgraduate students from the use of Open-Access e-resources in Federal Universities in South-South, Nigeria.

### **Findings and Discussion**

The findings of the study revealed that M. Ed Postgraduate students of Federal Universities in South South, Nigeria utilised Open-Access e-resources to a high extent while the PhD

Postgraduate students utilised them to low extent. The result of the study was not surprising as most of the PhD students were old and not too conversant with computer. They attended their other lower levels of education before computer was introduced into the educational curriculum unlike their M.Ed counterparts that had series of courses on computer application and literacy in their other lower levels of education and more proficient in the use of computer and computer related devices in learning. The result equally showed that there was no significant difference between the mean responses of M.Ed and PhD students on extent of utilisation of Open-access e-resources by Postgraduate students of Federal Universities in South South, Nigeria. The finding is in line with the thoughts of the researcher who believes that Open-Access e-resources were used to a great extent by Postgraduate students of Federal Universities in South South, Nigeria. It is also confirmed in Ankrah and Atuase (2018) that most postgraduate students rather preferred to access information from Google scholar, and other web based databases more frequently than the databases in the library. Salau and Gama (2015) also revealed that personal access through open/free source was the most used source of e-journals for their academic activities. E-journals were also most frequently used in academic activities related with research and teaching.

The finding further revealed that the level of satisfaction derived by both the M.Ed and PhD Postgraduate students of Federal Universities in South South, Nigeria on the use of Open-Access e-resources were all to high extent. The results however implied that both the M. Ed and PhD postgraduate students agreed that they all derive high level satisfaction using Open-Access e-resources. It also revealed that there was no significant difference between the mean responses of M.Ed. and PhD students on the level of satisfaction derived by postgraduate students in Federal Universities in South South, Nigeria. This finding is in line with the thoughts of the researcher that Open-Access electronic-resources to a great extent satisfied the Postgraduate

students of Federal Universities in South South, Nigeria who used them. It was also confirmed in Shankar, et al (2003) who found that ease of obtaining information and depth of information at the website increased overall satisfaction. The author noted further that to a great extent, student's satisfaction corresponds to the service provided by universities, since it depends on many factors over a long period of time. Also, Alves and Raposo as cited in Essay, (2013) confirmed this as it stated that modern academic libraries are students-centred. The author further noted that Library utilisation and postgraduate students' satisfaction are good methods to study and diagnose various challenges in libraries and help librarians with their decision-making.

### **Conclusion and Recommendation**

This study which was on the utilisation of Open-Access e-resources by Postgraduate students of Federal Universities in South south, Nigeria, had shown that postgraduate students utilise Open-Access e-resources for academic purposes. It brought to light the extent of utilisation of the Open-Access e-resources, as such, M.Ed students utilise Open-Access e-resources to a high extent, while PhD students utilise Open Access e-resources to a low extent though no significant different in the extent of use. The satisfaction derived from the utilisation of Open-Access e-resources was rated high by Postgraduate students of Federal Universities in South South, Nigeria. This gives backing to the campaign and promotion of Open Access e-resources among university students. Based on the findings of this study, the researchers wish to make the following recommendations;

1. Libraries should organise more awareness programme on the availability of Open Access e-resource and encourage students to use them.
2. The university management and department heads should also create, where needed and include mandatory e-resources search and retrieval courses for postgraduate students.

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3. The library management and staff should create awareness for available personal request for Selective Dissemination of Information (SDI) of Open-Access e-resources. They should also create forum for library training on open-Access e-resources for postgraduate students



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