Full Length Research

ELECTRONIC/DIGITAL INFORMATION RESOURCES FOR SUSTAINABLE RESEARCH AND TRAINING

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This study is a survey of the gradual migration by the Library, Michael Okpara University of Agriculture, Umudike, Abia State from print to digital/electronic resources and the contribution of this technology to the quest of the university to contribute to the growth and development of improved sustainable agricultural and environmental research development. It is aimed at a better understanding of this emerging trend in libraries especially in academic libraries. It examined the usage this new technology and how it has been embraced by agricultural researchers, lecturers and students of the university. A stratified cluster sample of 1,500 users was used in the study. Simple statistical analysis and documentary evidence was used in presenting and analyzing the data collected for the study. The study found out that users preferred using the digital/electronic library when compared to the print-based library resources. The study concludes that there is need for improved access to on-line agricultural information resources for enhanced agricultural research and learning.

Keywords: ICT, Agricultural databases, Electronic resources, Researchers, Libraries, Print-based, Information resources

INTRODUCTION

Information and communication technology (ICT) has no doubt transformed the way library services are delivered to users globally. Many libraries have also come to realize the need to join this trend in other to effectively contribute to academic and research activities in their university system. Several efforts were made in the past to integrate on-line information services into research and learning. The application of this new technology in

support of research can be divided into five major areas one of which is sustainable agriculture and environment, Richardson (2006). ICT has transformed the production, collection, processing, storage, dissemination and access as well as the validation of scientific and technical information. It presents immense possibilities, importance and challenges to not only librarians and other information workers but also to researchers, lecturers and students. ICT has, therefore, exposed the academia to globalization and transformed research and learning activities worldwide. Because of the challenges posed by access to research and development information, embracing ICT as a ready tool for accessing a wide range of information has become imperative for the academic community especially in Nigeria. ICT allows users access to find the smallest available, relevant, concise, reliable, current and validated piece of information (Sagna, O et al., 2005).

Volumes of information in various areas of human endeavour is produced daily worldwide. To access this huge volume of information requires that every library and documentation centre must be involved to ensure that every available piece of information is made delivered to the prospective user irrespective of where the user may be located. It is in an effort to make the best use of available resources that many libraries have engaged in different ICT programmes both individually and as consortia.

Most African libraries lack the needed resources to subscribe to current periodicals and this situation does not seem to have improved lately, (Kumar 1984) and (Ephraim, 1991). In the same vein, Sagna, O et al. (2005) also noted that libraries in Africa are still faced with the challenges of on-line services (databases, website) as well as of-site (CD-ROM). The challenges of ICT to academic libraries were also reported by Okore (2005) in her study on ICT challenges for academic libraries.

At Michael Okpara University of Agriculture, Umudike, Abia State, the library specifically decided to focus on the management of agricultural electronic resources and integrating same into its existing library collection to improve access to agricultural information. It is hoped that this will break the barrier of inaccessibility occasioned by journal subscription cost which affects information users. To achieve this, the library engaged the services of the staff of the ICT Resource Centre, Michael Okpara University of Agriculture, Umudike, to help plan and build a digital/electronic library collection to complement the existing print-based collection. They were also to make recommendations for integrating both the print and non- print information resources into the existing library system.

The library staff concentrated initial effort on periodical and journals, learnt new responsibilities like activating e-journals, maintaining accurate holdings information on the On-line Public Access Catalogs (OPAC) and e-journals databases also known as database resource utilization. Staff also spent significant time in setting up the electronic library network, managing e-journals and on-line information databases. The advantage of these new technologies has enabled the library to evolve a hybrid library collection in the university system.

LITERATURE REVIEW

Libraries rarely have all the human, material and financial resources needed for effective and efficient service in today's world. Libraries in Africa do not have the required resources to keep their journal subscriptions up-to-date and this problem has negative impact on research and learning Ephraim (1991) and Kumar (1984). In view of the prevailing economic circumstances worldwide, it has become necessary for available resources to be judiciously deployed to execute tasks that will assist the library and indeed the university to achieve its desired goals and objectives. Access to electronic information resources allows users global access to unprecedented number of primary and secondary sources for research activities. This paradigm shift to access and documentation to large volumes of information is contained in previous studies (Ikpaahindi, 2006).

Many options, however, are open to libraries, information managers and professionals of today. The purchase of CD-ROM databases at a point in time was seen as a viable alternative to many libraries especially those that do not have access to the internet or reliable network connectivity. Problems of weak information system or infrastructural development in development countries (including Nigeria) has earlier on been raised by Sheik and Bray (2011) in their study on health information systems sustainability. The use of CD-ROM and its numerous advantages and challenges has earlier been explored by Ojo-Igbinosa (1993) in one of his papers. Such databases are usually hosted in libraries as well as distributed to some remote workstations even on a campus-wide basis (Dubbeld, 1995). Nevertheless, libraries are faced with enormous challenges which adversely affect the way information service is rendered. Out-sourcing of digital library projects is another option to which many libraries have resorted to as a way of finding solutions to their peculiar circumstances and conditions (Grossman, 2005). The emphasis in many libraries today has shifted from the acquisition of massive printed collection to access to remote collections wherever they may be found. A properly planned and well co-ordinated

digital/electronic library will, therefore, guarantee users wider access to a variety of information resources once all the necessary infrastructural and man power needs are put in place. This wind of change is being embraced by librarians even as researchers in many fields have come to realize the potentials in these new approaches to research and learning activities (Bauer, 2004). The wide spread use of ICT by researchers, lecturers and students no doubt is part of the reported continued increase in the use the Internet by Abels (2005). This is as a result of the unprecedented quantum of scholarly publications or works available on the Internet.

Information and Communication Technology Unit of the library houses The Essential Electronic Agricultural Library (TEEAL).TEEAL CD-ROM search service at the Library, Michael Okpara University of Agriculture, Umudike, Abia State started with a single computer system in 1999. As at today, the library has well over twenty-seven computers interconnected to a server. TEEAL is a full-text database of over two hundred international peer-reviewed journals from 1993 to 2011 from more than sixty publishers of scientific literature selected by international scientists to ensure quality and relevance which are critical to research and training in developing countries. TEEAL CD-ROM enables users to browse journals by issue, subject, author, title or any other access points. Users can view print, save or e-mail same to other researchers and colleagues within the system. Continuous journal coverage for this database started in the 1990s and it is updated annually with the previous contents delivered to subscribing institutions on DVD or in any other storage media.

The 2011 edition of TEEAL is now available to researchers in the university library. This is a network version of the product which is an improvement on earlier editions. The current version is networked to a dedicated server running on a local network. It, therefore, means that more people can use the database simultaneously. Other databases available in the library include Health Internetwork Access to Research Initiative (HINARI), launched in 2002, Access to Gobal On-line Research in Agriculture (AGORA), launched in 2003 and On-line Access to Research in Environment (OARE) which was launched in 2006. AGORA provides a collection of over 13,000 journals to institutions in over 107 countries. It is designed to enhance scholarship and research in agriculture and life sciences. OARE is a global consortium of over 340 scholarly scientific publishers and societies offering one of the world's largest collections on environmental research literature on-line. It has access to about 1.6 million scientific papers representing about 75% of the world's most influential peer-reviewed publications.

EBSCO Host, a database that is useful for researchers in the field of science education, is made available through the Virtual Library Project, National Universities Commission (NUC) in addition to eighteen new free on-line databases. The university also subscribes to CTA publications on-line. Since January, 2012, the university library has been receiving four hundred credit points to all publications along with other fully subscribed organizations and libraries. All these are part of efforts geared towards positively affecting the research lives of the staff, students and other user population. It can also be argued that internet access has improved dramatically on the campus in recent times and this was made possible through the support of the university's ICT centre support services. Meanwhile, the total print-based journal holding of Michael Okpara University of Agriculture, Umudike, Abia State stood at three hundred and ninety-three as at April, 2014. When this is compared along-side the over one million, six hundred and thirteen thousand, two hundred scientific papers jointly hosted by all the available digital/ electronic data bases in the library today.

Statement of the problem

The growing emphasis on the acquisition of digital /electronic information resources by many academic libraries has led to a near neglect of print-based information resources in recent times. This study seek to find out if there is preference in the use of information resources with particular reference to journal holdings in printed forms and their counterparts in digital or electronic forms. More importantly too, the study will address the non availability of research document on the digitization programme at Michael Okpara University of Agriculture, Umudike.

Objective of the study

The broad objective of the study is to ascertain whether information users have any preference for print-based or digital/electronic information resources. Again, this study is aimed at documenting the effort of the university in keying in on this new trend in information dissemination.

Research question

What are the reasons for using journal agricultural information resources?

Study design

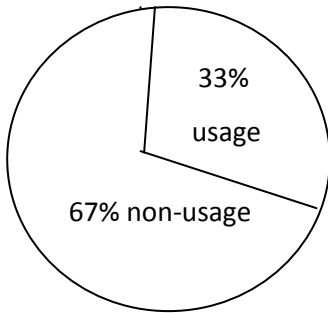Library attendants were asked to tick/write down any

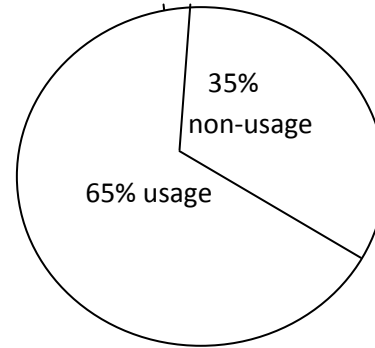Figure 1. Showing the use of printed information

Figure2. Showing the use of digital/electronic resources information resources

journal information resources whether print-based or digital/electronic used or consulted by every library user from 2008/2009 -2012/2013 academic sessions. Thereafter, the rate of use or non use of the different information resources was determined. Questionnaire was randomly distributed to the respondents as they came to make use of the journal collections both print and digital/electronic versions. Since the data required for this study was discrete and nominal in nature, Table, percentages, frequency count and documentary evidence were used to determine users' preferences for the information resources.

METHODOLOGY

This is a survey of the use of digital/electronic journal information resources into the services of the Library, Michael Okpara University of Agriculture, Umudike, Abia State. Stratified cluster sample technique was employed to gather data used in the study. Open-ended questionnaire was used to collect data from the respondents which included students, lecturers and researchers who consulted the library journal information resources whether print-based or digital/electronic from 2008/2009 to 2012/2013 academic sessions. A total of one thousand, five hundred (1,500) respondents were given questionnaires to complete. This number was chosen because the population was considered adequate for this study and was within the reach of the researchers. Out of this number, one thousand, three hundred and twenty (1,320) representing 88% return-rate was filled and returned and was considered useful for this study while one hundred and eighty or 12% of the respondents did not return their questionnaire.

Population of the study

The population of the study was the 1,500 students, lecturers and researchers who consulted/used the journal digital/electronic or print-based information resources of the Library, Michael Okpara University of Agriculture, Umudike, Abia State from 2008/2009 to 2012/2013 academic sessions. Figures 1&2

DISCUSSION OF FINDINGS

The non return of 180 questionnaires may have resulted from misplacement, lack of time to fill the questionnaire or lack of interest or respondents not understanding the need for the study. A user survey of unbound volumes of journals of the university library and the digital/electronic collections revealed a dramatic change in the pattern of usage of agricultural information resources. A large number of the print-based information resources were not used or consulted at all over the period under review while more digital/electronic information resources were used. This is a clear indication that users prefer digital/electronic information resources when compared to their print-based counterparts.

It was also noted that library patrons from Table 1 use agricultural information resources for a variety of reasons but majorly to supplement/complement instructional materials. Other uses or reasons for seeking agricultural information resources whether print-based or digital/electronic were indicated. That information resources are mainly used to complement or supplement instructional materials is understandable since the main reason of establishing the university library is to support research and learning by lecturers, researchers and students.

Table 1. Reasons for using agricultural information resources

		Frequency	Percentage
I	To supplement/complement instructional materials	316	24
Ii	For professional knowledge	198	15
Iii	To write/ publish papers	198	15
Iv	As a guide to research work	158	12
V	To understand a project topic	135	10
Vi	To corroborate laboratory findings	55	4
Vii	For personal knowledge	140	11
viii	To attend conferences/seminars	120	9
		1320	100

However, users' preference for digital/electronic resources could be that digital/electronic information resources are easier to use or that they are more current or that it gives users access to wider literature search. It is also possible that users consider digital/ electronic information resources more useful than their printed counterparts. The level of usage of print-based journal information resources is not encouraging when one remembers the high subscription cost of printed journals. Nevertheless, it is true that digital/electronic information resources offer users opportunity for wider search, accuracy, relevance and ease of navigation, electronic/digital devices do not last long when compared to the paper we all know in terms of their shelf life. Albiet, it is obvious from this study that users showed preference for digital/electronic/on-line agricultural journal information resources when compared to the printed information resources.

CONCLUSION

Change most of the time is not an easy phenomenon to accept, but through careful planning, co-ordination and good communication, the system can be improved upon to assist the library and indeed the university to contribute to sustainable agricultural research and development. Sacrifices must be made by everyone involved in this transition for more efficient information service delivery. New roles will no doubt emerge and staff must be willing to adapt to these changes. It is obvious that the relatively static manual operations which hitherto characterized traditional academic library services can no longer address the increasing user demand which present day academic activities demand. It is important to add here that the instructional needs of users amongst others must

form a major consideration in journal information resources acquisition whether print-based or digital/electronic. By so doing, the library will be contributing to the research and learning needs of the users.

The transition from manual or print-based agricultural journal information resources to digital/electronic agricultural journal information resources will enhance better information services resulting from easy access, quality of information, relevance, quick dissemination of information, resource sharing and skilled workforce. These are some of the advantages derivable from digital/electronic journal information resources availability in the library. With these developments, the university has now joined others in the global educational and agricultural research development of the 21st century. This is more so with the continued increase in the number of faculty members, students and other researchers who depend on the university library for agricultural information resources especially to supplement/complement instructional materials amongst other needs.

RECOMMENDATIONS

It is necessary to advocate here for more studies to be conducted on the other user segments of agricultural information resources to understand their preferences for different information resources in the digital/electronic data bases as well as in the print-based information resources.

Effort must be intensified to ensure that the instructional needs of the users are adequately provided for to enhance and improve research and training in the university and in the country generally.

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