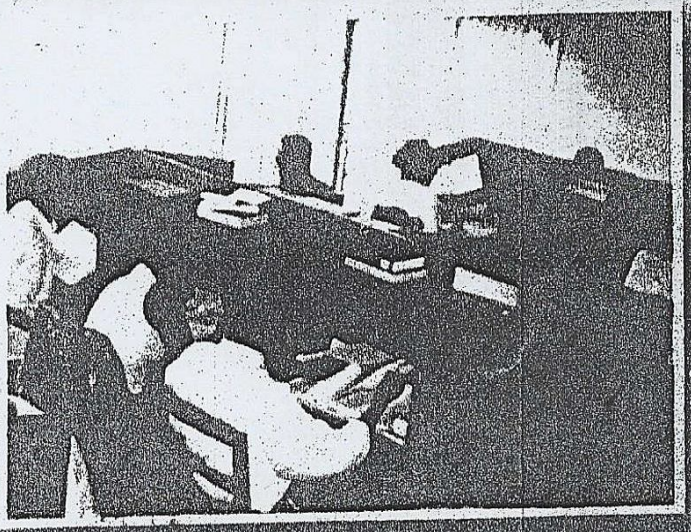
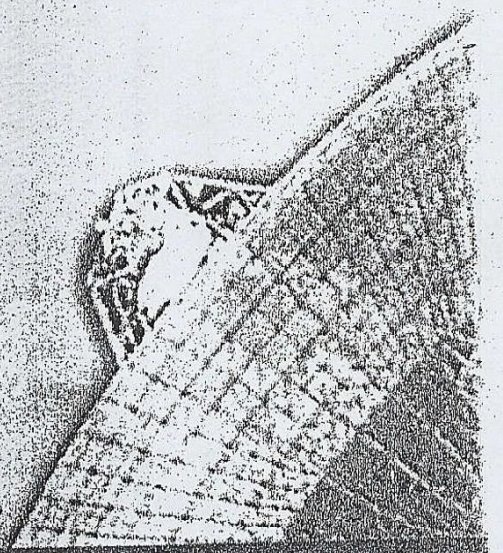
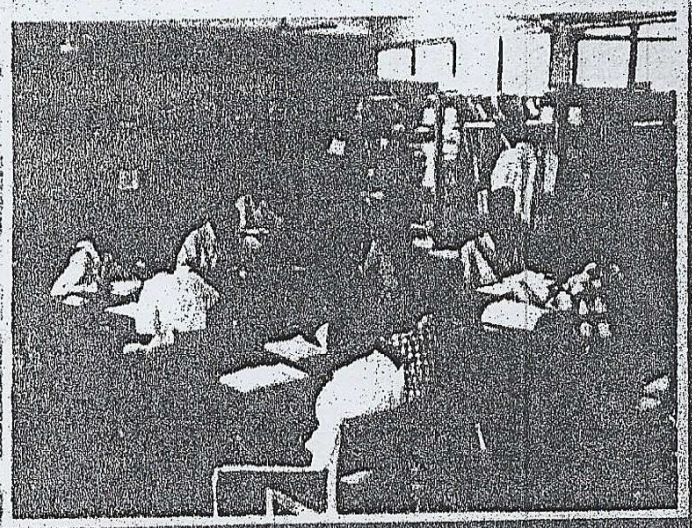
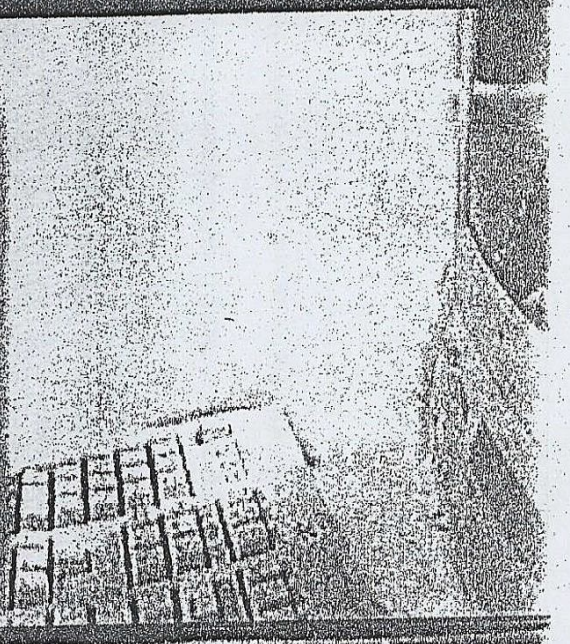




Information Science Technology for Libra Schools in Africa

Evarest C. Madu (Ph.D) & Marie B. Dirisu (M.L.S
Editors





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REFERENCE

1. Olusesi Biodun & Clement Nwawolo (2000) *Doctors online: the pleasure of surfing the Medical Internet* Nig. Otonet Afri Inc. p.1-135.
2. Millekelsen, E.B.[1997] The internet as tool in nutrition *Scandinavian journal of nutrition.* Vol. 14. 130-134.
3. Luk:esh, (2000) E-mail and potentials loss to future Archives and Scholarship or Dog' that didn't bark. dk/issues/issue 4-9/Lukesh March p 109-117
4. Bridge, Anne & Clement R.T. (1997) crossing the threshold *of* Rocket mail. E-mail use by US. HUlilanities faculty. *Journal of Academic Librarianship.march.p.I 09-11*
5. Sofoluwe, AB (2001) Information technology for medical researches *presented at a symposium by biomedical communication.* College of Medicine University *of Lagos.*
6. Howe, Walt (1999) A *brief History of the Internet.*
7. Barom Rose *Message Introduction to Internet.* http:/strom.com.email/chap I.html pI-II
8. Adediyi O.O. (2001) *Information sourcing on the Internet Libraries & Librianship in Nigeria* edited by S.D. Alanlokan
9. Stanley, Solomon, [1998] *"Corresponding Effects: Artless writing in the Age of e-mail. Modern Age* (Surname) pp 319-323
10. Kellerman, F & Mary Zammerelli. [1998] How to search for Medical information. *Presented*
11. *for the Rhode Island conference Round Table* on January 29, 1998.
12. Anne E. bridges and Russell T. Clement, [1997] "crossing the threshold of pocket mail, e-mail uses by U.S. Humanities faculty" *Academic Librarianship* (March) pp 109-117. I
13. Strom, Rose (1999) introduction to Internet message
14. Kennedy, Angus J. [1999] *The Internet: the rough guide.* London: Rough Guides Ltd, 5p
15. Ibib. Opcit.
16. Miccioli, G. *Researching medical literature on the Internet.* 2000, update.

Chapter 6

COMPUTERISED REFERENCE SOURCES AND THE TRADITIONAL PRINTED REFERENCE SOURCES: A COMPARISON OF THE OLD AND THE NEW IN LIBRARY SERVICES

Evarest C. Madu

INTRODUCTION

Reference sources represent those publications or sources which are used to obtain authoritative information (Herrod, 1971). They are mainly the stock in trade of the reference librarian as they provide authoritative answers to reference questions. Reference sources are meant to be consulted for specific items of information, which require authoritative answers. Some of these traditional reference sources include Encyclopaedias, dictionaries, bibliographies, yearbooks, directories, indexes, abstracts, atlases, and gazetteers. In most libraries, there are always reference sections in which books and other sources of information can be used and where questions involving information can be answered.

In general terms, reference library work falls into one or more of the following categories (McColvin, 1952).

(a) The provision of facilities for the use, on the premise of books, either that which the readers know will serve them or those which the staff provide with that object.

(b) The use of large-scale resources and materials for comparative study i.e. for the man who wants to use or consult, or search through more material than either he would want to take home or the librarian would let him.

(c) The answering of questions.

(d) The use of materials inappropriate for home use, and

(e) Facilities for the man who, not at the time perhaps concerned with a specific problem, wishes to keep in touch with current developments in his chosen field. This is a function often

overlooked. It involves the convenient access to current periodicals, displays and lists of new books etc. p2.

These uses suggest both what kind of materials should be provided as the reference library and what should not. Essentially the selection of reference sources is a highly individualised process. No two libraries can boost of having the same collection. The collection of each library, which constitutes the need of users, differs from one another. Basically, the selection of reference sources is informed by the needs of the users. This also includes both known and anticipated demands (Katz, 1974).

From the above therefore, selection is predicated on the following:

(a) Knowing as much as possible about the need for those who use the reference collection and those who do not and why.

(b) Calling upon expert advice. In a school situation the expert may be the teacher who is knowledgeable in a certain area.

(c) Keeping a record of questions. This is done to determine not only what a library has in the way of materials, but what it does not have and

(d) Knowing what other libraries have and what resources are available. Knowledge of what other libraries do not have helps the librarian to determine the needed resources. P. 241.

The study determines the major differences between computerised reference sources and the traditional printed ones. In most libraries, especially in developing countries, reference librarians still rely mainly on the use of the traditional printed sources like encyclopaedia, yearbook, directory, world of learning etc. to answer reference question. The reason for this is largely attributed to the low level of technology in their countries. However, there are instances where people who have the opportunity to use the computerised reference sources like the Compact Disc Read Only Memory (CD - ROM) still prefer the traditional printed sources. In view of the fact that the sources (computerised and traditional) exist side-by-side, what are the basic differences between the two sources especially as it affect the usage in the search for information. This is the central focus of attention of this research as it outlines a case study of the students of the University of Ibadan.

Louis Shores (1954) has stated that any medium is a potential reference source. Not only the whole world of print but also audiovisual materials and the natural and man-made resources of any locality may well provide answers to people's questions. The resourceful reference librarian uses every possible medium to fulfill his mission.

He however, cautions that the reference librarian should also realise that there are in the world, thousands of printed sources created specifically to answer questions. Because they contain such a large proportion of the answers to the questions asked by library patrons, the use of these reference works is worthy of separate consideration.

Shores also believe that the success of any reference department depends upon two factors: possession of the right materials and knowledge of how to get the most out of those materials. It is a truism that certain pre-requisites must be available for any meaningful assessment of user satisfaction to yield meaningful result. One of these is that availability of reference materials in the form of books (print media) and audio visual/digital (non print).

Types of Reference Sources

Today, knowledge is recorded in many physical forms. Basically, there are two major forms of reference sources, the computerised reference sources and the traditional printed ones.

The Traditional Printed Reference Sources

Encyclopaedias

Encyclopaedias are usually compendium of knowledge, the production of which academic giants and authorities are engaged. It is also a work containing information on all subjects, or limited to a special field or subject, arranged in systematic order, usually alphabetical. Encyclopaedias are usually written by experts and sometimes containing bibliographies.

There are various types of encyclopaedias. We have general encyclopaedias e.g. Britannica, Americana, Subject encyclopaedias e.g. Encyclopaedia of library and information science and the Encyclopaedia of the social sciences.

Bibliography

A bibliography has been variously defined as the writing of books, the art of science of the description of books. The term has a wide connotation covering the whole field of the science of book as physical

of their construction or compilation, their description and record in lists

Bibliography can also be defined as a systematic listing of publicised works of art, science and product of the arts, sharing common characteristics arranged in a specific order and containing information such as author, title, publisher, place of publication and date of publication. It also include all studies relating to the physical and intellectual aspect of book materials to the extent that these studies contribute to the understanding of the history of books.

Categories of Bibliography

Bibliography can be divided into three broad categories:

(a) ***Analytical Bibliography:*** This refers to the detailed analysis of the structure of the book and its description. It also determine facts, and data concerning a publication by examining signatures, catchwords, cancels and watermarks, and making a record in an approved form of the result.

(b) ***Historical Bibliography:*** This deals with the history of the various methods of book production, including printing, illustration, binding paper making and publishing.

(c) ***Systematic Bibliography:*** This may be defined as the preparation of a book-list. The enumeration and classification of books. It can also be referred to as the assembling of bibliographical entities into a logical and useful arrangement for study and references.

Abstracts and Indexes

The term abstract means to draw out. It is the process whereby the particular qualities or characteristics of an object are separated from the reminder and considered independently. Abstracting organisations have become important in the field of journal publications because there are too many journals published today and scholars and researchers cannot keep track. They need some special service to show them which journals or journal articles are worth reading. An index is a list, which attempts to analyse a book or books. As a bibliographic tool it is a list of books or periodical articles.

Abstracts and indexes are useful tools of current awareness for library resources. An index does not provide the information one is seeking but it indicates where it can be obtained by regularly listing articles that appear in different journals in a given field. They are

published weekly and are useful selection guides. They circulate quarterly or annually.

The index and abstract are basically the same, except that while both will give full bibliographic citations of an article, an abstract goes further to give a summary of the article. From these summaries one will be able to decide whether to retrieve the journal article in question or abandon it.

Most indexes and abstracts are arranged in broad subject areas or by topics. The articles will then be arranged in an alphabetical list of authors and titles. For each article listed full bibliographic details will be cited, i.e. author title or article, journal in which article has appeared, volume number, date of publication and page numbers. Articles in an index can be traced by topic or author. Examples of abstracts and indexes.

(a) African abstracts since 1929.

(b) Children's literature abstracts since 1962

(c) Historical abstracts 1955 – quarterly

(d) Religious and theological abstracts

(e) MLA (Modern Language Association) Abstracts of articles in scholarly journals, 1970 – annual.

Indexes

(a) Social Sciences and Humanities Index

(b) The Catholic Periodicals and Literature index 1968

(c) Catholic Library Association

(d) The Philosopher's Index

Gazetteer

This is simply defined as a geographical dictionary with a varying amount of descriptive, geographical, historical or statistical information. It is the most comprehensive geographical source of information. It provides information on population of an area, its size, birth and death rates, emigration and immigration. Gazetteer also has information on the statistical and historical development of such areas. It also gives information about the name, and address of place, town, city region, country organisation, individuals etc. also included in [illegible] about latitude and longitude. An example of a

gazetteer is the U.S.A. Army gazetteer, it has geographical information as it affects military departments of the United State government. It also has military information about other countries.

Travel Guide

As the name implies this is a handbook for travellers and visitors, which gives information about a country, region or building. A typical example of travel guide is "KNOW THE STATES OF NIGERIA". This handbook provides information on the different states of Nigeria including geographical, economical and political information. It also provides potential visitors with the tourist attraction of the country, it's population and the prospects that abound including the states travellers could avail themselves of such opportunities.

Year Books

It is a volume, which is also called an annual, containing current information of a variable nature, in brief descriptive or statistical form, which is published once a year. Basically, yearbooks review the events of a previous year. These events include economically, politically and other happenings in a country. It also includes political appointments made. In the 1994 year book, we have such items as merit awards, list of public boards corporations and voluntary agencies, states of Nigeria, structure of government, general information, The Judiciary and National Defence. The Nigeria yearbook is usually published by the Daily Times of Nigeria.

Gazette

Every government or organisation publishes information on major decision taken or statement made. This record of public events in a country or University published periodically is what of referred to as a gazette. It is used mainly to formalise such important government activities as decree on land use, promotions and appointments, retirements from services, resignation etc.

Directory

This is a book-containing list of names of residents, organisations or business houses in a town, a group or town or a country in alphabetical order. In the case of roads it is arranged according to situation or of firms in trade classifications arranged in alphabetic order. It could also be in the order of professional people, manufacturers or business

houses in a particular trade or profession. Basically, the arrangement of Directory is determined by the nature of work being listed.

Almanac

This is a publication, usually an annual, containing a variety of useful facts of a miscellaneous nature, and statistical information. It was originally a projection of the coming year by days, months, holidays etc. Other traditional printed reference sources include: THE WORLD OF LEARNING, WHO IS WHO, etc.

All the traditional printed reference sources mentioned above are used to obtain authoritative information as it affects the subject matters they address.

Computerised Reference Sources

From the very beginning till today, the functions of libraries have not changed significantly. However, the format, quantity and content of the material making up their stocks, and the resultant services which they have been able to offer, have progressively been transformed to the point where the user, for instance University of Ibadan, University of Nigeria, Nsukka and elsewhere, today has the opportunity or access to a network of sophisticated information resources.

These sophisticated information resources take the form of information technology, which is the coming together of computing and telecommunication for the purpose of handling information. This coming together or merger has been made possible by recent developments in microelectronics (Mashall, 1984).

As a result of the above technology, traditional reference sources of information can be digitised. This means the representation of sequence of discrete symbolic values, each value having two or more unambiguously distinguishable states, so that they can, at least in principle, be accessed, manipulated, copied stored and transmitted entirely by mechanical means, with high reliability (Rotherberg, 1999).

Some of these digitised/computerised reference sources or databases include:

(a) AGRICOLA (Agricultural On-line Access)
Supplier: National Agricultural Library
Subject Field: Agriculture. AGRICOLA is available through DIALOG, system development Corporation and Bibliographic Retrieval Services. It is also available on CD-ROM

(b) AGRIS: (Agricultural Information System)
Supplier: Food and Agricultural Organisation FAO
Subject Field: Agriculture

(c) CAB Abstracts
Supplier: Commonwealth Agricultural Bureax
Subject Field: Agriculture

(d) ERIC (Educational Resources Information Centre) – Current index to journals in education and research reports in education
Supplier: National Institute of Education
Subject Field: Education

MEDLAR: (Medicine) – Supplier (British Library)
In order to provide more rapid and efficient bibliographical access to the great volume of medical literature, National Library of Medicine (NLM) adopted the medical literature Analysis and retrieval system (MEDLARS) a high – speed data – processing facility, to perform various functions of literature analysis and retrieval, including the preparation of the monthly index medicines, the annual cumulated index medicus and other similar compilations as well as for servicing request for bibliographies on demand. Today MEDLARS search services are available to individuals and institutions throughout the world.

In October 1971, the library initiated a new service for physicians and other health professionals – an electronic network which links major libraries to the United States. This on-line bibliographic retrieval system MEDLINE (MEDLARS On – line) make possible almost instant searches of more than five million citations for current journal on Biomedical subjects (Gate 1990)

(e) LISA (Library and Information Science Abstract)
Supplier: Library Association
Subject Field: Library and Information Science

(f) MARC (Machine Readable Cataloguing) (Library of Congress)
Subject Field: All subject areas

(g) MARC (Machine – readable cataloguing) (U K)
Supplier: British Library
Subject Field: All subject areas

(h) MEDLAR (Medicine)
Supplier: National Library of Medicine
Subject Field: Medicine

(i) POPIFORM
Supplier: George Washington University, Columbia University and others
Subject field: Population Information and contraceptive technology.

(j) Tropag & Rural
Subject Field: Agric Economic

(k) ABI/ I Form Global
Subject Field: Law

(l) Popline
Subject Field: Population Studies

The Prospect with the use of Computerised Sources

The search for information now is assuming a dimension whereby an information user is increasingly becoming conscious of an individualised approach. In this regard, he wants a personalised access to information without any assistance from the reference librarian. This approach can easily be made available, the use of computerised sources which facilitates "one –stop shopping is an integrated information environment (Ubogu, 2000). The traditional information sources like encyclopaedia, direction, world of learning, will not be able to provide the above opportunity.

The use of computerised reference sources of information offers faster retrieval of a greater range of materials than the traditional sources. The implication of this is that the searcher has the opportunity to search with the use of a more dynamic and varied search tools (Saule, 1990). With this, there is the opportunity for the searcher to go right deep into the bibliographic record to find what he or she needs. The result therefore is that the searcher is saved the problem of linear controlled vocabulary searching in printed indexes and abstracts.

Another advantage which computerised reference sources have over the traditional print is in the area of assisting the searcher to combine terms, and limit which field she chooses to search. This offers him the opportunity to search a range of years at once.

The searches using digital or computerised reference sources are able to print off results once a search has been completed. The output device of which is a component of a computer helps to print off the result of the search. With this computerised reference sources help to give efficient and effective delivery of services and encourages productivity.

Closely related to the above advantage is the fact that researchers using computerised reference sources, work effectively without the use of paper, pencil and biro.

Reference Sources

The vision of creating digital libraries that will be able to preserve our heritage currently rests on technological quicksand. This is yet on visible long – term strategy to ensure that digital information will be readable in future. Not only are digital document vulnerable to loss via media delay and obsolesce, but they become equally inaccessible and unreadable if the software needed to interpret them or the hardware on which that software runs is lost or becomes obsolete – Rothenbergy, Jeff (1999) p.1.

Most of the computerised reference sources of information appear in digital forms. These include the fact – on – file CD – ROM, the LEXIS – NEXI records eit. Digital information or document is a function of the new technology in the handling of information. It derives from the new informational artefact, which includes document, data, and records of all kind in all merits.

> The term "digital" in this context denotes means of representing sequence of discrete symbolic values, each value having two or more unambiguously distinguishable states so that they can at least in principle be accessed, manipulated, copied, stored and transmitted entirely by mechanical means with high reliability – Rottenberg, 1999

When the traditional forms of reference resources like directory, encyclopaedia, atlas, dictionary, year-book, etc., are digitised, the digital storage media have their life time unnecessarily shortened. This is because with time and change in technology, the new media will require new information format, which will be copied into it (Madu, 2000). In most cases, most of these digital storage media require apparatus to make them readable. With change in technology these

hardwares and softwares become obsolete thereby shortening their useful life span.

The generally visible problems with the use of computerised or digitalised reference sources have been outlined by (Rethenberg, 1999). They include:

(a) Most digital documents and artefacts exist only as encoded form, requiring specific software to bring their bit stream to life and make them fully useable.

(b) As these programmes or the hardware /software (microfilm reader/microfilm) environment in which they run become obsolete, the digital documents the digital or computerised document that depend on them become unreadable due to their own encoding.

(c) Apart from the technical aspect, there are administrative, procedural, organisational and policy issues surrounding the management of digital materials.

Another problem, which the use of computerised reference sources present to researcher is the issue of hardware compatibility and support. It would be in the interest of patrons if all the software are compatible. This will make it easy for the researcher to freely use their software with any hardware available. But this is not usually the case as a patron must first of all ensure that his software can be used on a particular hardware before he could use it.

Closely related to this is the problem of maintenance. In most cases this is the problem of the librarian rather than the searcher. In Nigeria and in other countries in the tropic, heat from the sun can be detrimental to these data bases. Some of them melt under intensive heat. This makes them unusable. Many libraries have adopted measures to check this situation by using air conditioners where they are kept. The result of this is the high cost of maintenance.

Power outage has also been identified as a major problem in the use of computerised reference sources. In countries with regular supply of electricity is not guaranteed, the searcher is always at the mercy of the source of power supply. Apart from the power failure disrupting work and research activities, it could also cause damage to the hardware being used.

Most of the patrons to the libraries are not trained in the use of [illegible] equipment. While it is true that some of this equipment is easy to

use, some of them are so complicated that they require skill to be able to operate them. Where the required skill is not available, it becomes a problem for the searcher to use the computerised reference sources.

Users also run into the problem of which computerised reference source or database will answer which question. There is also the problem of which strategy or procedure will be applied to retrieve the needed information. In a situation where these problems are not properly handled, they result or cause frustration. Frustration may also occur if the computerised reference source does not answer the patron's question. Where else does he or she go to find answer, probably in the traditional printed reference sources.

Nearly every automated reference tool differs from any other, Standardisation of format or search language is non existent, and the nature of automated access entails a merciless propensity to no search results, regardless of the brilliance of the search strategy, if there is the slightest spelling or logical error. (Miller and Gratch 1989 p. 397)

Finally, the user needs to know not jut how to type but how to type accurately in order to search an automated information retrieval system successfully. Spelling and typographical errors or close spelling will not work. Also error messages in automated systems generally do not specify the cause of the error, the search may not realize that the reason the system replied, "no entries found to her search request was simple tying error

Prospect with the use of Traditional Printed resource

The argument whether computerised information source will replace traditional printed sources has been on for a long time now. Landcaster, (1985) has argued conclusively that technology has the capability to benefit society or to impair it. He noted that traditional prints have not been replaced with computerised information sources.

Hsu and Mitchell (1987) compared print and electronic data and came up with what he regarded as the superiority of print in the following areas ergonomics, durability, cost, weight, life expectance, electrical power requirements, editorial quality, search capability etc. They concluded that users would rather use traditional printed sources than read them on the screen.

Users may ask why the need for a book on traditional print sources when the world is turning to computers and other gadgets of modern information technology. Several arguments can be put forward for this. In the first place new development take time to reach certain parts of Africa and to be accepted. The infrastructures for using the new

techniques and the gadgets themselves are often unaffordable by African countries. Some of the new gadgets pose some problems in their use. For example, a novice searching a database or the Internet can be overwhelmed by the volume of information that can be made available at the push of a button. Often all the information is not wanted. The searcher has a shift and wheat from the shift, orthodox or printed sources arrangement and indexing in the bibliography.

Humanist scholars and the ordinary library users still prefer the straight forward bibliographic compilations. Many individuals cannot afford computers or learn the skills to use them at the moment. Besides, even at the turn of the century there are still antiquarians who prefer things done the old way. Their needs ought to be met alongside new needs. There are books collectors too, who still have pleasure in authentic copies of books. Finally plagiarism is common place in many African countries where writers and publishers are not absolutely transparent. Traditional sources can reveal the truth of original copies.

REFERENCES

Harrod, Leonard Montagne (1971). The Librarians' glossary of terms used in Librarianship and the book crafts and reference book. London: Andre Deutsch.

McColvin, Lionel R. (1952). Reference Library Stock: an Informal Guide. London: Grafton & Co.

Katz, William A. (1974). Introduction to Reference Work vol. II References Services and Reference Processes. New York: McGraw – Hill Book Company.

Shores, Louis (1962). Basic Reference Sources. Chicago: American Library Association.

Marshall, Garry (1984). Beginners' Guide to Information Technology. London: Butterworth & Co. Publishers (Ltd).

Higgens, Gavin L. (1984). Printed Library Material. 2nd Edition. London: The Library Association.

Miller, William and Bonnie Gratch (1989). Making Connections. Computerised Reference Services and People. *Library Trend* 34. No. 4.

Ubogu, Felix N. (2000). The Paperless Society Force or Reality. *African Journal of Library, Arch. & Information Science*. Vol. 10. No. 1.

Hsu, Richard C. and Mitchell, William, E. (1987). After 400 years, print is still superior. Communications of the ACM, 40 (10).

Lancaster, F.W. (1985). The Paperless Society Revisited. *American Libraries* Vol. 16.

Madu, E.C. and Adeniran T.N. (2000). Information Technology Uses and Preservation of Resources in Libraries and Information Centres. Oyo: Odumatt Press and Publishers.

Rottenberg, Jell (1999). Avoiding technological Quicksand. Finding a viable Technical Foundation for Digital Preservation - Washington D.C. Council on Library and Information Resources.

Saule, Mara R. (1990). "Teaching for Library Technologies" *In Teaching technologies in Libraries*. A practical Guide by MacDonald Linda Brew al' d Boston: G.K Hall & Co.

Hall, J.L. (1977). On-line Information Retrieval Source Book. London: ASLIB.

Gate, Jean Key (1990). Introduction to Librarianship (third edition). London: Neal – Schuman Publishers.