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of

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International Journal of Information & Management Sciences

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http://ijims.org/
From the Desk of
Editor in Chief

Dear Readers!

I am pleased to present the fifth issue of the International Journal of Information Management Sciences (IJIMS) through the platform of Pakistan Librarians Welfare Organization (PLWO), Lahore – Pakistan. This is the third continuous issue of the current editorial board.

This year, the quality of the journal has been improved and we have switched from a manual system to an automated system through OJS software. This state-of-the-art software provides us the facility for submission, organization, and other requisite processing of all issues in time. We have also gone through the review process through this software as a test run. Next year, all activities related to the journal will be done through IJMS.ORG.

It is also pleasure sharing to you that IJIMS has fulfilled all the requirements to get recognition of the Higher Education Commission (HEC) of Pakistan. We have already applied to HEC in that regard and we are waiting for their response to get recognition. Hopefully, we will get good news from the Higher Education Commission of Pakistan very soon.

IJIMS is not only getting popularity among the Pakistani LIS scholars but also it is also attracting international researchers. The current issue is the proof of the same. In the current issue, there is only one article from Pakistani authors and the remaining four papers are from different countries including Nigeria, Ethiopia, Jamaica, and India. To know the similarity index of the manuscripts, all documents have been checked through the plagiarism software named Turnitin and then the process of double-blind peer review has been done. The sole purpose of these activities is to enhance the quality of the journal. The editorial board had received many articles for this issue but only those articles were selected which were recommended by external reviewers.

I am very much grateful to all the editorial members of IJIMS who have worked hard to make this journal in its final shape. I also would like to pay thanks to those who have served as reviewers for IJIMS and sent their feedback well in time which was necessary to develop and publish high-quality material. Thanks to the Patron of IJIMS, and President of Pakistan Librarians Welfare Organization (PLWO) for their support and guidance. Finally, I want to thank all the authors of manuscripts who submitted their papers for publication in IJIMS.

We look forward to working with all of you as we continue to make the International Journal of Information Management Sciences (IJIMS) highly productive and quality conscious. We welcome your submissions, concerns, expert feedback, suggestions, recommendations, and comments for the further improvement of the journal.

Dr. Muhammad Tariq
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</table>
ASSESSMENT OF ICT COMPETENCIES AND USE OF ELECTRONIC INFORMATION RESOURCES BY LECTURERS IN UNIVERSITIES IN BENUE STATE, NIGERIA

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Abstract

The research was conducted to assess ICT competencies of lecturers in Universities of Benue State in related to the utilization of electronic information resources. Two research objectives were formulated to complete the research which were types of electronic information resources available in the universities and the level of ICT competencies possessed by the lecturers for using electronic information resources. Quantitative research method was adopted by using a cross-sectional survey research design. The population of the study consisted of lecturers in the three universities in Benue State; namely, University of Mkar, Mka; Benue State University, Makurdi; and Federal University of Agriculture, Makurdi, with a total of 1, 537 lecturers. Out of this population, 306 lecturers were drawn as sample for the study. Cluster and simple random sampling were preferred for sample selection. Questionnaire was used as the instrument for data collection. To establish the validity of the instrument, the questionnaire was presented to experts for face and content validity. Reliability of the instrument was obtained through the pilot study
conducted in Ahmadu Bello University, Zaria. A reliability level of 0.98 was obtained. The data collected from the respondents was sorted, organized, presented and analyzed using descriptive statistics for the research questions while inferential statistics in form of One-way Analysis of Variance (ANOVA) was maximized in testing the null hypothesis at 0.05 level of significance, with the aid of SPSS. The study revealed that electronic journals, online databases, and e-books are the most available electronic information resources, and the level of ICT competencies of lecturers in universities in Benue State is high in basic knowledge and skills like word processing, PowerPoint presentation, and Internet surfing. The study recommends that the management of respective university libraries in Benue State should engage IT experts to develop Digital Institutional Repositories (DIR) for their institutions in order to provide sustainable access to relevant scholarly outputs in addition to the available ones, and government at all levels should show more commitment to the development of ICT competencies of lecturers by making available ICT grants to the universities and lecturers on annual basis.

**Keywords:** ICT, ICT Competencies, Electronic Information Resources

**Introduction**

Information and Communication Technology (ICT) has changed the role of traditional operation which has a potential force that globally transformed various facets of human endeavors. Basri *et al* (2018) admitted that ICT has become an innovative means of sourcing information and improvement of efficiency for various sectors across the world. In the educational sector, particularly, the application of ICT tools has changed the complexion and content of university education through enhanced communication and information utilization. Nigeria is not an exemption to this notable and global experience, seeing that ICT facilities such as smartphones, World Wide Web, intranets, extranets, Tablets, iPad, Internet, and other digital devices have exploded in popularity in the Nigerian universities and its impact is spreading quickly. This is evident that electronic information resources have dramatically revolutionized the landscape of teaching method and research strategies in universities across the nation. According to Isibika and Kavishe (2018), Electronic information resources are now considered as important tools for learning, teaching, and research in many academic institutions. This implies that the pervasive influence of EIRs on academic activities is no longer in doubt, and this rationalizes its growing preference over print resources in universities.
In common parlance, electronic information resources are information objects available in a non-paper format and are accessed through electronic means such as computer devices, CD-ROMs, Internet, databases, and other digital networks. Ani et al (2015) reported that e-books, e-theses/dissertations, e-journals, e-conference papers, online databases, CD-ROM databases, e-conference papers, and e-newspapers/e-magazines are predominantly within the reach of most of the lecturers. These resources provide lecturers with information beyond their institutional walls. The traditional barrier of geographical location and time have been stamped out with the introduction of electronic information resources, as a result, global information access and intellectual interaction increased among academicians of both developed and developing nations around the world. In firming this up, Owolabi et al (2012) observed that electronic information resources have increasingly become a valuable asset in the educational sector which drastically increased access to research output, teaching, and learning. These also have changed the way of conducting research and teaching in the universities system by given lecturers an ample opportunity for accessing and using accurate information.

The use of electronic information resources involves searching, examining, accessing and putting these information resources into appropriate context to satisfy diverse information demands. Iroaganachi and Izuagbe (2018) explained that the use of electronic information resources as a way of utilizing information on the different field which has been accessed to meet the desired need of lecturers constructively. Productive use of these resources is absolutely reliant on their relevance to the functions of lecturers. The advent of EIRs has significantly influenced the professional functions of lecturers in areas of learning, teaching, and research due to its capacity to circulate recent research discoveries and allow distant access without physical restriction. With this development, EIRs gained prominence and become instrumental for driving universities. They have constituted a major investment in many universities especially now that Nigerian Universities Commission (NUC) ensures its availability before accrediting university programmes. Howbeit, appropriating the fullest rewards of EIRs, lecturers require competencies in manipulating the ICT enabling devices through which these resources are accessed and used. Kpolovie and Awusaku (2016) emphasized that lecturers need to be effective and efficient in terms of the use of ICT for the success of today highly competitive world which depends on such knowledge and skills.

Acquiring ICT competencies is not just necessary for lecturers but very sacrosanct. It is more so because the era of lecturers surviving and proving to be relevant in their academics without
ICT competencies is gone. These competencies are increasingly becoming a prerequisite for every professional practice. Buabeng-Andoh (2012) defined ICT competencies as being able to handle a wide range of varying computer applications for various purposes. Lecturers’ ability to know ICT tools, effectively manage and operate them is ICT competence. It can, therefore, be noted that developing competency in ICT use, requires a deep foundation of the knowledge of ICT itself and coordination of such knowledge in manners that enable the application. Knowledge of ICT can be explained as a fundamental understanding of computer-oriented technologies, as well as their use. This infers that lecturers are acknowledged competent when their knowledge of ICT is applied in manipulating it. Hennessy et al., (2010) witnessed that the lecturers’ knowledge of ICT operations is an important step towards integrating ICT into teaching and other academic involvements.

Akpan et al. (2011) found that lecturers with ICT competence were found to be more effective in teaching communication and research publications than those with moderate and low ICT skills. This implies that ICT skills are very central to the quality of the work of lecturers by enhancing their working methods. With these competencies, lecturers can enrich the intellectual system of their respective universities and remain current in scholarship. Ayoku and Victoria (2015) highlighted emailing, word processing, formatting, Internet and database searching, database management, web design as some of the ICT skills required by lecturers to possess in order to reap from the manifold potentials of EIRs for their academic output and productivity.

Statement of the Problem

Electronic information resources are among the universal sources of information which are used by individuals and nations of the world for meeting the need for growth and national development. ICTs are the steam engines that are used to harness these resources. Lecturers' ICT competencies improve the utilization of e-resources for teaching and research productivity, relevancy and intellectual contributions to the academic world.

In spite of the mammoth benefits offered by EIRs, Agber and Agwu (2013) reported that effective use of electronic information resources by lecturers is not yet a success story in the Universities in Benue State. Therefore, uncertainty exists whether the lecturers possess ICT competencies for using electronic information resources. Where these skills are lacking, the colossal amount of money expended on procurement of ICT facilities and subscription to EIRs will be a giant waste and ultimately, the learning, teaching and research objectives of these
Universities would remain unrealized. It is against this backdrop that the researcher is motivated to assess more closely the lecturers’ ICT competencies in the use of Electronic Information Resources (EIRs) in the Universities in Benue State.

Research Questions

Following two research questions were used for the study:

1. What types of electronic information resources are available for use by the lecturers in the Universities in Benue State?
2. What is the level of ICT competencies possessed by the lecturers for using electronic information resources in the Universities in Benue State?

Research Hypothesis

The following null hypothesis was formulated for the study:

3. \( H_0 \): There is no significant difference in the level of ICT competencies of lecturers in the Federal, State and Private Universities in Benue State.

Review of Related Literature

Electronic information resources are digital information which can be accessed through electronic devices and computer network (Johnson et al., 2012). Similarly, Agber and Agwu (2013) viewed EIRs as resources found on computer devices and networks of organizations or the worldwide network of millions of computers. Konappa (2014) on his part considered EIRs as "materials that require computer access, whether through a personal computer, mainframe, or handheld mobile device". Additionally, Ani et al., (2015) defined EIRs as resources preserved in electronic format in computer or computer-related facilities such as CD-ROMs, digital libraries or the Internet. Concisely, according to IFLA, (2015) defined EIRs as computer-controlled information resources which require the use of peripherals connected to a computer. From the above definitions, it can be noted that EIRs are presented, stored and accessed electronically. This implies that they are the replica of print resources in content but dissimilar in format and require apposite electronic systems to be accessed.
Electronic information resources are data and programmes based, data-based exploited in numbers, letters, graphics, images, and sound or a combination while programmes based are instructions for processing data (Haridasan and Khan, 2009; Sejane, 2017). They are modified by the computer (Thanuskodi, 2012, Pawar and Moghe, 2014). This is the major selling point of EIRs. In another view, Islam and Mostofa (2013) characterized EIRs as being either born-digital or digitalized. Born digital are materials available on the Internet and CD-ROMs whereas digitized materials are converted from other formats to digital formats. Regarding the method of access, Shidi and Uganneya (2013) factually submitted that EIRs are either accessed freely under the Open Access Initiatives or subscribed to (proprieted) from commercial vendors. EIRs have economic value but proprieted resources restrict people from largely benefiting from intellectual outputs of others.

Konappa (2014) comprehensively categorized EIRs as primary sources of information which include e-conferences, software, courseware, manuals, e-theses and dissertations, reports, news, manuals, and electronic journals, while databases are data sets and other collections which include index databases, abstract databases, and digital collections.

Electronic information resources are commonly used by lecturers in Nigerian Universities for their researches (Uzuegbu et al., 2012; Ezema, 2015). Institutional repositories have been developed in the Universities for sustainable access to relevant EIRs for teaching and research. A wide range of resources is accessible through the National Virtual Library which operated by National Universities Commission. UNESCO (2015) found that open educational resources as another category of EIRs used by lecturers for teaching and learning from diverse course contents of institutions of learning. Iroaganachi and Izuagbe (2018) found that academic staff of private universities is more positive in the utilization of EIRs for teaching and research more than their counterparts in state and federal universities. The revelation came after the submission of Izuagbe, Hamzat and Joseph (2016) who observed the higher technology acceptance and exploitation in private universities in Nigeria. This possibly makes them dominate Nigerian higher education, in the aspect of using EIRs. Effective use of EIRs depends completely on the competence of lecturers, availability of computers, stable power supply, network connectivity, and Internet access (Simon and Ogom, 2015).

Asogwa, (2014) opened up that modern technologies used for teaching, and research have added demands on the existing skills, tools, and competencies on the institutions and workforce.
In response to this, Kpolovie and Awusaku (2016) argued that “everyone, every organization are inevitably needs to be effective and efficient in the use of ICT for today success in the change of information operation. In the face of this present technologically-driven educational system, lecturers can only measure up to standard if they possess ICT competencies with which their academic responsibilities would be enhanced. These competencies are possessed in levels. In strengthening the point, Akoojee, Arends, and Roodt (2008) proposed levels of ICT skills for developing countries as following: (i) Low ICT skills, ICT know-how required to process and analyze data. At this stage, the level of ICT skill is assessed in word processing, spreadsheet, and PowerPoint presentation as adopted from Oyedokun et al (2018). This skill category constitutes of basic ICT users; (ii) Intermediate ICT skills, This involves applying ICT extensively to accomplish core tasks and functions. As adopted from Oyedokun et al (2018), skill at this level is assessed in Internet browsing, Database searching and web content creation. This skill category comprises of advanced ICT users; (iii) The higher level of advance ICT skills, This has to do with the development of software and hardware as well as its maintenance. Programming, networking, and technical skills are assessed under this level as adopted from Oyedokun et al. (2018). This skill category encompasses ICT specialists.

Batool and Ameen (2010) cited in Farooq et al., (2018) categorized ICT skills into four: computer hardware, word processing, Internet and troubleshooting. Computer hardware involves lecturers’ ability in installing, troubleshooting and replacing computer parts. Word processing has to do with lecturers’ proficiency in formatting documents. Internet is related to lecturers’ capacity in entering web addresses, using different search engines and performing emailing functions. Troubleshooting is linked to lecturers’ ability to identify system malfunctions.

In another study, Ojeniyi and Adetimirin (2016) found Internet browsing, Internet navigation, Internet searching and desktop publishing skills with the highest scores among Nigerian lecturers. These skills are necessary for exploring the inherent benefits of EIRs. They pointed that since EIRs will always be consulted for information, communication, academics, and research needs, every academic staff should be adequately equipped with necessary ICT skills to facilitate easy access and retrieval of relevant information. In confirming this, Ada (2014) stated that ICT skills play three major roles, which are as follows: (i) ICT as an enabler, most information resources in Nigerian universities are presented electronically and as such, acquiring ICT skills enable the efficient use of those resources; (ii) ICT as a support infrastructure, it makes possible
for lecturers to deploy ICTs in searching, retrieving, formatting and using EIRs; (iii) ICT as a utility for innovation, it optimizes processes involve in accessing EIRs by lecturers. This summarized the workings of ICT competencies by the possessor.

However, researches have shown that many Nigerian university lecturers lack relevant ICT skills, thus most of them cannot locate and retrieve EIRs through the use of ICT because they are not adequately equipped in ICT skills (Ngare, 2007, Ojeniyi and Adetimirin, 2016). By implication, most of them cannot effectively utilize EIRs available in universities. This deformity will definitely hinder them from competing globally with their contemporaries except drastic measures are employed by concerned authorities to ameliorate this gloomy situation.

**Methodology**

The research method adopted for this is quantitative using a Cross-sectional survey research design strategy. It was used because it is appropriate to the phenomena that can be explained in quantity. The choice of cross-sectional survey design is justified since the study dealt with different entities. The population of this study constituted all the lecturers in the three universities in Benue State; namely: University of Mkar, Mkar; State University, Makurdi; and Federal University of Agriculture, Makurdi. Table 1 below presents the breakdown of the population according to the respective universities

<table>
<thead>
<tr>
<th>Universities in Benue State</th>
<th>Population of Lecturers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal University of Agriculture, Makurdi</td>
<td>789</td>
<td>51.3</td>
</tr>
<tr>
<td>Benue State University, Makurdi</td>
<td>604</td>
<td>39.3</td>
</tr>
<tr>
<td>University of Mkar, Mkar</td>
<td>144</td>
<td>9.4</td>
</tr>
<tr>
<td><strong>Grand total</strong></td>
<td><strong>1, 537</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Source:** Office of the Registrars of FUAM, BSUM and UMM, 2018

The sample size for a population that falls within the range of 1500-1599 according to Krejcie and Morgan (1970) table of determining sample size is 306. Therefore, the sample size for the total population of 1, 537 was 306 lecturers. Cluster and simple random sampling were deployed for sample selection.
Questionnaire was used as an instrument for data collection. It was preferred because its help in eliciting for desired data make data comparable and minimize bias in formulating and asking questions. In order to ensure that the instrument supplied the required data for this study, the instrument was exposed to face and content validation. While for the reliability of the instrument, the Cronbach alpha reliability test was carried out on the instrument using Statistical Package for the Social Sciences (SPSS), and a reliability level of 0.98 was obtained which guaranteed the reliability of the instrument. A total of three hundred and six (306) copies of questionnaire were distributed to the lecturers in the three universities in Benue State. The distribution was done according to departments in different faculties/colleges in the Universities. The data collected from the field was analyzed by using descriptive analysis in the form of simple percentages, frequencies, mean and standard deviation. The mean value of 2.50 was used as a benchmark for decision. Any item ranked from 2.5 and above was regarded as agreed; while anyone from 2.49 and below was regarded as disagreed. While the null hypothesis was tested using an inferential statistic in the form of One-Way Analysis of Variance (ANOVA) at 0.05 level of significance.

**Findings and Discussion**

**Availability of Electronic Information Resources**

Table 3 Availability of Electronic Information Resources

<table>
<thead>
<tr>
<th>S#</th>
<th>Resources</th>
<th>FUAM F</th>
<th>%</th>
<th>BSUM F</th>
<th>%</th>
<th>UMM F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Online Databases</td>
<td>81</td>
<td>17.3</td>
<td>84</td>
<td>15.6</td>
<td>18</td>
<td>20.7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Electronic Journals</th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td>93</td>
<td>19.9</td>
<td>82</td>
<td>15.2</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>Electronic Books</td>
<td>78</td>
<td>16.7</td>
<td>76</td>
<td>14.1</td>
</tr>
<tr>
<td>4</td>
<td>Electronic Reference Sources</td>
<td>39</td>
<td>8.3</td>
<td>60</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>CD-ROM Databases</td>
<td>24</td>
<td>5.1</td>
<td>48</td>
<td>8.9</td>
</tr>
<tr>
<td>6</td>
<td>Online Public Access Catalogues</td>
<td>39</td>
<td>8.3</td>
<td>54</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>Electronic Thesis and Dissertation</td>
<td>30</td>
<td>6.4</td>
<td>48</td>
<td>8.9</td>
</tr>
<tr>
<td>8</td>
<td>Open Educational Resources</td>
<td>60</td>
<td>12.8</td>
<td>48</td>
<td>8.9</td>
</tr>
<tr>
<td>9</td>
<td>Digital Institutional Repository</td>
<td>24</td>
<td>5.1</td>
<td>40</td>
<td>7.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>468</strong></td>
<td><strong>100</strong></td>
<td><strong>540</strong></td>
<td><strong>100</strong></td>
<td><strong>87</strong></td>
</tr>
</tbody>
</table>

**Source:** Field Survey, 2019, N=138, 110, 28

Table 4.2 clearly show the availability of electronic information resources in the universities in Benue State. The majority of the lecturers sided electronic journals, online databases and electronic books as the most available EIRS in the three universities. On the other hand, the online public access catalog (OPAC), CD-ROM databases, electronic theses, and dissertations and Digital Institutional Repository were the least in the three universities. It can, therefore, be inferred from the result that electronic journals, online databases, and electronic books are the most available electronic information resources in the universities in Benue State. This is probably because of their possibilities in aiding research and teaching or because the lecturers are highly aware of their availability than others. The finding is in strong conformity with Agber and Agwu (2013) who found that e-journal and e-books are the most accessible EIRs by lecturers. The finding is further strengthened by the revelation of Omosekejimi et al., (2015) that most academic institutions subscribe to such e-books and e-journals that are relevant to the academic pedagogy. This study implies that effective use of the available EIRs will broaden the academic experience of lecturers by keeping them alongside each other with new technologies through a timely report of research findings.
## Level of ICT Knowledge of Lecturers

Table 4: Levels of ICT Knowledge of Lecturers

<table>
<thead>
<tr>
<th>S/N</th>
<th>ICT Knowledge</th>
<th>Univ.</th>
<th>VH</th>
<th>H</th>
<th>L</th>
<th>VL</th>
<th>Mean</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I know how to start /shut down a computer</td>
<td>FUAM</td>
<td>135</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.00</td>
<td>.00000</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>90</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>3.76</td>
<td>.57353</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>21</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3.57</td>
<td>.83571</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>I know how to use storage devices (i.e. flash drive, Hard disk, CD, diskette)</td>
<td>FUAM</td>
<td>126</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>3.93</td>
<td>.25037</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>74</td>
<td>22</td>
<td>12</td>
<td>2</td>
<td>3.53</td>
<td>.76277</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>18</td>
<td>8</td>
<td>-</td>
<td>2</td>
<td>3.50</td>
<td>.83887</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>I know how to create/manage files and folders</td>
<td>FUAM</td>
<td>117</td>
<td>12</td>
<td>3</td>
<td>3</td>
<td>3.80</td>
<td>.58335</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>64</td>
<td>28</td>
<td>10</td>
<td>8</td>
<td>3.34</td>
<td>.92306</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>13</td>
<td>8</td>
<td>-</td>
<td>7</td>
<td>2.96</td>
<td>1.23175</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>I know how to use computer programs</td>
<td>FUAM</td>
<td>84</td>
<td>39</td>
<td>9</td>
<td>3</td>
<td>3.51</td>
<td>.72139</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>48</td>
<td>38</td>
<td>16</td>
<td>8</td>
<td>3.14</td>
<td>.92703</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>3.14</td>
<td>1.17739</td>
<td>A</td>
</tr>
<tr>
<td>5</td>
<td>I know how to create documents with a computer</td>
<td>FUAM</td>
<td>114</td>
<td>12</td>
<td>3</td>
<td>6</td>
<td>3.73</td>
<td>.71446</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>60</td>
<td>30</td>
<td>14</td>
<td>6</td>
<td>3.30</td>
<td>.89592</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>13</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>3.03</td>
<td>1.10494</td>
<td>A</td>
</tr>
<tr>
<td>6</td>
<td>I know how to use communication platforms (i.e. email, Internet, networks, etc.)</td>
<td>FUAM</td>
<td>117</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>3.87</td>
<td>.34120</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>72</td>
<td>24</td>
<td>12</td>
<td>2</td>
<td>3.50</td>
<td>.76321</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>12</td>
<td>9</td>
<td>2</td>
<td>5</td>
<td>3.00</td>
<td>1.12217</td>
<td>A</td>
</tr>
</tbody>
</table>

**Source:** Field Survey, 2019  
VH=Very High, H=High, L=Low, VL=Very Low, A=Agreed,  
D=Decision, SD=Standard Deviation, N=135, 120, 28
Table 4 explicitly presents the level of ICT knowledge of lecturers in the universities in Benue State. Using the benchmark mean of 2.50, the respondents agreed on all the items above the mean rating of 2.50. It can, therefore, be deduced that university lecturers in Benue State possess high ICT knowledge in all the outlined ICTs operations. This can be attributed to their day-to-day formal or informal exposure to ICT facilities within and outside university environments. The finding reveals support for the view of Amua-Sekyi and Asare (2016) that lecturers with enough knowledge about ICT are more prepared and able to integrate computer and related technologies in teaching. This finding also corroborates that of Ojeniyi and Adetimirin (2016) who discovered in their study that lecturers in Ajayi Crowther University and Lead City, Oyo have high ICT knowledge in general computer operations (76.9%). This implies that lecturers, with their good level of ICT knowledge, stand a better chance of becoming successful in academic endeavors if their ICT knowledge can be translated into practical skills for reaping the manifold benefits afforded by electronic information resources.

Levels of ICT Competency Possessed by Lecturers

Table 5 Levels of ICT Competency Possessed by Lecturers

<table>
<thead>
<tr>
<th>S/N</th>
<th>Competencies</th>
<th>Univ.</th>
<th>VH</th>
<th>H</th>
<th>L</th>
<th>VL</th>
<th>Mean</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Word-processing Skill (i.e. MS Word)</td>
<td>FUAM</td>
<td>108</td>
<td>27</td>
<td>0</td>
<td>0</td>
<td>3.80</td>
<td>.40149</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>58</td>
<td>38</td>
<td>12</td>
<td>2</td>
<td>3.38</td>
<td>.75397</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>14</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>3.14</td>
<td>1.07890</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>Presentation Skill (i.e. MS PowerPoint)</td>
<td>FUAM</td>
<td>75</td>
<td>51</td>
<td>6</td>
<td>3</td>
<td>3.47</td>
<td>.68893</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>46</td>
<td>36</td>
<td>24</td>
<td>4</td>
<td>3.14</td>
<td>.86562</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>4</td>
<td>2.64</td>
<td>1.02611</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>Spreadsheet Skill (i.e. MS Excel)</td>
<td>FUAM</td>
<td>51</td>
<td>60</td>
<td>15</td>
<td>9</td>
<td>3.13</td>
<td>.86214</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BSUM</td>
<td>28</td>
<td>34</td>
<td>36</td>
<td>12</td>
<td>2.70</td>
<td>.97063</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UMM</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>2.32</td>
<td>1.09048</td>
<td>D</td>
</tr>
<tr>
<td>Skill</td>
<td>FUAM</td>
<td>BSUM</td>
<td>UMM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database Searching Skill</td>
<td>66</td>
<td>38</td>
<td>6</td>
<td>9</td>
<td>4.51</td>
<td>.90163 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet Surfing Skill</td>
<td>75</td>
<td>56</td>
<td>11</td>
<td>9</td>
<td>4.35</td>
<td>.87645 A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web Content Creation Skill</td>
<td>36</td>
<td>14</td>
<td>4</td>
<td>5</td>
<td>2.25</td>
<td>.88715 D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programming Skill</td>
<td>15</td>
<td>18</td>
<td>3</td>
<td>2.17</td>
<td>.90493 D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Networking Skill</td>
<td>24</td>
<td>16</td>
<td>6</td>
<td>2.37</td>
<td>.99900 D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Skill</td>
<td>24</td>
<td>2</td>
<td>2</td>
<td>1.95</td>
<td>1.13865 D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey, 2019, D=Decision, D=Disagree, N=135, 120, 28

Table 5 clearly displays the level of ICT skills possessed by lecturers in the universities in Benue State. All three universities agreed on word-processing, presentation (PowerPoint) and Internet surfing above the benchmark mean of 2.50. On the other hand, respondents in the three universities disagreed on networking, programming, and technical skills with a mean rating less than 2.50. It can, therefore, be concluded that lecturers in the universities in Benue state possess high ICT skills in word-processing, presentation (PowerPoint) and Internet surfing. This hints that
Nigerian universities are increasingly bridging up the digital divide reported decades ago. According to the levels of ICT competencies for developing countries developed by Akoojee et al. (2008), the level of lecturers’ ICT skills is basic/low. This finding is in line with Amua-Sekyi and Asare (2016) who revealed that the level of ICT competencies of lecturers was good in Word-processing, accessing the Internet and PowerPoint presentation. The outcome of the study equally proved to be an improvement over the position of Ngare (2007), which was supported by Ojeniyi and Adetimirin (2016) that many Nigerian university lecturers lack in relevant ICT skills. The need to remain academically vibrant in this current age and increased workload has awakened Nigerian lecturers' willingness to acquire ICT competencies. By implication, since the level of ICT competencies of lecturers is basic, they can maximally benefit from EIRs that are packaged and presented in the simplest form. Too many technicalities incorporated in searching, locating and retrieving EIRs can hinder their access to such resources; and this would in return, affect their academic output and productivity. However, lecturers must not be contented with basic ICT skills because technology is constantly getting more complex, and to move along with the growing trend requires an incessant upgrade.

**Hypothesis One**

H_01: There is no significant difference in the level of ICT competencies of lecturers in the Federal, State and Private Universities in Benue State.

Table 6 ANOVA Result on Difference in the Level of ICT Competencies of Lecturers in the Federal, State and Private Universities in Benue State.

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within Groups</td>
<td>30487.728</td>
<td>270</td>
<td>112.918</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31492.813</td>
<td>272</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: IBM SPSS Analysis, Significance level .05*

The result indicates that there is a statistically significant difference in the level of ICT competencies of lecturers in the federal, State and Private Universities in Benue State as
determined by one-way ANOVA [F (2, 270) = 4.451, p = .013]. Consequently, the null hypothesis has been rejected. In order to establish where the difference existed, post hoc comparison using the Tukey test was carried out. The test revealed that there is no significant difference (p = .110) in the level of ICT competencies of lecturers in the federal (FUAM) and state (BSUM) universities in Benue State. Whereas, there is a significant difference (p = .022) in the level of ICT competencies of lecturers in the federal and private universities in Benue State. This result conflicts with the wide claims (Izuagbe et al, 2016; Iroaganachi and Izuagbe, 2018) that lecturers in private universities have a breakthrough in ICT competence than their state and federal counterparts. However, the difference found in this study may be so because the private university is new and is yet to adequately deploy ICTs and subject her lecturers to ICT training like the age-long federal and state universities. By implication, the difference would also reflect in the level of their electronic information resources use as well as their job performance.

Conclusion and Recommendations

ICT competencies demonstrated by lecturers in the use of electronic information resources have greatly offered them maximum benefits in fulfilling their statutory responsibilities of teaching and research in universities. As revealed in the findings of this study, electronic journals, online databases and e-books have exploded in popularity in the universities in Benue State and lecturers exhibited basic ICT knowledge and skills like word processing, PowerPoint presentation and Internet surfing in using the available electronic information resources. It is therefore recommended in this study that:

1. The management of respective university libraries in Benue State should engage IT, experts, to develop Digital Institutional Repositories (DIR) for their institutions. This will provide sustainable access to relevant scholarly outputs in addition to the available ones.
2. The government at all levels should show more commitment to the development of ICT competencies of lecturers by making available ICT grants to the universities and lecturers on an annual basis.
References


April 12, 2018, from


http://www.webpages.uidaho.edu/~mbolin/owolabi-ajiboye-lawal-okpeh.htm


https://www.researchgate.net/publication/303972137


USAGE OF HEC DIGITAL RESOURCES BY THE TEACHING FACULTY AT GC UNIVERSITY LAHORE

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Abstract
The basic goal of this study was to know the usage of online information resources by the teachers of GC University Lahore. An effort was also made to reveal problems being experienced by the faculty members while using databases. Research was completed in different phases. Firstly, review of related literature was done with the help of international and national literature. Secondly, a questionnaire was formulated to gather data from the target population. Thirdly, analysis of the gathered data was made. Findings of the study reveal that majority of the participants was aware of the basics of HEC Online Databases. Most of the faculty members take keen interest in accessing e-journals through HEC Online Databases. Non-availability of Off-campus access of HEC Online Databases is a great barrier for the faculty member in the accomplishment of their research based assignments. Results of the study are very useful to increase the usage of HEC Digital resources by the faculty members of GC University Lahore.

Keywords: Digital Databases, E-Journals Utilization, HEC e-Information Resources
Introduction

With the passage of time, the usage of online journals is being increased. Users are becoming well versed in utilizing e-journals. Readers browse and search relevant journals in their area of knowledge. People who are skilled in IT show more willingness in using e-journals. Rogers (2001) performed a longitudinal study on the use of e-journals among faculty and students of Ohio State University during 1998-2000. During these two years, around 300 responses were received from each group. In 1998, only 200 journals were available in electronic shape while the number of e-journals enhanced to about 3300 in 2001. The findings revealed that usage of e-journals was increasing steadily.

Many faculty members of the different universities prefer electronic databases. They use databases for completing their research work. Cochenour and Moothart (2003) conducted a user survey which aimed to investigate whether the academic faculty, administrative faculty and the graduate students of Colorado State University preferred to use electronic journals. They concluded that majority of the users (95%) supported e-journals. Online journals bring many benefits for the faculty members of the universities. These are easy to be utilized for multiple tasks. These help in saving precious time of the faculty members. Kortelainen (2004) stated that users only liked to access relevant journals through online methods. They were less concerned with IT-based concepts. They only required their essential journals for making completion of their goals. They did not take into account complex concepts related to e-journals.

Users are becoming aware of online journals with the passage of time. They are taking interest in the utilization of online journals. They like to read the online table of contents, articles, research reports and conference proceedings etc. Bhatt (2010) explored the use of UGC-INFONET among the faculty members at University of Delhi. Results of the study show that the respondents were familiar with e-journals. They used different databases to meet their research needs.

Online databases have brought a great ease in accessing online journals. These provide an easy access to relevant articles. Universities are subscribing databases with an aim to provide an easy access to their users. This access to online journals is provided via on campus and also off campus. Gupta (2011) explored the usage of online journals by faculty members at Kurukshetra University, India. The findings showed that the respondents were more comfortable in using online journals rather than print journals. The faculty members were skilled enough to locate relevant needed information through INFONET. However, they depended more on open access sources.
The respondents raised the need to conduct training workshops for the purpose of becoming skilled to find relevant content without facing any problems.

Lack of training in online searching techniques creates barriers for the users for locating relevant information. Users may not find desired information due to lack of familiarity with online databases. They face problems in accessing relevant online journals due to the unfamiliarity of IT. Nisha and Ali (2012) conducted a study to access the use of e-journals among IIT Delhi University users. A total of 300 users participated in the survey which showed a 67% response rate. The findings indicated that users are well aware of the availability of journals. They had knowledge about updates in their disciplines and located material for studies and doing research. The major barrier to finding relevant literature was lack of training sessions.

Online journals are getting popularity in the country. They are becoming habitual of utilizing online resources keenly. They have realized the fact that the adoption of IT is the only survival in the present era of IT. Tahira and Ameen (2016) conducted a quantitative study on the information needs and information-seeking behavior of Science and Technology faculty members of the University of the Punjab (PU). The results of this study showed that the faculty members were making an effective utilization of e-resources. They frequently located e-journals and other e-content by using technology.

**Objectives of the Study**

1. To know the usage of HEC Digital resources by the teaching faculty of GC University Lahore.
2. To reveal problems which are faced by the faculty members while using HEC online Databases at GCU Lahore
3. To furnish the recommendations for making effective utilization of Databases at GC University Lahore

**Research Questions**

1. What is the usage level of online information resources by the teaching faculty of GC University Lahore?
2. What difficulties are faced by faculty members while using HEC online Databases?
3. What are the recommendations for increasing the usage of online information resources by provided by HEC, Pakistan?

**Review of Related Literature**

Technology is changing rapidly. Many advances are taking place. It is believed that the current technology will become obsolete in the near future and new technology will replace the old technology. Frey (2006) described that in upcoming times, new innovations would take place. The traditional methods of libraries would be replaced by electronic libraries. To cope with the changing needs, Wilson (2007) suggested for using a dynamic approach. He recommended that library professionals should make an effective utilization of different search engines and databases for the purpose of providing full text documents to the users.

Online Databases are excessively utilized by the faculty members of science. They depend upon online journals a lot. They use e-content to meet their research needs. Speier et al. (1999) explored the perception of faculty regarding online journals. They found that the young faculty members of business science were more interested in using the e-journals than the older faculty. Online journals were given importance and utilized efficiently. Faculty members obtained multiple benefits by using electronic journals. They brought efficiency in their works. They did not wait for the arrival of print journals.

It is commonly observed that e-databases are preferred to meet information and research needs. E-journals are easy to access. There is no problem of exploring back issues of the journals in e-form. Morse and Clintworth (2000) compared the usage of print and e-journals. The study aimed to find the preferred format of journals by the users. The findings revealed that users utilized e-journals more than print journals. They completed their desired tasks quickly and efficiently. They faced no time limitation, space problem and finance issues to access their desired e-journals.

Movement of Electronic databases is getting ground. Users depend upon online journals. Faculty members prefer online content. Rogers (2001) performed a longitudinal study on the use of e-journals among faculty and students of Ohio State University during 1998-2000. During these two years, around 300 responses were received from each group. The frequent users of e-journals belonged to the department of biological and medical science. Relatively low use was recorded from the departments of arts, humanities, business, law, agriculture and food. The study of Bauer (2001) also stated that e-journals were being excessively used by the faculty members of health
sciences. He said that users were becoming aware of technology. They did not waste time in locating journals. They used quick ways to find out their relevant material.

There is generally a rise towards electronic journals. There is a shift from print to e-resources. Faculty members are enhancing their IT skills. King, et al. (2003) conducted a comparative study on the utilization of journals by three different universities. The results showed that teachers were becoming habitual of using online journals. They were becoming IT literate. They were becoming innovative. The study also demonstrated that faculty was more interested in personal print subscription while they were infrequent users of electronic personal subscriptions. They used e-journals only when the option of print and e-journals was available. The science faculty is more interested in using the e-journals than the other faculty.

The usage of e-journals is increasing with every passing day. The scientists prefer online journals because they want to bring quickness in their work. They make completion of certain project through online journals. Tenopir et al. (2003) surveys and also compared the e-journals. The results of indicated that the use of e-journals had increased during these phases while the proportion of using personal subscription of journal has decreased. Furthermore, electronic access of journals appears to be replaced by the traditional print version of journals.

Faculty members of science disciplines usually prefer electronic databases. Faculty members belonging to the disciplines of Arts and Humanities usually rely on traditional resources because they are not technologically skilled. Smith (2003) conducted study on the role of online journals in increasing reading habits of the teachers. 129 respondents belonged to science and 54 were from social sciences disciplines. She concluded that three-quarters of faculty members read at least one research paper in a week. The science faculty preferred to read articles in electronic sources than social sciences faculty. The science faculty members read articles from the personal subscription of e-journals. However, the social science faculty members read them through library-subscribed electronic journals.

There are many benefits of online databases. These enhance insight. These help in attaining required goals. Voorbij and Ongering (2006) carried out a user survey to explore their experience with e-journals among faculty at Netherland Universities. The study was conducted in two parts using an online-questionnaire and semi-structured interviews. They summarized that e-journals were widely accepted by scientists and social scientists and they had also profound effect on their
information behavior to access the relevant articles for their research. They strongly preferred to use e-journals because it impacted on their research activities.

Online databases and different search engines are frequently used. These help in getting relevant research material. Msagati (2014) explored the usage of e-journals by the staff of the Dar es Salaam University College of Education. A total of 47 academic faculty members took part in the research. However, results show that the staff was not skilled enough to make an effective usage of online information resources. They used different information hubs in order to locate their required information. Google as search engine and JSTOR as database were frequently utilized.

Electronic databases are mostly used for teaching and research purposes. Faculty members keep themselves updated of the latest happenings in their disciplines through online journals. Similarly, Bernard (2015) made study on the usage of e-journals among faculty at the Koforidua Polytechnic Ghana. A total of 201 respondents participated in the survey, a majority of whom were male. The outcomes of the survey showed that the faculty members were familiar to e-journals in the polytechnic. But as compared to awareness, the utilization of e-journals was not encouraging. The faculty used the e-journals for research and teaching purposes. However, there was a need for the library to manage the marketing of e-journals and conduct information literacy sessions to promote e-journals.

HEC online resources have brought a great revolution in scholarly work. These databases are not less than a blessing. These provide access to more than 45000 online journals and 1,45,000 e-books free of cost to the faculty members of the universities. Khan and Ahmed (2013) explored the effects of HEC Digital library resources on the research and researchers in Pakistan. The results showed that the respondents were familiar with the basic searching skills of HEC online databases. They quenched their thirst of knowledge by using online databases. Faculty members lacking in IT skills can’t utilize online journals properly. They have to depend upon others for accessing relevant research papers. Ansari and Zuberi (2010) found that the faculty members of University of Karachi did not have proper information about e-resources. Their background knowledge related to IT was not rich. They had no technological skills. Arshad and Ameen (2015) conducted a study to observe most frequently used resources at the University of Punjab, Lahore. They found that a significant number of users frequently used the library website and accessed free scholarly e-journals, subscribed e-journals, e-books and personal collection on top priorities. They desired
accuracy, economy, and quickness in their works. They frequently utilized online resources for fulfilling their needs.

Arshad and Ameen (2017) explored the academic use of e-journals at University of the Punjab. The findings showed that a significant number of faculty members had excellent skills in searching e-journals through search engines and full-text databases. The university provided access to different information resources in full-text format. Faculty members used online databases for various purposes. They made completion of required tasks through HEC Digital library resources.

In universities, rise in research is quite evident due to the availability of online databases being provided through Higher Education Commission of Pakistan. Now, libraries are utilizing 45,000 e-journals and more than 1,45,000 online books in full text format. Researchers can make completion of research based projects without facing any hurdles. They need simple to have basic expertise in locating relevant items. There is only need to make maximum utilization of all these databases so that they may remain functional and may not be stopped on account of non-utilization.

Research Design

Survey research method was adopted for this study. The population of this study was the faculty members working in GC University Lahore. They consist of 400 faculty members. Convenience sampling technique was used. In convenience sampling, population is selected on their convenient accessibility to the researcher. The updated list of academic faculty members who were the part of study was available on the university website. The instrument was validated via experts of the field of library science. The study was quantitative in nature. Overall Cronbach Alpha was 0.82. The sample was based upon all the regular teaching faculty of GC University Lahore. The researcher received 313 questionnaires having filled by the respondents. The response rate was 79 percent. After the collection of required data, analysis was made through SPSS.

Results and Discussion

The following sections present data analysis, findings and discussion.
Demographic characteristics of respondents

Demographic characteristics of the participants included the gender, designation, and teaching experience of the respondents.

Gender of respondents

A total of 314 respondents participated in this study out of the target population of 400 which represented 78.5% response rate. Out of total respondents, two hundred and fourteen (68.2%) were male and only one hundred (31.8%) of them were the females. Frequency distribution of respondents’ gender is presented in table 1.

Table 1 Frequency Distribution of Respondents’ Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>214</td>
<td>68.2</td>
</tr>
<tr>
<td>Female</td>
<td>100</td>
<td>31.8</td>
</tr>
<tr>
<td>Total</td>
<td>314</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Designation of Respondents

Table 2 presents that twenty-three (7.3%) respondents were professors, thirty-five (11.1%) were Associate Professor, one hundred and three (32.8%) were Assistant Professors, ninety-seven (30.9%) were Lecturers while only fifty-two (16.6%) were visiting faculty members. However, the major participated group of this study belonged to the assistant professors. Table 2 shows the frequency distribution of respondents’ designation.

Table 2 Respondents’ Designation

<table>
<thead>
<tr>
<th>Designation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>23</td>
<td>7.3</td>
</tr>
<tr>
<td>Associate Professor</td>
<td>35</td>
<td>11.1</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>103</td>
<td>32.8</td>
</tr>
<tr>
<td>Lecturer</td>
<td>97</td>
<td>30.9</td>
</tr>
<tr>
<td>Visiting Faculty</td>
<td>52</td>
<td>16.6</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>1.3</td>
</tr>
<tr>
<td>Total</td>
<td>314</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Teaching Experience of Respondents

Respondents were asked to show their teaching experience. The results expose that eighty-eight (28.0%) respondents had experience of less than 5 years, eighty-seven (27.7%) had experience from 5 to 10 years, eighty-three (26.4%) had experience from 11 to 20 years, while fifty-two (16.3%) respondents had more than twenty years experience. Table 3 indicates the frequency distribution of respondents’ teaching experience.

Table 3 Respondents’ Teaching Experience

<table>
<thead>
<tr>
<th>Statement</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>88</td>
<td>28.0</td>
</tr>
<tr>
<td>Between 5-10</td>
<td>87</td>
<td>27.7</td>
</tr>
<tr>
<td>Between 11-20</td>
<td>83</td>
<td>26.4</td>
</tr>
<tr>
<td>Over 20 years</td>
<td>52</td>
<td>16.5</td>
</tr>
<tr>
<td>Total</td>
<td>314</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Respondents’ Purposes to Use HEC Online Databases

The respondents were asked to express their views regarding the purpose to use the print and electronic journals. Table 4 represents the respondents’ opinion about the usage of HEC Online Databases.

Table 4 Purpose to use print and electronic journals

<table>
<thead>
<tr>
<th>Statement</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keeping up to date</td>
<td>313</td>
<td>4.29</td>
<td>.86485</td>
</tr>
<tr>
<td>Theses Writing</td>
<td>312</td>
<td>4.14</td>
<td>1.08959</td>
</tr>
<tr>
<td>Articles Writing</td>
<td>312</td>
<td>3.99</td>
<td>1.18535</td>
</tr>
<tr>
<td>Supervising Researchers</td>
<td>314</td>
<td>3.98</td>
<td>1.27512</td>
</tr>
<tr>
<td>Teaching</td>
<td>314</td>
<td>3.89</td>
<td>1.02171</td>
</tr>
</tbody>
</table>

Note: 1= Never, 2= Rarely, 3= Sometimes, 4= Often, 5= Always

Table 4 orders the statements according to their mean value. The mean value ranged between 4.3 to 3.9. However, the value of standard derivation (SD) is almost more than 1 which
indicated the variation of opinion among the respondents’ purpose to use the research journals. According to the findings, the most preferred purpose to use the research journals is to keep up to date with highest mean (4.29), after this, they use the research journals for thesis writing which have mean value (4.14). Article writing has mean value (3.99) while supervising researchers have almost same mean value (3.98). It is worth mentioning that teaching has the least mean value (3.89).

**Problems to Use HEC Online Databases**

Respondents were asked to indicate their problem/barriers which they faced when using the research journals. Their responses are presented in table 5.

All the respondents agreed with the problems/barriers listed below which they faced when using the research journals. Inaccessibility of e-journals from home was ranked as a major problem with a mean score of 3.54. The other reasons such as “required journals are not available in the library”, “unfamiliarity with techniques to access e-journals in the library” and “poor speed of internet” were also major problems to the use research journals.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-journals are not accessible at home.</td>
<td>3.54</td>
<td>1.21643</td>
</tr>
<tr>
<td>Required journals are not available in the library.</td>
<td>3.32</td>
<td>1.20803</td>
</tr>
<tr>
<td>Unfamiliarity with techniques to access e-journals</td>
<td>3.29</td>
<td>1.28523</td>
</tr>
<tr>
<td>Poor speed of internet</td>
<td>3.15</td>
<td>1.20643</td>
</tr>
</tbody>
</table>

Note: 1= Strongly Disagree, 2= Disagree, 3=No Opinion, 4= Agree, 5= Strongly Agree

The results indicate that academic faculty emphasizes that they are interested to use the research journals but they faced the problems of the non-availability of off campus access to HEC Online Databases, unavailability of required journals, the unfamiliarity to the searching techniques the e-journals and poor speed of internet.
Recommendations for Effective Utilization of Online Databases

Table 6 indicates that a vast majority of respondents two hundred and sixteen (68.7%) recommended of research journals promotion through library webpages followed by one hundred and seventy-six (56%) through Workshops and almost similar number of respondents one hundred and seventy-eight (57%) through email alerts. They were in favor of these channels to promote the research journals. While they are not interested in the favor to distribute Print guides, posters & newsletters related to journals 163 (52%) and Orientation program 188 (58.9%).

Table 6 Problems for Effective Utilization of HEC Online Databases

<table>
<thead>
<tr>
<th>Statement</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion of journals on library web page</td>
<td>216 (68.7%)</td>
<td>98 (31.3%)</td>
</tr>
<tr>
<td>Print guides, posters &amp; newsletters related to journals</td>
<td>151(48%)</td>
<td>163 (52%)</td>
</tr>
<tr>
<td>Workshops</td>
<td>176 (56%)</td>
<td>138 (44%)</td>
</tr>
<tr>
<td>Orientation</td>
<td>126(40.2%)</td>
<td>188 (58.9%)</td>
</tr>
<tr>
<td>Email Alerts</td>
<td>178 (57%)</td>
<td>136(43%)</td>
</tr>
</tbody>
</table>

In light of the above, it may be summed up that most of the respondents are males. They make an effective usage of HEC Online Databases than female faculty members. Faculty members use online information resources for multiple purposes. They use e-journals to keep themselves updated in their disciplines, to form research papers and to supervise dissertations etc. Respondents face the problem of off campus access to HEC Online databases and poor speed of internet in accessing required articles.

Conclusion

Most of the faculty members have the expertise to use the internet. Post Graduate Library of GC University Lahore is the main venue to access the HEC Online Databases. The trend to use the research journals at home/off campus is not common among the faculty members of GC University Lahore. They use databases to keep updated, teaching, supervising researchers and writing research thesis and articles. Academic faculty faces problems in accessing online journals at home. Academic faculty members use journals for various purposes. They don’t use research journals for
only one specific purpose. Faculty members don’t have sufficient IT skills to access online journals efficiently.

**Recommendations**

Off-campus access to HEC Online Databases should be given to the teaching faculty. Email alerts and letters should be sent to the faculty members about the arrival of new journals in the library’s collections. Electronic Databases need to be effectively utilized through promotional activities keeping in view multiple benefits. Librarians should arrange more training and information literacy programs for the faculty members to make a fruitful usage of HEC Online Databases.

**References**


IMPACT OF SOCIAL MEDIA USE ON UTILIZATION OF LIBRARY RESOURCES: A STUDY OF POST-GRADUATE UNIVERSITY STUDENTS IN CROSS RIVER STATE OF NIGERIA

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Abstract

Research Goals: This research investigates social media platforms’ impact on “utilization of library resources by postgraduate students in Universities of Cross River State, Nigeria”. This study recognizes how social media has influenced our life daily, the people using social media are increasing day by day. Currently, social media tools have become important communication and learning tools to attract everyone with its unique features of information update. The social media users can share their ideas, images, documents, and videos with others through social media platforms like WhatsApp, Blogs, and YouTube. One major challenge of libraries has been the accessibility and “utilization of library resources, low utilization of library resources mostly by postgraduate students has necessitated this research work to find out the influence of WhatsApp, Blogs, and YouTube on the utilization of library resources among postgraduate students if deployed in libraries. To achieve this, one hypothesis was formulated. The study made use of postgraduate students of Universities in Cross River State, Nigeria.

Methods: The research design for this work was survey research. The population was 565 postgraduate students. Accidental and purposive sampling techniques were used to select the sample. The instrument for data collection was a structured and validated questionnaire titled social
media platforms impact on the utilization of library resources (SMPIULRQ). Cronbach Alpha reliability method was used to estimate its reliability. The data were analyzed using Multiple Regression statistics. The hypothesis was tested at .05 level of significance.

**Results /Findings:** The findings reveal that there is a significant positive influence of WhatsApp\(^a\), Blogs, and YouTube on the utilization of library resources.

**Conclusion/ Implications:** Librarians should create an adequate technology environment in the library that will promote and encourage the use of social media tools or platforms to increase student's utilization of library resources. This will help them develop ICT skills in the ever-changing world of technology. It was also recommended that postgraduate students should make an individual effort to train themselves on the use of social media platforms for academic as this will help them learn more effectively.

**Keywords:** Social media platforms, Library resources, Utilization, information, Graduate students.

**Introduction**

Libraries play an important role in the intellectual development of any nation. The library is an academic institution within a university, school, private, special and public community with the responsibility of acquiring, organizing, sharing, handling and dissemination of “information resources to its users for teaching, learning, research, and recreation. The importance of the university library is defined by its principal activity of promoting information resources in support of learning, provision of resources and services necessary for meeting the requirements of faculty specialists, research and post-graduate learning.

There is a need to extend cooperation with other university libraries for the purpose of developing a network of academic library resource sharing which are at the disposal of all students for teaching” ( Vaughan & Castello, 2011). Idiodi and Igbinosa (2003), noted that, when applied the correct way, social media can boost a student’s learning journey, also making it much simpler for students, lecturers and administrators in the school setting to connect together, stressing that universities should use social networks such as Whatsapp, youtube in their libraries as communication tools and interaction between the students and the information available in the library to enhance teaching and learning.
Patra and Nayak (2016) stated that "professional practice of library and information science has witnessed a paradigm shift with the emergence of social media networks like Facebook, Twitter, WhatsApp, blogs among others. Laura (2011) stated that commercial organizations and various other domains have started using the benefit of social media to enhance their business activities. Educators believe that the use of social media in higher education is controversial and few are unaware of the potential of social media in education but now it is predicted that one in every thirteen people on earth is connected with Facebook, blogs, or WhatsApp whether for social interaction, business, education or for personal communication, interestingly, the use of Facebook, blogs, wikis, twitters have played a significant role in academic communication.

Bhatt and Kumar (2014) in a study titled; students' opinion on the use of social networking tools by libraries; a case study of Jawaharlal Nehru University, New Delhi. Revealed that the majority of the students are in support of the use of social networks tools (SNS) by librarians and they expect that librarians should provide library services through SNS. Ninety-four percent (94%) expect that chatting or messaging with the librarian is the most useful service that can be provided to them through SNSs. Other activities desired by students include being informed about new arrivals, collection information and new events in the library.

Utilization of information resources refers as which library clienteles make use of the library resources (books, periodicals, serials, bibliography, newspapers, firms, audio, e-books, journals, databases, maps, reference materials, government publications, audio-visuals, pictures, theses and dissertations made available in the library to meet their information needs. These information resources come in two forms, print and non-print format, therefore, any user of the library either remotely through the internet, library online platforms, library application, and social media platform or directly through the library structure is a library user. Wiche, (2018).

The actual use of library and information resources, especially the computer-based resources may be intimidating to a vast number of information and communication technology (ICT) illiterate users, although the library is stocked with what would facilitate their work, the problem of the user may not be related to what the library has much as the interface to which the user must interact with or the resources available but the user’s skills . (Popola & Haliso 2009 p.12).
Unfortunately, the issue of information resources underutilization by graduate students still persists even with the recent introduction of ICT into library services. The advent of telecommunication and the internet has also brought several web technologies that are accessible via mobile phones, palmtops, tablets, laptops and other electronic devices which have made information resources accessible and utilization even easier. Also, social networking sites popularly known as “social media platforms as it is being used by almost everybody in the society and this has revolutionized the way people communicate and interact with one another through websites like WhatsApp, blogs, YouTube, Facebook, LinkedIn, Twitter, etc.

Objectives of the Study

The purpose was to investigate the influence of the social media platform on the utilization of library resources by graduate students in universities in Cross River State of Nigeria. Other objectives include the following:

- To investigate the influence of the use of blogs on the utilization of library resources
- To determine the influence of the use of YouTube on the utilization of library resources
- To examine the influence of WhatsApp on the utilization of library resources

Statement of Hypothesis

The following hypothesis was stated to guide the study

$H_0$: The use of blogs, YouTube and WhatsApp has no significant independent and combined effects on the utilization of library resources.

Methodology

The study adopted a survey research design. 565 library users (graduate students) were accidentally and purposefully selected from the three Universities in Cross River State, Nigeria. Data collection procedure involved the use of a self-design questionnaire. The item on the instrument included demographic data such as students' sex, age, and department. Five items each measured three independent variables such as the use of blogs, YouTube and WhatsApp while five items measured the dependent variable, utilization of library resources. The instrument was validated by experts from the Faculty of Education in the Department of Measurement and Evaluation, University of Calabar, Calabar, Cross River State, Nigeria. The reliability of the
instrument was conducted with Cronbach Alpha which produced a reliability coefficient estimate of 0.71.

**Results**

**Hypothesis One**

There is no significant independent and joint influence of the use of blogs, YouTube, and WhatsApp on the utilization of library resources of Post-Graduate University Students in Cross River State of Nigeria. The independent variables of this hypothesis are the use of blogs, YouTube, and WhatsApp while the dependent variable is the utilization of library resources. Multiple regression statistics was used in testing the hypothesis and the results are presented in Table 1.

Table 1: Summary of data and multiple regression analysis of the independent and joint influence on the use of blogs, YouTube, and WhatsApp on the utilization of library resources of Postgraduate University Students in Cross River State of Nigeria

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>.441</td>
<td>.195</td>
<td>.190</td>
<td>3.27694</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1453.010</td>
<td>3</td>
<td>484.337</td>
<td>45.103</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>6013.480</td>
<td>560</td>
<td>10.738</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7466.489</td>
<td>563</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant): WhatsApp, Blogs, Youtube  b. Dependent Variable: **Utilization of library resources.**

The multiple regression analysis in table 1 on the joint influence on the use of blogs, YouTube, and Whatsapp on predicting the utilization of library resources of Postgraduate University Students in Cross River State of Nigeria produced an adjusted R2 of .190. This implies that 19.0% of the variance can be predicted from the combination of all the independent variables (use of blogs, YouTube, and WhatsApp) in predicting the utilization of library resources. The F-value of the Analysis of Variance (ANOVA) obtained from the regression table was F = 45.103 having a p-value .000 with 3 and 560 degrees of freedom at .05 level of significance. The null hypothesis was rejected while the alternate was upheld. This result, therefore, signifies that the combination of all the independent variables significantly predicted
utilization of library resources of Postgraduate University Students in Cross River State by 19.0%.

Table 2: Summary of data and t-test result on the Individual effects of all the predictors on the utilization of library resources of Postgraduate students of universities in Cross River State, Nigeria

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>5.693</td>
<td>.783</td>
<td>7.274</td>
<td>.000</td>
</tr>
<tr>
<td>Blogs</td>
<td>.214</td>
<td>.041</td>
<td>.214</td>
<td>5.269</td>
</tr>
<tr>
<td>Youtube</td>
<td>.186</td>
<td>.041</td>
<td>.186</td>
<td>4.545</td>
</tr>
<tr>
<td>WhatsApp</td>
<td>.212</td>
<td>.040</td>
<td>.211</td>
<td>5.276</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Utilization

In a related development, it can be observed from table 2 the use of blogs, YouTube, and WhatsApp each contributed significantly in predicting the utilization of library resources of Postgraduate University Students in Cross River State. This is because of their respective calculated t-values of 5.269(.000*), 4.545(.000*) and 5.276(.000*) were all significant at .05 level of significance.

Discussion

The result revealed that all three predictors independently and jointly influence the utilization of library resources among Postgraduate University Students. Social media platforms such as blogs, WhatsApp and youtube help in the promotion of information resources in support of learning, provision of resources and services which are necessary for meeting the requirements of faculty specialists, research and post-graduate learning. This result corroborates Idiodi and Igbinosa (2003) that, when applied the correct way, social media can boost a student’s
learning journey, also making it much simpler for students, lecturers and administrators in the school setting to connect together, stressing that universities should use social networks such as Whatsapp, youtube in their libraries as communication tools and interaction between the students and the information available in the library to enhance teaching and learning. Social media such as blogs and WhatsApp are easier and suitable to access information, provide information and communication to students and other members of the university community at large. It is a way of teaching by creating groups and accounts for students where the information can be accessed.

Conclusion

Based on the findings of this study, the researcher concludes that:

- The use of social media in the context of education enhances academic research among postgraduate students.
- Social media improves teaching and learning.
- Social media makes learning easy especially in information and communication technology between the students and their teachers.
- Social media platforms are enhancing information sharing.

Recommendations

The following recommendations are made based on the findings of the study.

- Librarians should create an adequate technology environment in the library that will promote and encourage the use of social media tools or platforms to increase students utilization of library resources.
- Postgraduate students should make an individual effort to train themselves “on the use of social media platforms for academic purposes” as this will help them learn more effectively.
- Functional social media should be adequately supplied in university libraries.
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KNOWLEDGE MANAGEMENT AND LIBRARY DIGITALIZATION IN THE 21st CENTURY: DOCUMENTAL OVERVIEW

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Abstract:
The purpose of this study was to review literature related to knowledge management and library digitization. The study used exploratory research designs. Specifically, the study reviewed literature related to the development of knowledge management in connection with library digitization, the dynamic role played by the librarians in utilizing knowledge management in library digitization and the benefits and limitations of library digitization. Digitization of libraries has been witnessed globally due to the impact of technological growth and the demand of users that keep changing due to their needs and interests. Today’s modern libraries depend mostly on electronic resources that are highly diversified in terms of products and services that they offer. The concept of knowledge management has been adapted in modern libraries worldwide because of the need to manage library resources in digital forms that need special scientific attention. Knowledge management has increasingly become vital for the libraries to address the increased
demand of the users. Technological changes have altered the way people read and how they use information by revolutionizing the concept of libraries. Unlike the conventional library system, digital library usage has intensified with the help of information communication and technology through the use of computers and web technologies to address the needs of the users. The modern digital libraries serve as knowledge dissemination centers allowing easy access to resources and information that would not be easy to find in physical form. Modern digital libraries are acting as a platform where knowledge management is leveraging the intellectual assets and as well as facilitating knowledge creation. But, their success sorely depends on the ability to acquire, create, store, share and utilize that kind of knowledge. The success further depends on the digital librarian’s ability to search for information, select, acquire, organize, preserve and disseminate such useful information to the right user at the right time. Knowledge management is a process that is applied in the collection of information and it governs the creation, dissemination, and utilization of the documented knowledge to the end-users by utilizing digital knowledge. Knowledge management has given modern libraries a new role by becoming a leading player in managing knowledge. Acquisitions of knowledge management tools are however vital for effective library management activities. Digital libraries have thus implemented the use of computers, databases and library software so as to facilitate improved library activities. The utilization of these systematized electronic tools enhances the effectiveness and performance of librarians to serve the information users in the digital environment of the modern library setup. Key benefits have been documented regarding digital libraries like; Round the clock availability, accessibility by multiple users and quick information retrieval by users who are remotely located. However, digital libraries have some key bottlenecks that continue to bother librarians. Such may include, the effect of changing technology which requires constant technology updates, security issues related to unauthorized access and virus attack, copyright, and data migration issues and lack of skilled manpower on the part of librarians.

**Keywords:** Knowledge Management, Digital Libraries, Dissemination, Intellectual Assets, Digitalization

**Introduction**

Digital technology has brought changed the way people read and use information by revolutionizing the concept of libraries. Unlike the classical library system, the use of digital
libraries has intensified with the help of information communication technology (ICT) through computers and web technologies to address the needs of the users (Okike & Adetoro, 2019; Bradley, 2010). The researchers pointed out that advancement in ICT has affected the way users acquire information, how it is processed and stored as well as the way information is retrieved and communicated. The vibrant technological changes have created an important and new environment for digital libraries. Unlike conventional libraries, modern digital libraries perform faster changing the way Librarians manage and secure information regardless of disciplinary clientele. Digital libraries rely heavily on the web environment where users have to navigate and search in the electronic ocean of knowledge. However, such changes have made it necessary for users to have some level of competences in ICT skills so as to access and utilize information systems to meet their needs.

**Objectives**

This study aimed to review related articles on knowledge management which have supported library digitization over the years. Specifically, the study focused on three issues: 1) Review of the development of knowledge management in connection with library digitization; 2) the dynamic role played by the librarians in utilizing knowledge management in library digitization, and 3) the benefits and limitations of library digitization.

**Methodology**

The study employed an exploratory research design (Yin, 2009; Thomas, 2011). Various published articles on knowledge management and library digitization were reviewed. The content of the articles focused on library digitalization and how librarians were reacting with the new technologies. The study made a comparison of the traditional and modern libraries in relation to the application of knowledge management. The study reviewed literature related to rapid structural change in library activities due to the new technologies, knowledge management process, and organization used by the librarians to support the digitization of libraries.

**Development of Knowledge Management and Library Digitization**

Access to the timely and right information as required by users is important for all libraries. In recent times, knowledge management has emerged as an essential development in information
studies as well as in management science. Literature has shown that knowledge management is a critical component in libraries’ knowledge strategy. Duffy (1999) cited by Khanal and Paudyal (2017, p.45) defines knowledge management as “a process that drives innovation by capitalizing on organizational intellect and experience.” Bair, (1999) defines it as “a discipline that promotes an integrated and collaborative approach to the process of information asset creation, capture, organization, access and use”. However, information storage and systemization have become insufficient in today’s technological competitive age. Information must be scrutinized and integrated into relevant databases based on the needs of the users. Knowledge management requires the use of strategies that take an organization’s information, its experience as well as expertise to provide better services to its clients better based on their changing information needs. Knowledge management makes it possible to avail more information as institutions become increasingly competitive and in turn display a comprehensive range of information within the right time to their users. Knowledge management has, therefore, become a critical library operation to fulfill demands placed by users.

**Knowledge Management in Libraries**

Modern digital libraries have changed the library environment which has consequently changed the business world due to the new knowledge economy and digital age. The current usage of technology as observed by Bradley (2010) has become a necessity for modern libraries to transform and disseminate knowledge consequently changing the way libraries work. In the 21st century, the new role of libraries is to create a learning and knowledge center for users. Academic and research libraries have a different role to serve the public and academic community as compared to the business organization. Their mission should be to maintain high expectations for digital library users in the 21st century. Such a role requires competent professional persons conversant with knowledge management to take a lead in modern libraries.

Yaacob, Jamaluddin, and Jusoff (2010) pointed out that knowledge management has given libraries a new dimension; meaning modern libraries have developed a new vision, becoming a leading player in managing knowledge. The digital world has created a more effective use by exploiting different types of knowledge that are needed in academic and economic activities. In education, library services have increasingly utilized electronic resources to complement traditional library materials.
Knowledge Resources Access and Utilization

The emergence of ICT and web technologies has created a new dynamic role in a knowledge society. Libraries have taken note of the web experience and utilization of such services (Bradley, 2010). Embracing the new role, libraries have sought to develop resource access and sharing strategies by migrating from a printed copy to digital resources. Utilization of these resources focus on converting scientists’ and researchers’ knowledge output into action which bring change for users in the academic community.

The knowledge access through printed copies or other electronic formats should be developed and preserved. For example, the Integrated Online Public Access Catalog (OPAC) or the online library databases containing all resources should be encouraged. This could be achieved through the creation of useful websites with hyperlinks to allow access to metadata by users at the right time. OPACs differ from conventional library systems are that online catalogues or databases which provide access to references and bibliographic material in various subject areas. OPACs have certain advantages as compared to conventional catalogues (e.g., Rathee & Kaushik, 2010; Sadaf, 2015): 1) it provides easily a greater range of access points, 2) availability of information to users remotely, and 3) users can effectively search and retrieve bibliographic records without human intermediaries.

Apart from the utilization of explicit knowledge resources, digital libraries need to develop access to tacit knowledge which is critical information users. The library websites need to have a portal for all selective and relevant knowledge sources, and information whether explicit or tacit irrespective of users who are remotely connected and in all formats. Looney and Lyman (2000) defines an ideal “portal” as "a means of gathering a variety of useful information resources into a single, one-stop Web page, helping the end-user to avoid being overwhelmed by feeling lost on the Web." The growth of new Web pages is expanding every second in the information age. The number of users has also increased to billions yearly. Besides, Internet search engines like Google, Engine Watch, Yahoo, MSN, Soople.com, Bing.com, and Ask Reeves have increased year after year. These valuable intellectual assets in spite of whether they are explicit or tacit need to be inventoried, archived, and frequently indexed and updated, and in-turn made accessible in digital form.
Knowledge Sharing and Communication Networking

Resources of conventional libraries have been based on the practice of sharing and networking traditionally. However, lending and receiving books have been expanded through access to computers, digital technologies, telecommunications, and networking from the 1960s. The U.S has a trend where libraries are a member of several consortia for cooperative work and resources sharing. Examples may include the Online Computer Library Center (OCLC) and OhioLINK (Ohio Library and Information Network) (Rathee & Kaushik, 2010). However, knowledge sharing, as well as a communication network of digital information, is complex and dynamic. The success of library resources sharing and information networks are grounded on full cooperation as well as the participation of member libraries withholding self-interest.

Impact of Information Technology in Knowledge Management

The well-constructed knowledge management system needs to be implemented using improved collaborative technologies that enhance communication network which help in knowledge development across organizations, national, as well as international level linkages. Knowledge management could be made possible in digital libraries by network accessibility through intranet and extranets. Mainly, both intranets and extranets are powerful tools to make more efficient library services.

Intranet. Dissemination of information on the intranet enables provides a high degree of communication consistency for the whole library. Intranet gives users and information providers access to timely and critical information. Consequently, it enhances the decision-making process by allowing individuals to have the necessary information faster to make a better-informed decision. Intranets permit information centralization making it easier to maintain and keeps up-to-date data.

Extranets. The extranet extends the intranet where it allows other sister organizations and libraries to access selected internal data. Both facilitate the user to publish information electronically on library web-pages and the service is accessible to users in an organization with access to the internet. The service contains work information conducted from individual sections, details of
current and previous project results, and at times may include homepages of individuals working in the project. Intranets and extranet align with the bigger picture of knowledge management.

Figure 1: Intranets and Extranets in Knowledge Management


Groupware

It is a technological design that enables users to collaborate and share information. Groupware applications are intended to support group-work. Such applications require different approaches to understand work practices. Groupware is classified into the following areas; that is, communication, meetings, information sharing and coordinating work processes.

Communication. These are tools which are used to support synchronous communication like video conferencing, shared screens, media spaces, and real-time communications among users. The applications may include; e-mail and file sharing which are widely used as groupware application.

Meetings. They include groupware applications that support meetings; meaning, these software capture and organize ideas to aid brainstorming, summarizing and reporting.

Information sharing. They include databases, as well as bulletin boards and electronic newsgroups. Under this category, documents together with their responses are grouped together in folders similar to Microsoft Exchange or web pages built with Netscape. They provide access
where users get the needed information. Single information can be shared by a large number of users. This includes online discussion and online conferencing which are useful knowledge-sharing events.

**Coordinating work Processes.** Workflow systems may include decision support components. Intranet and web-based systems are tremendous sharing systems that benefit groups rather than an individual.

**Digital libraries and knowledge management utilities**

The invention of the computer and its network and storage in the 21st century has seen a paradigm shift in the library profession. In recent years, technology advancement in computer networks and storage has influenced the design of digital libraries (Yeh, Chang & Oyang, 2000; Schatz & Chen, 1996). In line with the development of a digital library is the emergent of knowledge management. The use of built-in knowledge processing utilities is to derive the library from a large amount of information. In case digital libraries contain a great amount of information and implied relationships are broad the person completing the task may get exhausted if manually done. By incorporating knowledge management utilities, professionals are relieved from tedious work and can focus on other philosophical activities to gain more knowledge that is advantageous. The application of knowledge management in the library field has been incorporated to enhance the performance of the library activities. Consequently, librarians and information professionals are offered training to be experts in areas of; information sharing, searching, selecting, acquiring, preserving, disseminating and serving.

Knowledge management covers a wide range of perspectives as it deals with the tacit and explicit knowledge processes. It also encompasses innovating processes, cultures, values and intangible assets. Besides, it is based on the subjective, interpretive and dynamic developments in IT and focuses on bringing their benefits effectively to the institution. Knowledge management supports not only the know-how of a company but also know-where, know-who, know-what, know-when and know-why (Rus & Lindvall, 2002). It is the process that provides a linkage between knowledge and action through experience. Table 1 explains the meaning of these terms clearly.
Table 1 Types of Knowledge and Action based on the activity of the experience

<table>
<thead>
<tr>
<th>Categories of experienced Activities</th>
<th>Knowledge</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Know-what</td>
<td>Understanding knowledge. Basically, it is a Fact</td>
<td>To understand what it is like to do or be something. to have experience with a situation, activity, or condition</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It is an understanding of the reasons underlying something (as a course of action)</td>
</tr>
<tr>
<td>2. Know-why</td>
<td>Telexing knowledge. It is Science.</td>
<td>The action will delineate and define you.</td>
</tr>
<tr>
<td></td>
<td>Management of knowledge. It is a way of communication.</td>
<td>It is a procedural or practical knowledge. on how to achieve something. Its often tacit knowledge; meaning it is difficult to transfer to other people by means of writing, or giving oral explanations. Its however a component in technology transfer.</td>
</tr>
<tr>
<td>3. Know-who</td>
<td>Technical knowledge or know-how refers to formulae, specifications,</td>
<td>To be able to recognize or identify something immediately, to know someone before he or she was famous or successful</td>
</tr>
<tr>
<td></td>
<td>standards, technical data or information, processes, and methods.</td>
<td>In the old days, the editor was completely in control, and we all knew where we stood.</td>
</tr>
<tr>
<td>4. Know-how</td>
<td>Know-how is, therefore, knowledge of how to do something or it is the ability to perform a task or action.</td>
<td></td>
</tr>
<tr>
<td>5. Know-when</td>
<td>Timely Knowledge. To understand (something) because one has experienced it. It indicates the Competition among users. Position Knowledge. To be certain about what someone thinks or feels about you. to be certain about what your position and responsibilities are in a situation</td>
<td></td>
</tr>
<tr>
<td>6. Know-where</td>
<td>Source: Sumathy, Thangamani, Gracia Mary (2013)</td>
<td></td>
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</table>
Digital Libraries and Knowledge Management

Digital library and knowledge management are inseparable, especially in agricultural scientific and technological innovations. The formation of digital libraries was based on the need of the 21st Century information users. It is an ideal digital environment in the global network but its effectiveness would not be possible without knowledge management. Knowledge management technologies enable users to simultaneously access internet sites, software, databases, intranets, and extranets resources as if they existed in a single location.

The development of digital libraries has led to the production of electronic resources without walls. Marchionini, Plaisant, and Komlodi (2003) regard digital libraries as a sound extension and supplementation of physical libraries in the electronic information society. Digital libraries based on Giannakopoulos, Kyriaki-Manesi, and Zervos (2012) refer to a technological application that allows library management and organization of archives and museum contents into digital forms. However, the formation of digital libraries has changed the established library practices by altering the monopoly of traditional libraries as the only provider of information (Sarrafzadeh, Martin & Hazeri, 2010). Based on the researchers, the growth of electronic resources has considerably changed the attitudes of library users in research as well as the way they associate with knowledge. The researchers pointed out that librarians are in quest of ways to integrate electronic and digital content with print material so as to provide a comprehensive knowledge source base for research, in addition to teaching and learning.

Metadata and Domain-Specific Markup Language

Metadata and markup language are both aimed for descriptions of information resources. However, Metadata has been developing form MARC format to DC 15 elements and from its simple description to become centralized functions of description, control, structure, storage, protection etc. But it is still limited to be a subsidiary of the documents and cannot help the users to dig into the contents of it. Being a librarian, the work does not focus only on the discovery of resources, but they also focus on discovery within resources (Zeng, 2002). The development of eXtensible markup language (XML) which has grown in usage in recent years has formed a new era of markup language. Some of the characteristics of XML include accurate descriptions of the contents, common XML rules, and grammar which allow assigning of a special mark code into
the original text in the digital resources. The standards codes make knowledge presentation easy in digital libraries.

**Librarians’ Linkage with Knowledge Management**

The development of digital libraries has affected the role of librarians in relation to traditional library activities. According to Deegan and Tanner (cited in Tedd & Large, 2005), there are two additional roles for librarians and information professionals where they serve as knowledge mediators and knowledge preservers. In reference to the work of librarians, Lor (2008) pointed out that knowledge management skills of librarians should also involve data management and other forms of knowledge. The application of knowledge management systems based on researchers is strongly connected to and also lies at the heart of creating sustainable digital libraries.

Based on the literature, (Clair, 2003; 1486), the Encyclopedia of Library and Information Science refers to knowledge management as "management practices that mission” (There are two types of knowledge in the knowledge management theory; tacit and explicit. On one hand, explicit knowledge is formal and systematic; that is, it can be easily communicated and shared. On the other hand, tacit knowledge is deeply embedded in action; it’s highly personal and quite hard to formalize (Nonaka, 1991). The concept of knowledge management started applying in the business sector, only but now it has been expanded to many other fields including library science also. Knowledge management is at the “core position in Digital libraries” and similarly digital libraries are not so efficient without effective knowledge management”. (Shuchun, 2002, p.507) inject new blood into the library culture and she describes and dissemination practices into their services.

**Library Digitization**

A digital library is an information retrieval system referring to a collection of stored digital formats that users can access through computers (Greenstein & Suzanne, 2002). In the digital era, libraries use the latest technology to organize and manage digital material and as well provide information services to users in a digital format.

The term “digital libraries” may apply to wide organized collections of information but to be referred to as a digital library, it must have an online collection of information that is managed and made accessible to all users. As such, not all websites are considered true digital libraries. A “hybrid library” is at times used to refer libraries with both physical and digital collections. For
example, American Memory is a digital library in the Library of Congress. Some significant digital libraries are used as long term archives, like the ePrint, arXiv and the Internet Archive.

The rapidly growing idea of "digital libraries" means that library users can access all information they need at the right time and on their desks, be it through multimedia databases or in hyperlink web resources. Digitization allows the handling of information at a much faster speed that is more flexible, with improved reliability and at a lower cost (Hamelink, 1997). The researcher noted that in digitization, there is a great expansion of communications channels with more varieties for consumer choice. Besides, more interactive systems opportunities have been created. Additionally, there has been a great improvement on the quality of voice as well as in video transmissions.

Hamelink (1997) argued that digitization has brought about economic efficiency through storage, retrieval, and editing which saves time and labor. Conversion to digital forms especially for images can allow digital compression and transmission over satellites at 56,000 bits per second in a computer file. Besides, digital data could be stored in computer discs and played back at the original speed. Since compressed digital data and storage systems are light-weight, they could be applicable in newsgathering. The new digital technologies are the following features: Convergence and multi-functionality, intelligence and ubiquity.

**Convergence and multi-functionality.** When signals converge into a digital form, they become similar technically. Digital technologies are, therefore, instrumental in the convergence of telecommunications, electronics, and data-processing technologies. Convergence based on Hamelink (1997) creates new modes of information handling like digital management of sounds and images and makes information appliances multifunctional.

**Intelligence.** Digital technologies according to Hamelink (1997) are smart technologies; meaning, they can provide information appliances and communications systems as well as networks with problem-solving capacity. Particularly, they can enhance the performance of a traditional telephone through the provision of new features like modems, screens, and smart card readers. The new appliance referred to as smartphone allows users to check e-mail, text-messaging, do mobile shopping and mobile banking, screen calls, surf the Internet for information while some have in-built personal organizer.
Ubiquity. A critical characteristic of digital technologies is pervasiveness. The new technologies are everywhere from home to offices and in business premises and other service activities like travel, finance, banking, and insurance. A computer for example, manufacturers want to create computers so unobtrusive that they virtually disappear.

Pros and Cons of Library Digitalization

Main Advantages. Advanced digital libraries provide ways where various books, data files, and pictures are easily and rapidly accessed by users with commercial interests as well as public bodies (Europa, European Commission, 2008; Saini, 2017). Based on Saini (2017), conventional libraries are limited to storage space while digital libraries eliminate the need to own physical space. Researchers like Bamgbade, et al., (2015) and Saini (2017) also noted that the cost of maintaining a digital library is far much lower as compared with that of a conventional library. Besides, there is increased access and availability of information to users who lack access to a conventional library due to reasons not limited to geographical location or affiliation to organizations. That is, the digital library allows users' electronic access to materials at any place including offices, home, at school or even in their car.

Distinct advantages. The distinct advantages of digital libraries are as follows (Bamgbade et al., 2015; Saini, 2017):

- Fast performance due to advent of the computer technology results in time-saving for both library professionals and the common user also. Larger management of library resources without any confusion and complication of missing the particular documents in the library, less storage for keeping the non-book materials like CD, DVD in RDBMS databases, Clear and conducive rapport between the librarians and service users. Updating, editing, modification, and deletion of particular documents from databases are made extremely easy. Entries of new arrivals of the books in the library could be initial documentation work but later, other library techniques like classification, cataloguing and codification is possible accordingly. Information retrieval and document management software have been retagged and promoted as knowledge management tools. Visual observation on the computer screen exposes the nature of the work of the librarian instantly. The
traditional books could be documented digitally and reduce dead-end user searches and patron confusion.

**General advantage.** Based on the literature, a number of advantages have been documented (e.g., Bamgbade *et al.*, 2015; Saini, 2017).

**No physical boundary.** Digital library users need not visit a library physically; as such, users with internet connections have access to similar information.

**Round the clock availability.** Digital libraries have an added advantage as information is accessible at any time with no time limitation.

**Multiple users.** Resources are accessible to multiple users simultaneously and it also allows real-time discussions

**Information retrieval.** Digital libraries preserve user-friendly interfaces where it gives clickable access to its different resources. As such, users can access metadata by using the caption of words, titles phrases, names, or subjects to search for information in databases.

**Preservation and conservation.** Though digitization does not provide a long-term conservation solution, it provides access to duplication of materials that in one way may get defaced due to repeated use.

**Space.** Digital libraries require almost no physical space for storage and maintenance. Besides, data storage technologies have become increasingly more reasonably priced than ever before.

**Added value.** Digitization can improve legibility and eliminate visible flaws like discoloration and staining (Gertz, 2000).

**Disadvantages of digital library**

A number of issues have been identified by researchers in relation to digital libraries (Bamgbade *et al.*, 2015; Breeding, 2002; Cain, 2003).

**Data migration.** In the current technological era, technology updates and data migration is an issue for every library (Cain, 2003). Data migration provides a way to retrieve digital objects that could become extinct. However, it is argued that data migration is normally short-lived taking into consideration the ever-changing nature of computer software. Data migration requires a constant transfer of digital objects to newer stable formats. Besides, other issues may come up in the transfer
process where newer platforms may fail to capture the full original format of the object or material being transferred (Breeding, 2002).

**Copyrights.** In the digital world, copyright laws require digital libraries to comply with copyright and cyber legal issues as a way to deal with plagiarism. Republication of materials in the web by digital libraries may, therefore, involve a need to acquire permission from rightful holders. Besides, conflict of interest may arise between digital libraries and publishers who may want to create online versions of contents acquired before 1923 that may be out of copyright (Christopher, 2010).

**Authenticity.** It is argued that in the preservation of digital material, any attempt made to transform any item or materials into the digital form will always alter and bring about some form of value loss of the original item.

**Effect of technological change.** Digital libraries are wholly dependent on computers and telecommunication. Any advancement in technology software and hardware requires an update of the digital system in line with the new technology.

**Security issues.** The digital system requires Internet connectivity which creates a major security problem to deter unauthorized access. A major task with the digital system is to prevent information from virus attack.

**Skilled personnel.** In comparison with the conventional library, a digital system requires a skilled person to work and maintain a digital library. The ability of personnel to handle and transfer data with the ever-changing technology is a major concern for digital libraries.

**Conclusion**

The world is moving from printed documents into electronic resources which are a great challenge to the librarians to keep abreast of the knowledge in the selection, acquisition, and retrieval of electronic resources. With the growing need for information, it has become laborious for the librarians to maintain printed documents and books in the traditional library setup. However, modern libraries are encouraging usage of Electronic Resource Management Software for effective organization and preservation of electronic resources like E-books, E-Journals, and E-Databases in the libraries.

Knowledge management is vital in libraries that have rich experience in information management. Knowledge and skills of librarianship and professionals could be applied in
knowledge management. The success of modern libraries needs professional with appropriate knowledge management together with strong leadership that is capable of managing the library administration on a successful endeavor. In the current technological and knowledge age, librarians can work with IT professionals to effectively support the implementation of knowledge management. In the process of knowledge creation and management, every library should strive to enable and facilitate mobilization of all its efforts and resources. More so, academic institutions like universities should be knowledge creators that empower their libraries to develop a campus knowledge management system.

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ETHICAL ISSUES IN INFORMATION USE AND THE EXPLOITATION OF LIBRARY RESOURCES BY UNDERGRADUATE STUDENTS IN FEDERAL UNIVERSITIES IN SOUTH-SOUTH ZONE, NIGERIA

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Abstract

Libraries acquire and stock all forms of intellectual property documents and materials (print and non-print) required for study, learning and research. They offer information literacy programmes and studies not only to provide access to the resources in their collections but it is also necessary that through these programmes users are expected to be equipped with relevant skills to ethically use the resources in a proper manner in order to promote scholarship and academic discipline. This study investigated the influence of knowledge of ethical issues on the exploitation of library resources by undergraduate students in federal universities in South-south zone, Nigeria. The objective of the study was to investigate the extent of awareness of ethical issues in information use and the exploitation of library resources as a requirement for academic integrity by undergraduate students in federal universities in South-south zone, Nigeria. The research design adopted for this study was ex-post facto design. This was so considered because the researcher had no direct control of the independent variable since their manifestation had already occurred and could not be inherently manipulated. The population comprised 952 registered library users randomly sampled from three selected universities, namely University of Uyo, Akwa Ibom State, University of Port Harcourt, Rivers State and University of Calabar, Cross River State all in Nigeria. A questionnaire was used to collect data. Data collected was analysed by using mean, standard deviation and simple linear regression analysis. Also, the hypothesis was tested at 0.05 level of significance. The instrument was validated using Cronbach Alpha reliability
test. The reliability estimate obtained in the variable was .70 showing that the instrument was significantly reliable enough to be used. 10% of the registered users from each of the institutions selected were made up of 346 in University of Uyo, 304 in University of Port Harcourt and 302 in University of Calabar respectively. The study produced a regression co-efficient of $R = .573$ which indicate that there was a strong positive influence of knowledge of ethical issues in using library resources. The implications of this study are that students learning and information handling experiences or skills can be improved through the teaching of relevant and appropriate information literacy programs or studies. Since information literacy skills have significant influence on appropriate use of library materials and resources in an ethical manner, students should be adequately instructed in information literacy studies. From the study, it was inferred that undergraduates’ knowledge of ethical issues was relatively low in the study areas. It was recommended that more adequate attention should be given to guiding, instructing and teaching of information literacy skills with particular focus on ethical issues in information use to avoid the implications of doing otherwise especially in academic environments. It was also recommended that university management should be more committed to put in place appropriate policy measures and strategies that ensure the provision of adequate staff and infrastructure to implement the teaching of information literacy programs in the institutions. It is important that a culture of appropriate use of information resources should be inculcated early in students’ learning process.

**Keywords:** Ethical issues, information use library resources, Undergraduates, Federal universities in South-south zone Nigeria

**Background to the study**

Libraries enjoy special attention in universities and other academic institutions because they are considered very valuable to these institutions in facilitating the achievement of their mission of teaching, learning, research and recreation. The university library should not only acquire and organise print and non-print information carriers but also acquire equipment, infrastructure and relevant technologies needed to locate, access and use the resources in the collection.

To the undergraduate students, the library is an indispensable complementary learning center. It provides them with all the needed material in all courses offered in the university. The first major role the library plays in preparing grounds for effective and efficient literature search
is the acquisition of current and relevant materials. A fundamental service the library offers to students is library guiding and user education to facilitate easy access, retrieval and proper use of the resources.

The basic aim of user education is to acquaint the students with the knowledge and skills to find their way around the library and make maximum use of its resources. Information literacy is becoming a norm in contemporary environment of rapid technological changes, proliferation and explosion in information resources. Anato and Filson (2014) stated that individual faced diverse and abundant information choices in their personal and academic lives. Uzuegbu (2004) observed that emerging information users faced new challenges and new tasks among of which are (i) ability to determine information need and ways to solve them (ii) understand the several media for knowledge sharing (iii) have knowledge of information search tools and (iv) be conversant with ethical issues in using information resources.

Most library materials are protected by copyright legislation. Copyright protects work of authors which are expressed in some form such as books, journals, web postings, software codes etc. It also grants authors exclusive rights such as production and reproduction, distribution/dissemination, public performance, adaptations, format conversion, translation and public lending rights. Kawooya (2013) stressed that copyright is potentially more complex than intellectual property (IP) rights because it covers a wide range of areas among which are books, pamphlets and other writings, lectures, addresses, sermons, dramatic or dramatico-musical works, musical compositions with or without word, photographic works, encyclopedias, anthologies based on the selection, collection of artistic works and their content arrangement.

In most copyright regulations, the “fair use doctrine” allowed expression of ideas in copyrighted or protected works to be copied or used without violating copyright act within permitted use condition. This condition in the academic environment requires strict adherence to the acknowledgement and referencing of all works and materials cited. Most disturbing issues in academic writing today are the issues of plagiarism. It has become common and worrisome to see students write long essays without providing references of works consulted. They copy and reproduce their lecture notes and most times copy/or replicate past projects submitted to their various departments with only a change in nomenclature. These acts are unethical and undermine academic integrity. The questions that arise are do undergraduate students have adequate knowledge and skills on how to consult and properly acknowledge and cite works and materials.
used? Are they conversant with ethical issues involved in using information and the implication of improper use? This work is an attempt to investigate ethical issues and the exploitation of library resources by undergraduate students in federal universities in South-south zone, Nigeria.

**Purpose/problem statement**

The purpose of this study is to investigate the effect of information literacy competencies on proper use of library resource by undergraduate students in federal universities in South-south zone, Nigeria. Specifically, the study is designed to assess undergraduates’ knowledge of ethical issues in using library information resources. It is expected that user education programmes and information literacy studies carried out by libraries should provide students with knowledge and skills to not only search, identify, locate and use the needed information only. Students are expected to be aware of ethical issues concerning the right ways of using other people’s works through proper acknowledgement and citations. Obasi (1999) lamented that there were problems being faced by students in citing works they consult, Babalola (2012) who investigated awareness and incidence of plagiarism among undergraduates in Nigerian private universities revealed that most students lacked knowledge of what constituted plagiarism unintentionally. Again from personal observation an interaction with undergraduate student users, it has been observed that many students make inappropriate use of the materials or resources the consult. They copy other peoples’ works such as textbooks, projects and journals without due acknowledgement through appropriate citations.

The crux of information literacy studies lie in the understanding of the knowledge of information access tools, sources of information, information search strategies, evaluation and critical to our study is the ethical issues in using information. These have been emphasized in policy document from Nigeria University Commission (NUC). Our concern in this work is whether students acknowledge and appropriately use information resources in their libraries within ethical boundaries as expressed in the information literacy programmes in the universities investigated. This work intended to assess ethical issues in information use and exploitation of library resources by undergraduate students in federal universities in South-south zone, Nigeria.
Research objective/research question

The study investigated the extent to which undergraduates in the selected universities are aware and use library resources ethically. The question being raised is, to what extent do undergraduate student’s knowledge of ethical issues influence their proper use of library resources in universities in South-south zone, Nigeria. This question was translated into null hypothesis to guide the study. The null hypothesis is “Knowledge of ethical issues has no significant influence on proper use of library resources by undergraduate students in federal universities in South-south zone, Nigeria”.

Literature review

Several definitions abound for the word ethics. Ethics as defined by the Merrian dictionary means the discipline dealing with what is good and bad and with moral duty and obligation. The Markkula Center for Applied Ethics (2010) states that ethics consists of standards of behaviour our society accepts, noting further that, being ethical is doing what the law requires.

Ethical issues in the use of information resources have to do with right ways and wrong ways of using other people works especially those covered by intellectual property rights and regulations. Undergraduate students, scholars and other academics are expected to do literature search by consulting and using other purples works while writing their assignments, term papers, projects and reports. This is done in order to establish what has along been done and thereby establishing ground for new discovery since every research is expected to have some element of newness or originality. Thus for any scholarly work to merit its claim and gain some level of authority, citing and referencing related literature or documents used is necessary and ethical as an information literate individual.

Citations and referencing are synonymous terms employed by researchers to avoid the temptation of inappropriately using other people’s works without consent or violating author’s copyrighted works. Referencing is the acknowledgement scholars give to sources of documents and (materials) they consult (Aina, 2006 and Salami, 2014). According to Nwosu (1995), citing references in a research paper come largely from the work of other people. The researcher needs to give proper credit to the original authors by citing and acknowledging them properly using standard referencing format or styles. He argues that bibliographical citation or reference is a very important aspect of every research work because no good research undertaking exists in a vacuum.
Obasi (1999) lamented that the act of making correct, appropriate and relevant bibliographical citation constitutes a big problem to many students both undergraduate and postgraduate students. He enumerated some of the problems these students encounter to include; (i) inability to make reference to books of readings, that is, edited books which contain contributions of several authors (ii) lack of adequate knowledge of various citation method or styles (iii) inconsistency in the use of chosen method of citation (iv) the problem of how to arrange and differentiate long quotations in relation to brief or short quotations and the problem of how to cite an author in a book written by another author; and thereby out of ignorance wrongly credit the ideas to the author of the book they are currently reading.

The above is understandable if they lack the knowledge or they, have not been adequately taught or instructed. Where it is worrisome and unacceptable is the deliberate copying and claiming of works of others’ works to gain academic credit and other pecuniary benefits. This is criminal and borders on intellectual theft described in academic parlance a plagiarism.

Turnitin.com (N.D.) summaries the 10 types of plagiarism expected to be known by every academic writer and these we find very common without recourse to their obvious negative implications. These types are (i) Clone-plagiarism: Where another person’s work is copied word-for-word by a person without any change and claiming it as his own work, (ii) Remix-plagiarism: Here persons collect and mix information from various sources together as a single document, then claiming the work as their own, (iii) Ctrl-plagiarism: Where persons copied a significant portion of a text from a single source without alteration, (iv) Hybrid-plagiarism: Perfectly cited source of documents that are copied and arranged as a new document without citation, (v) Find-replace-plagiarism: This is done without making changes in the essential document but changing the most common keywords and phrases in the copied content without proper citation, (vi) Recycle-plagiarism: This is called self-plagiarism. It is an act of borrowing from one’s own previous document without proper citation, (vii) Mashup-plagiarism: This is copying a written document from more than one source and mixing all together without any proper citation, (viii) 404 Error-plagiarism: This is creating a document by copying from various sources and preparing it as a single document with citation. However, if the citation is inaccurate or leads to non-existing resource, then it is called 404 type of plagiarism, (ix) Aggregator-Plagiarism: Here the written document does not contain the original work itself but includes all the proper citations, (x) Re-
Tweet: Here all the written documents seem perfect with properly cited marks, yet the document resembles somewhere the original text’s structure or wordings.

Marius’ (1988) work on how to avoid plagiarisms warned that when people borrow something and use it in their own writing they must leave no doubt in their readers’ minds as to what they have borrowed. To avoid plagiarism, Dike and Amelechi (2012) stressed the use of quotation marks appropriate citations, paraphrasing and referencing of all materials consulted and used.

In general, plagiarism can manifest in more diverse forms than had earlier been identified. Source even attempted distinction between deliberate or intentional plagiarism. Park (2003) revealed intentional plagiarism as the deliberate act of literary theft. It is designed to deceive, hence more difficult to detect. He described some aspects of intentional plagiarism to include: the presentation of the whole documents written by others as one’s own work, buying and processing papers from paper mills, hiring someone else to write assignment or term papers, projects, theses and citing false references in writers works that were never consulted. In the same vein, unintentional plagiarism is caused by ignorance of citation and referencing rules. It involves copying word for word either from a print or an electronic on/off line source without acknowledging the source.

Young (2001) described that the wide and increase in the use of the Internet by students have brought about a new craze of ‘cut and paste’ approach to research. According to Willems (2003), generally, students have the misconception that the Internet is a free source of collecting information without acknowledging the source and authors of whose works are collected. He further observed that with the advent of internet technology, student are presented with lots of hard to resist temptation to plagiarism on the internet because of the number of available paper mills and websites that often write term papers for a fee. These acts negate ethics of academics and scholarship.

IkeepSafe (2014) described cyber ethic as a code of behavior on the internet. Its major concern is about ethical standards applied to the online environment. It is considered indiscipline and criminal using inappropriate and unethical behavior by not acknowledging the right of the owners of sources of information obtained from online environment. According IkeepSafe (2015) people violate cyber ethics when they:- (i) other people’s intellectual property is appropriated (ii) Ignoring the social and legal consequence that related to software program writing or the computer
system designing, illegally copy or use proprietary software that has not been paid for which credit has not been given, (iii) Interfere with others computer or online works, (iv) snoop into or alter others computer files or data, (v) use computer causing harm to others, (vi) use others computer resources prior authorization and (vii) use computers ignoring the consideration of and respect for fellow human beings among others.

Microsoft Safety and Security Centre (2014) cautioned that practicing cyber ethics, people are more likely to have a safer and enjoyable Internet experience. To maintain cyber ethics, it suggests that (i) people should not be cyber-bully “by not being rude, avoiding bad language and not make threats or attempts to humiliate other people on the net, (ii) by reporting bullies to appropriate authorities and by not using copyrighted information sources as our own.

A study conducted by Babalola (2012) investigated the level of awareness and incidence of plagiarism among undergraduate in Nigerian private universities. The study also sought to find out key factors responsible for plagiarism by the undergraduate students. The results revealed that most students lacked adequate understanding of the act of plagiarism and were likely to commit unintentional plagiarism. The study also showed that copying from the web was very common as more than 60% of students interviewed admitted doing that without attribution. It further found that accessing information from the Internet with ease, desirability to earn good grades, inadequate knowledge of appropriate citing principles and the pressure to meet assignment datelines were the most prominent reasons for plagiarism. However, a positive significant relationship was found between levels of awareness and incidence of plagiarism.

All works covered by intellectual property rights have both tangible and intangible values. When individuals know that their creative works are protected and that they can benefit from their labour, they are more likely to be more productive by striving to create or develop new ideas and encourage new inventions which lead to development while promoting societal growth. It is imperative therefore that a culture of ethical use of information resource must be stressed, inculcated and imbibed by tertiary institutions undergraduate students.

**Research Method**

The research design adopted was ex-post factor design because the researcher did not have control of the independent valuable because their manifestations had already occurred and could not therefore be manipulated. The research area was South-south zone, Nigeria. The population
comprised of 14860 registered undergraduate library users from 3 selected universities in 2017/2018 academic session. The stratified random sampling technique was adopted to select 10% each of registered users from the universities relative to the population totaling 952. From the University of Uyo, 346 were randomly selected from a population of 3456, University of Port-Harcourt 304 were selected from 3035 and University of Calabar 302 were gotten from 3016. This is presented in table 1.

Table 1 Sample Frame

<table>
<thead>
<tr>
<th>S. No</th>
<th>Institution</th>
<th>Population</th>
<th>Sample Size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>University of Uyo</td>
<td>3456</td>
<td>346</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>University of Port-Harcourt</td>
<td>3035</td>
<td>304</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>University of Calabar</td>
<td>3016</td>
<td>302</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>9506</td>
<td>952</td>
<td></td>
</tr>
</tbody>
</table>

The instrument used to collect data was developed by the researcher. The draft copy was verified by two experts in educational measurement. In the process, some items were rewarded, dropped or replaced. Thus the instrument was first validated.

The scale used was a 4 point Likert-type assessment scale. The questionnaire used was divided into sections ‘A’ and ‘B’. Section ‘A’ sought demographic information while section ‘B’ assessed ethical concerns and issues in information use.

The reliability of the instrument was obtained by using Cronbach Alpha approach. The reliability coefficient obtained for the two sub scales were 0.70 and 0.76 for ethical issues and use of library resources respectively. It shows that the instrument was significantly reliable enough to be used. See Table 2. Mean (x) and Standard Deviation (sd) were used to analyse the data collected. The instrument was administered personally in each of the universities visited with the help of two research assistants. Thus all questionnaires were retrieved.
Table 2 Cronbach Alpha Reliability Estimate of Study

<table>
<thead>
<tr>
<th>S.</th>
<th>Variable</th>
<th>Items</th>
<th>Co-coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ethical issue</td>
<td>8</td>
<td>70</td>
</tr>
<tr>
<td>2</td>
<td>Use of library resource</td>
<td>20</td>
<td>76</td>
</tr>
</tbody>
</table>

Source: Field Survey (2019).

Findings

The variables in the study are knowledge of ethical issues in using information sources (independent variable) and proper use of library resources (Dependent variable) by undergraduate students in federal universities in South-south zone, Nigeria. These variables are continuous. Since they are human related variables, their normality was assumed. Consequently, parametric statistics were applied. The descriptive analysis of the mean and standard deviation is presented in Table 3. The interpretation can be inferred by comparing the calculated mean with the population mean of the instrument. The knowledge of ethical issues in using library information source has a mean score of 14.87 out of a maximum of 32. If this value is compared with the expected mean of 20, the mean of the value is relatively lower than the expected mean. It can thus be inferred from the result that the undergraduates’ knowledge of ethical issue involved in the use of library resources is relatively low.

One null hypothesis was tested. The hypothesis states that; knowledge of ethical issues in using library resource has no significant influence on the use of library resource by undergraduate students in federal universities in South-south zone, Nigeria. This was tested from 950 respondents. The simple regression analysis was used to analyze the data. The result has been presented in Table 3.

Table 3 Descriptive Analysis of Mean and Standard Deviation of the Variables

<table>
<thead>
<tr>
<th>S.</th>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge of ethical issues in using information resource.</td>
<td>14.87</td>
<td>3.81</td>
<td>950</td>
</tr>
<tr>
<td>2</td>
<td>Use of library resource.</td>
<td>45.55</td>
<td>10.48</td>
<td>950</td>
</tr>
</tbody>
</table>
The regression model produced a regression coefficient. \(R^2 = .573\) which indicates that there is strong positive influence of knowledge of ethical issue in using information resources and use of library sources. This means that the more the knowledge of ethical issues on the use of information sources, the more or better utilization of the sources. Precisely, an \(R+\) value of .329 indicated that knowledge of ethical issues in using information source may account for 32.9\% of the influence of proper use of library resources in the study area. The F-value of the analysis of variance (ANOVA) obtained from the regression table is \(F=464.50\) to 2 decimal places and significant value of .000 (or p<.05) at the degree of freedom (df) 1 and 949. The implication of this result is that the null hypothesis was rejected and the inference drawn from it is that knowledge of ethical issues in using information resources has significant influence on appropriate use of library resources by undergraduate students in federal universities in South-south zone, Nigeria.

Table 4 Simple regression analysis of influence of ethical issue in using information resources on use of library resources by undergraduate students in the institutions.

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Sinept</th>
</tr>
</thead>
<tbody>
<tr>
<td>.573α</td>
<td>.329</td>
<td>.328</td>
<td>8.596</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sum of Square</th>
<th>Of</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repression</td>
<td>34321.553</td>
<td>1</td>
<td>34321.553</td>
<td>464.498</td>
</tr>
<tr>
<td>Residual</td>
<td>70121.188</td>
<td>948</td>
<td>73.890</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>104442.740</td>
<td>948</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Dependent variable: Use of library resources
2. Predictor. (Constant) knowledge of ethical issues in using information sources.

Discussion

The study reveals that knowledge of ethical issues in using information resources has a relatively high influence on appropriate utilization of library resources in the study area. An \(R^2\) value of .329 indicating that ethical issues in information use account for 32.9\% of student’s utilization of library sources calls for concern to be paid to the teaching of these skills in the libraries. The result of the study is in consonance with Salami (2014) and Mobolaji and lyabo
(2015) whose studies stress the importance of ethical use of library resources through appropriate referencing and bibliographical citation in research and other academic works.

From the study, when compared the knowledge of ethnical issue in using library resources which has a mean store of 14.87 relatively lower than the expected mean of 15, it can be inferred that undergraduate knowledge of ethical issues is relatively low in the institutions in South-south zone, Nigeria. Findings are also integrated with Babalola (2012) whose work revealed that most students lacked adequate knowledge of the acts constituting plagiarism so were prone to use library resources unethically. The result is also in infirmity with Turnitin.Com (ND) which listed various types of plagiarism common with academic and other scholarly writers.

The findings from the study are also in line with Park (2003) who observed some deliberate acts of unethical use of library resources to include presentation of whole documents written by other people as one’s own, buying papers from paper mills and citing false references among others. It can be inferred that libraries and librarians are not doing enough to teach and inculcate ethical values in their information literacy programmes and studies or users are deliberately, out of desperation or negligence are not keeping or observing ethical codes in their consultation and use of information resources.

The study has underscored the need for caution to maintain ethical codes while utilizing information resource by undergraduates in the study area. The work also emphasizes the need to give credit or to acknowledge the sources consulted in learning, research and doing scholarly writing without which the work of a student or researcher can be accused of plagiarism. The grave consequence for doing otherwise is obviously not palatable. It is morally and legally wrong as culprits stand chances of criminal prosecution.

**Conclusions and Recommendations**

From the study, it can be concluded that lack of knowledge of ethical issues significantly influence inappropriate use of library resources by undergraduate students in the institutions studied in South-south zone, Nigeria. Information literacy competence programmes are an important component of the university library system. These play crucial role not only by guiding users to identify and locate sources but also teach how information sought is used and app and appropriately acknowledged documented. It is obvious that lack of information literacy skills and competence have negative impact on how undergraduate students use information sources.
• It is recommended that university management should be more committed to put in place appropriate policy measures and strategies that ensure the provision of adequate staff and infrastructure to implement the teaching of information literacy programs.
• User education programs currently being taught in Nigeria universities should be reviewed taking into cognizance not only print/digital content of resources but emphasis should be placed on inculcating ethical values in scholarship
• More focus should be given to documentation and appropriate use of materials through increased modules on referencing styles and bibliographic citations.

Implications of the study
• Effective information literacy skills have significant influence on appropriate use of library materials and resources in an ethical manner. Students should be adequately instructed in ILS.
• Students’ learning and information handling experiences can be improved through the inclusion of relevant and appropriate information skills training programs.
• Undergraduate students are more likely to use library information resources more appropriately if they have adequate knowledge of ethical issues and the implications of using other peoples’ work without acknowledgement or appropriate citations and referencing in their academic work.

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Isue: 2019

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