Influence of the use of information and communication technology (ICT) on collection management practices in university libraries in South-South, Nigeria

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Abstract
This study examined influence of the use of information and communication technology (ICT) and collection management practices in university libraries in South-South, Nigeria. Two hypotheses were formulated to guide the study. Survey research design was used. The population for the study constituted 215. A sample of 137 librarians was selected using purposive sampling technique. The instrument was validated by experts with Split-half reliability method. The research data was analyzed with descriptive (mean and standard deviation) and inferential statistic (One-Way ANOVA). All hypotheses were tested at 0.05 level of significance. The findings revealed that there was a significant influence of e-mail services on collection management practices (F=3.064*, P<.05, df=3,127, F-critical=2.65) and there was a significant influence of internet services on collection management practices, (F=3.594*, P<.05, df=2,728, F-critical=3.00). From the result of the study, it was recommended among others that librarians should use more ICT tools which will enhance their job performance in the library.

Keywords: Utilization of ICT, E-mail service, Internet service, Collection management Practice, University libraries, South-South, Nigeria.

Introduction
Developments in contemporary Nigerian libraries in recent times have witnessed information and communication technology (ICT) penetration. This development, as observed by Ani, Esin and Edem (2005) has created a shift from traditional information environment to electronic environment such as computer use, internet use, online services as well as online databases. The emergence of ICTs has dramatically brought innovations in librarianship. According to Ani and Edem (2015), the adoption and integration of ICTs has tremendously brought efficiency and effectiveness in services and operations in the library. It has also offered librarians and information users different options in carrying out library routine operations.

Collection management is the aspect of the library and information work that is responsible for selecting and acquiring information resources that will enable library and information practitioners to perform their myriad functions to their users effectively (Aina, 2004).

Collection management practices are the activities performed by librarians in libraries. These practices involve selection and acquisition of library materials required by the library (Adomi, 2008). ICT application in library operations requires continuing education and acquisition of new skills by the staff in the area of knowledge update. ICT is responsible for the changing roles of handling traditional operation in services in a digital format (Adeleke & Olorunsola, 2010).

Librarians now use ICTs anytime and anywhere for information searching and
retrieval. It is becoming impossible to have access to information without the help of ICT, hence, cost implications of use of ICT for processing and resource sharing. For instance, the use of e-mail services like Google mail, yahoo mail, voice mail, and window live mail on collection management practices seems to have reduced the burden on selection practices in libraries. Materials are now being sourced online through sending of e-mails. Publishers and vendors now send e-mails on the available materials they have in stock to be accessed by the university librarians and/or acquisition librarians and approval is given as to the needs of the university before supplies are made. This has improved the relationship between the university libraries, publishers and vendors.

E-mail service is one of the services used by librarians in modern day library practices for the smooth delivery of documents and other information tools through internet connectivity. E-mail is sent to the various subject specialists that are involved in selection. Through e-mail, subject librarians can provide answers to users’ enquires without him/her travelling to find the materials. One of the fastest and easiest ways of sending and receiving files is communicating via e-mail services. Librarians can now attach documents to e-mails before sending to colleagues, while attempting to perform library operations. Librarians need to communicate with one another on operations and services taken place in their individual libraries. Therefore, through e-mail, one can send messages to colleagues and also to collaborate with others on related research findings. There are different e-mail servers that can be used. For instance, alerts can be sent to you if you have mails sent to you. The primary name is an e-mail address; for example, G-mail and Yahoo Mail. The domain name uses e-mail servers, web sites and all other facilities that transport data over the internet use and internet domain address system.

Internet service is an integral component of ICT. Internet is collections of huge information sources of interlinked computer network that is accessible to all kinds of people including university libraries. Through the internet, one can surf the Web. Internet servers are supported with formatted documents on the web. The Web consists of a framework for accessing documents that are located in collection of interconnected documents and other resources residing on computers and the internet where library catalogues can be accessed online. E-mail services can be sent and retrieved; bibliographic and full-text databases can be accessed. Sending files attachments through mail server is the most consistent way of sending abstracts for conferences and workshops via internet connectivity. Any library in this modern age that does not acquire internet connectivity stands a chance of being isolated from the information system.

Statement of the problem

The role of the university library in any institution of higher learning in the area of acquisition, organization, dissemination, information storage, access and retrieval cannot be overemphasized. The present-day university library services are focusing more on deployment of ICT as a result of the changing pattern of information seeking behaviour of information users. Studies have shown that the university libraries in South-South Nigeria have been totally dependent on manual method of performing their routine functions with its attendant inadequacies which surface include low patronage of ICT services, lack of interest in utilizing ICT on collection management practices, shortage of skilled ICT manpower and good remunerations to retain the few skilled ones, capital investment on information and communication technology equipment, high cost of library software and database connectivity, maintenance and constant epileptic power supply amongst others.

The Nigerian government has made tremendous efforts to ensure that ICTs are available and used in Nigerian universities. For instance, the National Universities Commission (NUC) has done a lot in terms of subsidizing subscriptions to databases to universities, organized series of workshops for capacity building on ICT since 2002 to support the implementation and development of virtual libraries and University of Calabar is one of the beneficiaries of the project, representing South-South university libraries. Interconnectivity in various institutions has helped in connection of vital information within and outside the universities.
In spite of these developments, there appears to be problem of poor collection management practices among librarians in various institutions in south-south zone. It would seem these lapses are likely to limit librarians in gaining access to and using information resources thereby limiting job effectiveness, efficiency and performance. Whether the utilization of ICT in library operations could remedy the manual system and bring about effectiveness, efficiency and performance in library operations is the concern for this study. This is more so in the absence of any specific research evidence in this specific area. The present study put in question is: what is the level of utilization of ICT for collection management practices in university libraries in South-South, Nigeria?

Statement of hypotheses
In determining the utilization of information and communication technology (ICT) on collection management practices, two hypotheses were tested:

1. There is no significant influence of use of e-mail services on collection management practices;
2. There is no significant influence of use of internet services on collection management practices.

Literature review
University libraries are equipped with the necessary information on how selection of information materials can be done. Librarians go as far as visiting bookshops, exhibitions and publishers to locate the information resources to be ordered. E-mail is a major service that is very useful in modern day library practices. E-mail is sent to the various subject specialists that are involved in selection. Through e-mail, subject librarians can provide answers to users’ enquires without him/her travelling to find the materials. Sending and receiving e-mail is a very quick and fast means of communication. Librarians can send e-mails and also attach documents to e-mail before sending, while attempting to perform library operations. With use of e-mail services distance is no longer a barrier and therefore, librarians can send messages to colleagues they are collaborating with on related issues.

Sending file attachments using e-mail channels helps in fast tracking abstracts submission for conferences and workshops, as well as transmitting copies of current papers for submission. Daniel (2011), conducted a study on information and communication technology and collection management in public Universities and found that most users have low access to e-mail services 4(2.7%), internet services 47(31.9), and online public access catalogue services 21(14.1%), and recommended improved ICT applications in library services in the public universities.

Onohwakpor (2012) investigated the frequency of the use of e-mail services and discovered low frequency of use by librarians. The non-usage of e-mail services ranked 15% respondents. This is not encouraging among the Librarians. The frequent usage of e-mail services leads to increase in competency in one’s professional skills.

Ntu and Inyang (2015) examined utilization of ICT and job effectiveness among library staff in the University of Calabar and Cross River State University of Technology, Nigeria. The result of the study revealed that library staff’s use of e-mail had a significant relationship with library staff job effectiveness. She concluded that library staff use of e-mail significantly related to library staff job effectiveness.

Adekunmisi, Ajala and Iyaro’s (2013) respondents were asked to indicate the facilities that were available for their accessibility. Their responses indicated that 50 percent made good use of e-mails. The study further showed that 120 out of the 200 respondents indicated that they used the internet to send e-mails probably to friends, parents, their loved ones, lecturers and colleagues; 89 of them used it for academic purposes; 84 used it in getting information or knowledge; 45 browsed to get or know current happenings all over the world. The findings indicated that majority of the respondents used the internet to send e-mails to friends, relatives, loved ones, lecturers as well as colleagues.

Eneh and Ezegwu (2013) revealed that computer use is high with 90%, internet connectivity 80, printers 85%, photocopier 90%, e-mail 90% and scanners 60% among the respondents in their survey. The librarians are able to use the services to enhance their job performance.
Odu, Uchendu and Inyokwe’s (2012) in their findings revealed that the use of internet by academic staff at the University of Calabar is high representing (66.7%) of the respondents. This growth in internet usage can be attributed to the more attractive and time-saving approach to information search and retrieval offered by the internet. The study concluded that academic staff in the University of Calabar perceives the internet as a basic research infrastructure based on its potentials such as speed and global accessibility in information search and retrieval.

Emwanta (2012) investigated the challenges of effective adoption of ICT in academic libraries in South-East, Nigeria. The study revealed 62(77.5%) of internet is highly accessible by the respondents in the surveyed university libraries. The result also reveals that 49(61.3%) of respondents used the internet daily.

Mina, Masoumeh and Iman (2014) conducted a study seeking to provide an overview of the current status of medical LIS professionals’ level of ICT skills. The study revealed that chief librarians working in medical, dental and pharmacy colleges were more skillful in communications communication technologies including the internet and web (internet surfing, search engines, emails etc). This may be due to the fact that LIS professionals usually use internet and web to perform and support some of the library operations including cataloguing, lending, selection and acquisition and processing of e-resources. The study revealed further that medical librarians’ ICT skills seemed to be in a low/moderate level in developing countries.

Methods
The study adopted the descriptive survey design. Professionals and paraprofessionals from three federal universities - University of Calabar, University of Uyo and University of Port-Harcourt and three state universities - Niger-Delta University, Ambrose-AlliUniversity and Delta State University, were used as respondents in the study as shown in Table 1. Split-half reliability technique was adopted to test the internal consistency. The study population (SP) from the six university libraries was 215 librarians, while proportional sampling was used to select 137 of them (64%)

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Findings
The main dependent variable of the study was collection management practices. The mean and standard deviation of the major variables of the study was calculated and presented in this section. Each hypothesis was stated in null form. The result of data analysis tested is presented. Each hypothesis was tested at .05 level of significance.

Testing of hypotheses
Hypothesis 1: There is no significant influence on use of e-mail services on collection management practices in university libraries in South-South, Nigeria

This hypothesis is tested with the data in Table 2.

Table 2 shows the summary of one-way ANOVA on the influence of use of e-mail services on collection management practices in South-South, Nigeria.

Table 2 shows the summary of one-way ANOVA on the influence of use of e-mail services on collection management practices. Between and within group sum of squares are 118.29 and 1634.23; at 3 and 127 degrees of freedom, the mean squares between and within are 39.43 and 12.87, with a calculated value of 3.064 found greater than critical F-value at 2.65. Therefore, the null hypothesis of there is no significant influence of use of e-mail services on collection management practices was rejected (F=3.064; P=.031). It is obvious that there is a significant influence of use of e-mail services on collection management practices.

It is evident from Table 3 with the descriptive statistics that the total of 62 librarians utilized Yahoo Mail with a mean and standard deviation of 15.85 and 3.10.
Gmail constituted 16 respondents with mean of 15.50 and standard deviation of 3.61. Hotmail had 30 respondents with mean and standard deviation of 13.80 and 3.85 respectively. While those that were in the category of others are 23 with a mean of 16.52 and SD of 4.18.

**Hypothesis two:** Use of Internet services does not significantly influence collection management practices.

It can also be seen from the One-Way ANOVA summary of the influence of use of internet services on collection management practices that between and within group sum of squares are 110.78 and 1972.46; at 2 and 128, with $F$ calculated value of 3.594 was greater than the critical $F$-value of .030. Therefore, null hypothesis of there is no significant influence of use of internet services on collection management practices is rejected ($F=3.594; \ P=.030$). This implies that, there is a significant influence of use of internet services on collection management practices.

Table 5 shows that a total of 78 librarians utilized World Wide Web with mean and standard deviation of 15.50 and standard deviation of 3.01; Yahoo constituted 26 respondents with mean of 15.17 and standard deviation of 3.91. Yahoo constituted 26 respondents with mean of 15.50 and standard deviation of 3.01; Google attracted 27 respondents with mean and standard deviation of 13.22 and 4.67 respectively.

### Table 1: Population and sample of the study

<table>
<thead>
<tr>
<th>S/N</th>
<th>Universities</th>
<th>Population of librarians in South-South</th>
<th>Total</th>
<th>Sample of librarians in universities in South-South</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Professionals</td>
<td></td>
<td>Professionals</td>
</tr>
<tr>
<td>1</td>
<td>University of Calabar</td>
<td>34</td>
<td>20</td>
<td>54</td>
</tr>
<tr>
<td>2</td>
<td>University of Uyo</td>
<td>30</td>
<td>12</td>
<td>42</td>
</tr>
<tr>
<td>3</td>
<td>University of Port Harcourt</td>
<td>32</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td>4</td>
<td>Niger Delta University</td>
<td>10</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>5</td>
<td>Ambrose Alli University</td>
<td>16</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>6</td>
<td>Delta State University</td>
<td>15</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>137</strong></td>
<td><strong>78</strong></td>
<td><strong>215</strong></td>
</tr>
</tbody>
</table>

**Source:** Office of the university librarians

### Table 2: One-way ANOVA with the influence of use of e-mail services on collection management practices

| Sources of variance | Sum of squares | Df  | Mean square | F-value | Sig.  
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>118.29</td>
<td>3</td>
<td>39.43</td>
<td>3.064*</td>
<td>.031</td>
</tr>
<tr>
<td>With Groups</td>
<td>1634.23</td>
<td>127</td>
<td>12.87</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1752.52</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P<.05 df=3,127 F-critical =2.65
Table 3: Use of e-mail services

<table>
<thead>
<tr>
<th>E-mail services</th>
<th>N</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yahoo Mail</td>
<td>62</td>
<td>15.85</td>
<td>3.10</td>
</tr>
<tr>
<td>Gmail</td>
<td>16</td>
<td>15.50</td>
<td>3.61</td>
</tr>
<tr>
<td>Hotmail</td>
<td>30</td>
<td>13.80</td>
<td>3.85</td>
</tr>
<tr>
<td>Others</td>
<td>23</td>
<td>16.52</td>
<td>4.18</td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
<td>15.42</td>
<td>3.69</td>
</tr>
</tbody>
</table>

Table 4: One-way ANOVA with influence of use of internet services on collection management practices

<table>
<thead>
<tr>
<th>Sources of variance</th>
<th>Sum of squares</th>
<th>Df</th>
<th>Mean square</th>
<th>F-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>110.78</td>
<td>2</td>
<td>55.39</td>
<td>3.594*</td>
<td>.030</td>
</tr>
<tr>
<td>With Groups</td>
<td>1972.46</td>
<td>128</td>
<td>15.41</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2083.24</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P<.05 df=2,728 F-critical =3.00

Table 5: Internet services

<table>
<thead>
<tr>
<th>Internet services</th>
<th>N</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Wide Web</td>
<td>78</td>
<td>15.17</td>
<td>3.91</td>
</tr>
<tr>
<td>Yahoo</td>
<td>26</td>
<td>15.96</td>
<td>3.01</td>
</tr>
<tr>
<td>Google</td>
<td>27</td>
<td>13.22</td>
<td>4.67</td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
<td>14.78</td>
<td>3.64</td>
</tr>
</tbody>
</table>

Discussion

The result of the finding shows that there is a significant influence of use of e-mail services on collection management practices. This is because the way librarians organize their job operations for academic performance could be considered very crucial to their overall performance. They need to perform their duties with the available information tools at their disposal. Consequently, it is expected that librarians need to develop passion for exploring e-mail services for better service delivery and integrating it into their job operations. The finding of the present study agrees with that of Ntui (2015) who found that library staff use e-mail in library staff job effectiveness. The result reveals that reading use of e-mail significantly relate to library staff job effectiveness. The present finding is in harmony with that of Adekunmisi, Ajala and Iyaroo’s (2013) which explored the facilities were available for the respondents’ accessibility. Their responses indicated that 50 percent made good use of e-mails; that 120 out of the 200 respondents indicated that they used the internet to send e-mails probably to friends, parents, their loved ones, lecturers and colleagues; 89 of them used it for academic purposes; 84 used it to get information or knowledge; 45 browsed to get or know current happenings all over the world. The findings showed from the data that the majority of the respondents browsed purposely for sending electronic mails or messages to friends, relatives, loved ones, lecturers as well as colleagues.
The result of the finding also shows that there is a significant influence of use of internet services on collection management practices. Internet services have facilitated the practices of collection management practices. The finding is in agreement with Odu, Uchendu and Inyokwe (2012) findings revealed that the use of internet by academic staff at the University of Calabar is high, as majorities (66.7%) of the respondents use the internet regularly. The study concluded that academics in the University of Calabar perceive the internet as a source of accurate, current and well edited information.

Conclusion

Based on the results of the study, it can be concluded that librarians do not adequately utilize ICT on collection management practices in university libraries in South-South Nigeria; facilities are inadequate, no proper advocacy on the need for librarians’ utilization of ICT on collection management practices, high cost of database connectivity and maintenance, inappropriate staff/lack of competent qualified ICT technologist and epileptic power supply. University libraries in South-South Nigeria need to improve on their ICT facilities for optimum capacity operation to enable them boast its information dissemination and resource sharing amongst its information users.

Based on the result of the study, it is recommended that:

1. Librarians should ensure that they use e-mail facilities to perform their routine job practices effectively and with ease.
2. Internet services should be adequately provided to librarians in university libraries in South-South, Nigeria for effective service delivery.
3. Librarians should undergo train the trainers’ course to build their capacity on modern ICT tools in collection management practices and to attend workshops, seminars, conferences and symposiums to improve their skills and also project their library products and services.

References


