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ICT

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OBJECTIVE AND SCOPE

The Information Technologist: An International Journal of Information Communication Technology (ICT) is a referred Journal by Nigerians and foreign renowned Scholars who have distinguished themselves in the field of Information Communication Technology (ICT)

Essentially the journal concerns itself with the pervasive impact and the changes in the basic character of library and information operations and services occasioned by the use of technology.

The journal deals mainly with the publication of the results of empirical research in the field of Library, Information Science Communication and Information Technology as they affect Developing Countries. The journal is also devoted to articles of high quality on the theoretical aspects of its area of concern. Book reviews, letters to the editor, news items and other brief communications are also welcome.

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The Information Technologist: An International Journal of Information Communication Technology (ICT) is published twice a year (June and December) by the Association of Information Professionals of Nigeria.

EDITORIAL

This is the Christmas edition of our highly esteemed journal, *the Information Technologist: An International Journal of Information and Communication Technology* (ICT). The editorial board members heartily congratulate our distinguished contributors, subscribers and readers etc. and wish them happy Christmas and a prosperous new year.

This issue of the *Information Technologist* contains articles on a variety of topics on information and communication technology and their applications. The journal insistence on high quality articles which is a function of her peer review mechanism, has earned her an acceptance the world over. It is the hope of the members of the editorial board to maintain this standard and ensure that the regularity of the appearance is sustained.

Our lead article by William O. Nkanu investigated the type of ICT facilities used for the provision of Library and Information Services in Nigerian University Libraries.

O. O. Onilude and O. O. Adesanya in their article, analysed, designed and developed a computerized information retrieval system (databases of scientific reports of FIIRO).

The paper by J. I. Adejomoye reported on the automation effort of Igbinedion University Library Okada, highlighting the various challenges that impede the actualization of a full automated library system.

Zainab M. Abdullahi and Ibrahim Haruna investigated the extent of utilization of Information and Communication Technology (ICT) for information service delivery in University Libraries in Adamawa State.

In her article Zaid Yetunde A. discussed the approaches to utilize various online library catalogues to facilitate cataloguing processes for bibliographic benefits.

Patience Uzezi Otolu in her article examined the impact of information and communication in extension services to rural farmers in Niger-Delta.

Philip Usman Akor and Julie N. Udensi examined the need for information technology in Nigerian Polytechnic libraries.

The article by Samuel C. Avemaria Utulu evaluated ICT policy use in ten academic and research libraries in Oyo and Ogun State.

Katamba Abubakar Abubakar Saka and Abdulrasaq Baba Abdulrahman examined the availability and use of computers by library staff in four selected Universities of technology libraries in Northern Nigeria.

The article by Ngozi Blessing Ukachi focused on the threats and challenges of using information communication technologies in reference services of academic libraries.

O. A. Issa and Dr. K.I.N. Nwalo, investigated the influence of age, gender, subject background and predisposing factors on the admission choice of undergraduates in Nigerian library schools.

Fidelis Chete O, Hope O, Udi and Veronica I. Osubar evaluated Delta State Government website by adopting the method used since 2001 in evaluating national government websites.

The article by O. A. Bamigboye, O.K. Buraimo, and F.A. Ajani examined the factors that affect job satisfaction and performance of academic libraries in some selected universities in South West Nigeria.

J. K. Alhassan in his paper looked at distributed database systems and its implementation and suitability to the academic environment of Nigeria tertiary institutions.

In their article, Colette O. Onyebinama, Ifeoma S. Njoku and Nkiru S. Emezie discussed the Origin of Museum in Nigeria and the relationship between Museum and Libraries.

Pedro Imiefoh in his article, explored the nature of trust on-line, identified major principles underpinning the concept of trust, and the on-line mechanisms that promote it.

The article by Nancy Emerole, Jonathan C. Ogugua and Genevive C. Oparah discussed the various concepts of Virtual Library with regard to its importance in raising the quality and availability as well as standards of higher education in Nigeria.

Victor Chuks Nwokedi studied the patterns of Newspaper usage in University of Jos Library.

The last paper which appeared on the editor's column examined the necessity for the use of the literature to support research whether in an educational setting or within industry.

Finally, we sincerely congratulate our contributors once more and wish our numerous subscribers well.

Evarest C. Madu Ph.D (Ibadan)

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THE IMPERATIVE OF LITERATURE SEARCH FOR RESEARCH IN NIGERIA

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Abstract

The paper examined the necessity for the use of the Literature to support research-whether in an educational setting or within industry. Using the literature to support research involves much more than a single search. The thought and preparation beforehand is a vital part of the process while the problem of obtaining, collating, recording, reading and citing the literature can be as daunting as the search itself. The paper while advancing reasons for literature search described how the library can assist in literature search. It finally discussed the various approaches and levels of search especially on the web and also the problems researchers are most likely to encounter.

Key Words: Research, Literature Search, Nigeria.

Introduction

The concept of literature search differs slightly from one author to another. However common features are present no matter from what angle one looks at

it. according to Gash (2000), "It is a systematic and thorough search of all types of published literature in order to identify as many items as possible that are relevant to a particular topic. The items being searched include books, journal articles, reports, papers presented at conferences or seminars, students' projects and theses." It is pertinent to note here that the materials listed above, come in different formats—manual and electronic. However, format here is immaterial as the user is only interested in the content of the item. In this regard, the search include audio-visual materials like microfilms, micro card, microfiche, slides, etc.

The search of literature could be for the purpose of compiling a bibliography or to write a

project or thesis. In the case of bibliography, the purpose or felt need is already indicated. As a result, the choice of a subject for the proposed bibliography would have been determined, Fayose and Madu (2002).

To achieve results in literature search, students are expected to have done a lot of search to enable them to find suitable reading materials that will assist them in the preparation of bibliographies, essays, reports, seminar papers. At this stage of literature search students do not normally go beyond their library catalogue. This is in view of the fact that the literature search is expected at the level of final year project writing. Also at the level of Masters project or Ph.D thesis, students are supposed to have a deep knowledge of relevant literature in their various fields.

Reasons for Literature Search

It is unfortunate that researchers either completely ignore or forget this very crucial aspect of research. If a good literature search is done in preparing a bibliography, report, thesis, etc., the work is seen to

have been done. Theses or research works suffer greatly if literature search is not accorded its rightful place.

Another reason for literature search in research is to accord the work the uniqueness it deserves. Every research is expected to have some elements of originality. This can only be achieved when new literature is discovered in the course of literature search. A research work that relies heavily on previously published work can be invalidated for lack of originality. Supervisors of research projects insist on this to see if a new trend and knowledge can be discovered in the course of the work, which is the essence of research.

Deep knowledge of literature has greatly helped proposal writers in their quest for research grants. To successfully write a good research proposal for grant, it is expected that the proposal writer must demonstrate a good knowledge of relevant literature. It is unfortunate here to mention that quite a good number of senior researchers in industries and the academic world have very little knowledge of how to carry out a systematic and thorough search. Some of them are not even aware of important sources in their areas of interest. With a good idea of systematic literature search, which ensures that the proposed work is not "duplicating other works either done or are in progress," the chances of winning research grants is brighter. Every research has a context within which the research will be carried out. There is therefore the need to point out gaps in existing knowledge to justify and indicate the necessity of the research. According to Gash (2000:3);

The identification of the appropriate reading matter will be one result of the literature search and will form the basis of a review of the literature that ought to be an integral part of any research publication.

Another very important reason for literature search is the fact that it helps to bring out all the material that will be used in the work or research project. In order to hinge your research project on a strong theoretical perspective, it is necessary that you are at home with what others have done in your chosen area. In order "to theorize, offer opinion or contribute to knowledge," there must be a supporting of solid information that has been obtained from the existing ones. World class researchers climb on the shoulders of great researchers to achieve greatness.

Lastly, since some research projects take years to be completed, it is necessary for the researcher to keep abreast of works in his areas of interest until his own research project is completed. A material produced as his own project proceeds may be of great interest to the researcher and may also improve the quality of his own project. Such new publications may substantially affect positively, the direction, conclusion and recommendation of the new piece of research.

How Library Assists in Literature Search

Libraries are no doubt the power house of the educational institutions including universities, colleges of education, polytechnics and research institutions.

The first major role the library plays in preparing the ground for effective and efficient literature search, is the acquisition of current and relevant materials. As it were, no literature search can be effective without literature in the collection of the library. The reference librarian assists the acquisition librarian by providing the statistics of users' demands about materials or subject areas.

However, there are basic resources which the library must have in its collection to assist literature search. These include materials in print and electronic forms. The reference section of the library should have such materials as Directories, Encyclopaedias, Bibliographies, Indexes, Abstracts, Year Books, etc. All these printed reference sources enhance literature search. With information technology, many reference sources are now in electronic or computerized forms. Examples of these computerized reference sources include *AGRICOLA* (Agricultural on-line access) *AGRIS* (Agricultural Information System) *CAB ABSTRACT*, *ERIC* (Educational Resources Information Center) *LISA* (Library and Information Science Abstract) *MEDLAR* etc. It is the duty of the library to acquire them to make literature search easy, Madu (2008)

Having acquired these resources, the library organizes these materials to make their retrieval by users or searchers very easy. When resources are well organized in a library or an information center, it saves the time and energy of the researcher.

Another fundamental assistance the library renders to the user in the area of literature search is library cooperation. Basically, library cooperation involves inter-library loan. It is not possible for any single library no matter how good, to have all the space and materials it needs to satisfy the information needs of its users. In recent times, libraries in Nigeria have suffered budget restrictions. This has no doubt curtailed their purchasing power. Therefore, in order to satisfy the searchers' literature

needs, libraries must cooperate with one another in the form of inter-library loan. The role of trying to obtain the material needed by a user amounts to identifying that material. Inter-library loan has therefore been regarded as reference service as it doubt enhances literature search.

The third role of the library in enhancing literature search is "User education". Basically the essence of user education is to acquaint the researcher or library user with the knowledge he needs to make maximum use of the library. In order to stand on his own, the researcher needs the skills and knowledge to find his way around in the library and make maximum use of the resources. User education helps to dismantle the communication barrier between the materials in the library and the users. With proper handling of "user education, the user can easily find the literature needed, even on his first visit to the library. With the newly acquired skills and knowledge therefore, literature search is enhanced.

Apart from user education, some libraries also provide a number of printed user guides on various aspects of library use. These user guides assist the library user in two basic ways, according to Gash (2000). These are also valuable as they provide a permanent reminder of what is available and how it can be used. With proper study and understanding of user guides, the user will be well able to do his literature search faster and with little difficulty.

Apart from users guides, another instrument used by libraries to assist in literature search is the Selective Dissemination of Information. In some libraries, users simply give details of their research interests to the librarian in charge. As materials like reports, seminar papers and journals come into the library, the librarian goes through them and notes any that are suitable for particular researchers. These researchers are therefore notified that certain literature or items of interest are in the library and will be made available to them. Usually, they go to collect them. However, with information technology, computers are now used to form a network of libraries in a subject field. With this all documents, books, articles, journals etc are put in the indexes- system with their subjects and users' profiles. In this system all researchers have their interest or research topics also as profiles. The document profile (subject) and user profiles (interest and research topics) are matched by computer. Where there is a match, the computer will inform the librarian or in a well organized system, it will print out a notice to the researcher in question that an item or literature in his area of

interest is available; document and users addresses will both be in the computer already. This process is called selective dissemination of information (SDI) Madu (2008). It is a veritable instrument the library uses to assist users in literature search. The library can also use the table of contents services to assist its users in the area of literature search. Here what most of the libraries do is to make photocopies of the tables of contents of the table-of contents of professional journals received in the library. These photocopies are then distributed to the researchers on a weekly basis, who may then request for photocopies of articles of interest to them. With this, the researchers are able to update their literature.

Finally, it is necessary to state here that while libraries make efforts to assist their users, the bulk of the work of literature search is expected to be done by the researchers themselves. It is therefore necessary that library users should take advantage of the assistance offered by the library to enhance literature search.

Approach to Literature Search

Literature search is a systematic and thorough search of all types of published or unpublished items in order to identify as many items as possible that are relevant to a particular topic of research. In order to ensure systematic search of literature, the researcher must adopt a step by step approach to get the relevant literature to execute the topic of research. It is pertinent to mention here, that the format of publication is immaterial as it is the content that is relevant to the researcher. Here both printed and electronic sources are used.

The approaches to be discussed below are in most cases not rigidly followed, however, they act as a veritable guide to literature search. The first step in literature search is to ensure that the topic you have chosen and what you work on has not been covered in existing works. You must make sure that there is the element of originality in your chosen topic. If however in the course of the preliminary search you discover that somebody has done something on that topic, you can modify your topic or choose something else entirely

Having successfully chosen your topic, the second step is to be thoroughly conversant with the context of the chosen topic and with the vocabulary used in its discussion. This involves having a good idea of the relevant sources of information for your topic. Some of the sources the researcher may wish to consider include;

Very comprehensive national bibliographies like British national bibliography or Nigeria publications, current and cumulative, from which what is needed can be extracted, The National Bibliography of Nigeria (NBN), etc.

1. catalogues of large general libraries or special libraries: The Kenneth Dike Library (University of Ibadan), IITA Library (International Institute of Tropical Agriculture) and printed library catalogues like the national union catalogue
2. specialist subject bibliographies on the subject or related to the topic at hand for example, Fayose's Creative Writing for African children: A bibliography, UNESCO's international bibliography of economic periodicals covering the field and their published indexes, guides or abstracts, for example, chemical abstracts, British biological abstracts, African abstracts, education abstracts, social sciences index, political science review.
3. Bibliography of bibliographies in general or specialized which will direct the searcher to other bibliographies, in related areas. For example, the bibliography manual of English literature edited by Henry G. Bohn or Bibliographies of the English language and literature published by Yale University Press.
4. 5. Bibliographies in bibliography. Many well written books contain lists of references or bibliographies which a compiler or researcher might find usefully.
5. Reviews—Many specialist periodicals publishers have book review sections on a regular basis, for example, African Books in Print and African Book Publishing Record.
6. Trade catalogues, publishers, booksellers and others interested in the book trade and book distribution produce catalogues of what they have from time to time e.g. Francis Edwards Africana
7. The Catalogue of any library. The compiler or researcher may have the chance to visit University of Lagos Library, or the Oyo State Library or any well established library close to him. Madu (2005)

As the various sources are consulted, a list of those already consulted should be made so that you do not dissipate going back to them.

The third step which must go hand in hand with the second step is the compilation of the list of words or phrases.

These words or phrases can be used as keywords when the search proper commences. The compilation of list of words will also assist the researcher to streamline his topic as the literature search is now focused rather than diffused.

With a focused mind, the fourth step in the search can commence with answers to some basic questions such as—what type of published materials are needed to be included in the search to give a complete body of literature on the subject? Do I use only books for this work or must I include journals? Do I rely more on electronic sources? etc. In most literature searches, it has been observed that books form the bulk of information sources as researchers see them as familiar and readily available.

Three Levels of Search on the Web

With technological consciousness, everybody is searching for one thing or the other on this web. In order to satisfy this desire, search providers like Yahoo and Google are also providing various ways of connecting their users to valuable materials in database silos

Basically, three levels of library search have been identified as a result of the introduction of the web. The first level includes the monolithic search systems. In this level of search, the operator provides asset of indexed data to enable search within a particular search engine which can be library catalogue, electronic print repositories, etc. This level of search is centered on individual features and functions. The implication of this is that the focus is on features instead of the overall experience which increases search cost. Since time and attention are scarce and difficult, the overall value of resources will not be realized

The second level is the meta search where the search operator provides data and search with a user interface which interacts with the search. This level of library search is an attempt to correct the fragmentation caused by MONOLITHIC. In this search, an additional layer is added which helps to reduce search costs. It also reduces functionality thereby leveling what can be done across databases. The cost of meta search is high in terms of configuration, maintenance and system

The third level of library search is the DATA STUDIP. This is where data is transferred to another search and user interface operator. This is the most technical aspect of the search levels.

Practical Approach to Bibliography Search

To ensure elaborate bibliographic search, the following procedures are very necessary in order to satisfy the researcher or the information user.

The first procedure is to try local catalogues. This will enable you to see what the library has in its collection. The next step is to look at books-in-print, which is often more comprehensive because it covers several years. National bibliographies are also very necessary; the library consults the national bibliography. In the bibliography, each item or

material is listed once when it is published. The National bibliography also has another advantage for bibliographic search because some national bibliographies have quinquennial (five years) cumulation. This is quicker to search or use than an annual volume. Another step is to search specialist bibliographies which are more direct to the reference question to be answered. For instance, a question on law will be quicker if bibliography on law is used.

Another procedure is to look for useful references in a text book or at the end of articles in encyclopaedia. Having done this, the next step is to look for subject materials, and where no book is seen, move on to serials and continue with the same procedure as described above.

Apart from books and serials, the librarian should also examine the reference list at the end of these. This might give a clue. Try also the use of Union Catalogue to answer reference questions that bother on bibliography search. If this practical procedure is meticulously followed, the bibliographic search would yield good results.

Problems Associated with Bibliographic Search

Having described the practical procedure in bibliographic search, it is also necessary to outline some of the problems a reference librarian is most likely to encounter in the process.

One of these problems is a situation in which a subject being searched may be of several disciplines. For instance where you have a subject on Psychology of Education and Medicine.

Another problem in bibliographic search also arises when the reference tools like bibliographies, indexes, abstracts, catalogues list

items under unexpected headings. The result of this is that the reference librarian who is undertaking the bibliographic search will be looking for the item under a heading while the item is actually and wrongly put under different heading. For instance OAU can be put under Africa-general.

The third problem that the reference librarian undertaking bibliographic search encounters is when a journal is not covered by indexing and abstracting services. For instance in Nigeria, although there is very little indexing and abstracting of local materials, many overseas abstracting and indexing services cover materials published or written in Nigeria. The implication of this is that it will not be possible to find indexes and abstracts of local materials.

Other problems in bibliographic search include the fact that in many libraries especially in Nigeria, some journals have missing issues. The result of this is that even when the reference librarian has used available indexes and abstracts to identify the journal and even when it is recorded in the Kalamazoo as received, the journal cannot be traced. This problem of missing issues of journals can be frustrating and the reference librarian doing the bibliographic search may be seen to be ineffective.

There is also a problem when the indexes for a particular year, really cover publications for much earlier years. In this case, it becomes difficult to know the exact year of a publication.

Some selected bibliographies, are very difficult to use because the librarian may not know the criteria used for the selection hence they may not suit his or her purpose. In bibliographic search, the librarian must have a full grasp of the materials being used to satisfy searchers requests. Also, secondary sources are differently arranged. It is therefore advisable for librarians to read the introduction to ensure that they understand the sources properly so as not to miss anything.

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