Utilization of Automated Electronic Information Services: A Case Study at the University of Agriculture Library, Abeokuta, Nigeria

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ABSTRACT: This study examined the extent to which the use of automated electronic information services by patrons has influenced the services at a university library. Eight hundred copies of a two-part questionnaire were administered to the users at the University of Agriculture Library, Abeokuta. Six hundred and fifty responses were returned and found usable. The results revealed that non-final-year students prefer to use OPAC whereas the final-year, postgraduate students, and academic staff regularly use CD-ROM databases such as TEEAL, MEDLINE, CAB Abstracts, INFORTRAC, and Agricola. The majority of the users were satisfied with these automated electronic information services. The major constraints identified by the respondents were lack of basic infrastructures, limited number of computer terminals available for use, and incessant power outages.

I. Introduction

The global development of information technology (IT) and its applications in libraries have generated changes in the pattern of information collection, processing, storage, and dissemination. Progressive developments in IT have affected the way of library users in utilizing information. Librarians are involved in organizing knowledge and providing services to users. The adoption of new information technology has enabled librarians to perform traditional library responsibilities, such as acquisition, cataloguing, and access to online catalogues, more effectively, thereby enhancing their job performance. It has also reduced the amount of time and energy spent by users on seeking information.

In Nigeria, major developments in the use of information technology have been notable in academic and research libraries. The massive impact of technology on libraries will forcefully change the way users seek and search for information (Hisle, 1996). Hisle further stated that:

as advances in technology development occurs, it will be essential for libraries (and support staff) to integrate those advances into their system of service and to be able to apply those advances to imploring user interactions. Technical skills will be important as well, but more essential will be a willingness to openly accept technical changes as valuable to user satisfaction.

The advent of the computer as a product of information technology has made it easy to automate library operations, thereby facilitating students and staff in Nigerian universities in searching information and carrying out research in their respective fields. The application of information technology has made the library a new information services unit, providing electronic acquisition, electronic cataloguing, electronic Online Public Access Catalogue (OPAC), and serials control, electronic interlibrary loan, and electronic circulation functions (Raseroka, 1999).

This study examines the extent to which the utilization of automated electronic information services has affected library users in order to assess the value of automation in increasing user satisfaction.

II. Background Information

The University of Agriculture Library, Abeokuta was founded in January 1988, with the primary function of rendering library services to the academic community through the provision of information for research and teaching to its staff and students. The Nimbe Adedipe Library, named after the founding Vice-Chancellor and University Professor N. O. Adedipe, came into existence the same year the University was founded. At inception, it inherited the collections of its predecessors, the defunct Federal University of Technology, Abeokuta (FUTAB) and the College of Science and Technology of the University of Lagos, Abeokuta (COSTAB), with a total volume of 16,000 books and 120 local and foreign journal titles. Currently, the Library has over 50,000 volumes of books and bound journals and about 125 subscriptions to local and international journals in print and electronic formats. The Library is housed in a modern two-storey building, designed to accommodate 600 readers and hold 200,000 volumes of books and bound journals. The Library is divided into four units: Acquisitions, Cataloguing, Serials, and Readers' Services (University of Agriculture Prospectus, 2007).

III. Study Objectives

The objectives of this study are to:

1. Identify the category of users
2. Identify the nature of use of information technology at the University of Agriculture, Abeokuta
3. Identify levels of use of the various automated services provided

4. Determine the usefulness and ease of retrieval of information in electronic format
5. Identify the problems associated with the automated electronic information services

IV. Literature Review

Information technology (IT) has enabled libraries that do not have Internet access to search international databases on CD-ROMs. Lack of information infrastructure, such as inadequate telecommunication facilities for data transmission and expenses associated with online searching, has hampered the use of online information services in developing countries (Eres 1981; Subramarayam, 1983).

The introduction of encyclopedias and other multimedia presentations on CD-ROMs has been a big success in many libraries and will certainly be even more important in the future. The Essential Electronic Agriculture Library (TEEAL) is designed as a stand-alone compact disc system, which uses a standard micro-computer, compact disc readers, and laser jet printer, together with its own user-friendly software. Library users are satisfied with TEEAL because they can review information fast. It is one of the current easy-to-use research tools. According to Elisio (1995), TEEAL has a profound effect on the agricultural research system. It provides access to the world's most important scientific literature, which would otherwise be unaffordable even to key research in agriculture.

In contrast, CAB Abstracts and most other CD-ROM databases use the silver platter software. CAB Abstracts covers 12,000 journal titles in over 50 languages along with monographs, dissertations, conferences proceedings, technical reports, and patents. The CAB thesaurus is used for indexing the database.

There are notable developments on CD-ROM utilization. Botto (1993) stated that mass storage devices have been established as an important resource to make available electronic data of any kind. According to Bury (1996), CD-ROM databases can be used to replace hard-copy reference materials, thus saving space without reducing the collection.

On the other hand, making use of CD-ROM may be good or satisfying, but certain factors tend to inhibit its use. Gooch (1995) reported that even though many libraries and information units in Africa adopted the CD-ROM technology pretty well, the sustainability of CD-ROM databases appears to be threatened by low usage statistics, lack of confidence from library and information staff, unfamiliarity of users with the system, and lack of awareness by managers about its potential as a valuable resource to support research.

V. Research Methodology

A survey was adopted in this study. A total number of 800 questionnaires were administered by the researcher to library users at the University of Agriculture, Abeokuta between August-November, 2008. The fieldwork covered a period of 10 weeks. The questionnaire covers topics such as user categories, user preference, user satisfaction, and constraints associated with the services.

VI. Data Analysis

Altogether, 650 (81.25%) of questionnaires were returned and considered useable. Out of the 650 respondents, the males are 300 (46.15%) while females are 350 (53.85%). Table 1 shows that there are more female than male users.

Table 1: Classification of users by sex

Sex of users	Frequency	Percentage
Male	300	46.15
Female	350	53.85
Total	**650**	**100**

Table 2 shows that the undergraduate students top the list of users with 420 respondents (64.61%). This data is in tune with Agboola's finding (2001) that undergraduate students use the library more than any other groups because of their sheer number and the university's requirement that all final year undergraduate students should undertake and report on an approved project during their final year as part of the conditions for the award of their degree.

Table 2: Categories of users of electronic services

Categories of users	Frequency	Percentage
Undergraduates	420	64.61
Teaching staff	100	15.38
Postgraduates	80	12.30
Administrative staff	50	7.69
Total	**650**	**100**

To determine the various levels of use of the automated electronic information services, the respondents were asked to rank in order the automated electronic information services used. The information collected revealed that the facilities for information technology are numerous and diverse. There are computers, CD-ROM databases, OPAC, and other facilities in the library. In other words, the library had access to major information technology (IT) facilities.

Table 3: Ranked order of electronic information technology use by respondents

Automated Services (Most used first)	Frequency	Percentage
TEEAL	300	46.15
MEDLINE	250	38.46
OPAC	60	9.23
CAB Abstract	8	1.23
Agricola	4	0.61
GLAS	28	4.30
Total	**650**	**100**

On the ease and usefulness of the electronic information, the study revealed that 300 (49.23%) respondents reported that they found it, to a greater extent, easy to use (Table 4). This finding revealed that electronic services at the university library is relatively easy to search and do not appear to require previous training in information technology use. This finding was consistent with the findings of Oduwole et al. (2002).

Table 4: Respondents' opinion on convenience of use of automated systems

Opinion	Frequency	Percentage
Very easy	320	49.23
Easy	150	23.07
Fairly easy	100	15.38
Difficult	50	7.69
Very difficult	30	4.61
Total	**650**	**100**

It is instructive to note that majority of the users (300 respondents, ie 46.15%) got to know how to use the system through the medium of users instructions placed beside the On-Line Public Access Catalogue (OPAC) while 150 or (23.07) got theirs through trial and error (see table 5).

Table 5: Methods of familiarization with OPAC

Methods	Frequency	Percentage
User instruction by the OPAC	300	46.15
Through trial and error	150	23.07
Assistance of fellow students	100	15.38
Assistance of library personnel	60	9.23
Library orientation	40	6.15
Previous use in other libraries	Nil	Nil
Others (please specify)	-	-
Total	**650**	**100**

The major problems identified by users of automated electronic information services were categorized. The findings revealed that the number of terminals available for use are not sufficient to cope with high demands as indicated by 429 (66%) of the respondents. This is followed by power outage (44.61%).

Table 6: Problems encountered by users

Problems	Frequency	Percentage
Insufficient computer terminals to work on	429	66
Recurrent power outages	290	44.61
Not finding appropriate subject term(s)	176	27.07
Computer literacy problems	73	11.23
Uncooperative attitude of staff	70	10.76
Others (please specify)	4	0.6
Total		**100**

VII. Conclusion

The acquisition of CD-ROM databases has revolutionized literature and document delivery in the University of Agriculture Library, Abeokuta. A greater percentage of users find electronic information easy to use. The needs for current information and new research methods contributed to their use of automated systems. Most users were also satisfied with their search output. However, insufficient computer terminals and recurrent power outages have affected aversively on their level of satisfaction in their research.

The Essential Electronic Agricultural Library (TEEAL), MEDLINE, OPAC (Online Public Access Catalogue), and TINLIB/GLAS are the most widely consulted electronic service database by library users. The study also revealed that the small number of terminals available for searchers constitutes a major constraint to the use of automated systems by users.

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Submitted to CLIEJ on 29 April 2010.

Okorie, Chituru Nancy.(2010). Utilization of automated electronic information services: A case study at the University of Agriculture library, Abeokuta, Nigeria. *Chinese Librarianship: an International Electronic Journal*, 29. URL: http://www.iclc.us/cliej/cl29okorie.pdf