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INTERNET: A CHALLENGE TO UNIVERSITY LIBRARIES IN NIGERIA

BY

DR. M. O. OKOYE*

University Libraries Prior to Introduction of the Computer

Abstract

The decline in funding in Nigerian universities started in the 1980s. Consequently, books and journals in the university libraries became obsolete, without current information. As a way out, the Nigerian Government decided to source funds within and outside the country, in order to meet the resource needs of universities. As a result of this move, the World Bank Credit facility that gave the country $120 million came on stream in 1989, Aboluwarin (1996). The project which first consignment arrived in the university libraries in 1993 was meant to supply current books and journals. One big shortcoming of the World Bank loan facility was the non-inclusion of subscriptions to abstracts and indexes published in CD-ROM format.

At the expiration of the exercise in 1998, it was still found that university libraries were lagging behind in current information in the face of explosion in electronic technology world-wide. Even Librarians did not fare better because there was inadequacy of library and information science collections in most of the university libraries, Marma and Ogunrombi (1996). There was therefore the need for universities to join the emerging global information network. The first stage was to embark on computerization of records of all federal universities.

*Dr M.O. Okoye is of Nnamdi Azikiwe Library University of Nigeria, Nsukka
Introduction of Computers in University Libraries

Automation started with the introduction of the Management Information System (MIS) project in 1989. It was co-sponsored by the Federal Government through the National Universities Commission (NUC) and the British Overseas Development Administration (ODA) through the British Council, Nnadi (1994). Computers were supplied to the universities for that purpose in 1994. Computerization was later extended to the levels of departments and faculties including university libraries, Abdulkadir (1995).

According to Oketunji (2001), some of the specific advantages of library automation include:

1. It allows co-operation and the formation of library networks;
2. It facilitates easy integration of various activities within a library and between libraries in a network;
3. It helps to avoid duplication of efforts;
4. It eliminates some uninteresting and repetitive work in a library system;
5. It helps to increase the range of services offered;
6. It provides marketing opportunity of its services;
7. It ultimately, may serve and/or generate money;
8. It increases efficiency and effectiveness.

Computers could be applied to acquisition, circulation, cataloguing, serials control and security measures for efficient and effective information management.

However, for university libraries which are supposed to manage all types of information including research results, scholarly publications in all fields, in addition to other multimedia capabilities such as video-conferencing and discussion groups, mere automation/computerization of library services is not enough. Hence the need for Internet connectivity.
The Internet

The library profession has steadily appropriated and reveled in various aspects of modern information technology. It started with computerization, on-line cataloguing and document delivery, to on-line public access catalogue and CD-ROM technology to name but a few. The most recent innovation yet to be identified as a friend or foe, is the Internet. To access this inexhaustible warehouse of knowledge, one only needs a telephone line and a personal computer. Global information searches with respect to academic research and its appurtenances which had been the exclusive preserve of library and information scientists have become available in commercial enterprises known as Internet Service Providers (ISPs). In Nigeria, some of these ISPs include Cyberspace Limited, Global Access, Pinet Informatics, Afreenet, SITA, Linkserve, Microcom, Hyperia and Nova. Management Information System (MIS) of tertiary institutions are not left out of the race to acquire Internet. For instance, there is a campus Information System connected to the Internet to include information on all faculties and departments of University of Natal, Pietermaritzburg in Republic of South Africa, Horton and Ilcheva (1995). The MIS of University of Nigeria, Nsukka has already been connected to the Internet. Other universities in Nigeria will soon be connected to the Internet (Jibril 1999). ISPs are also on the increase globally.

ISPs render services ranging from full Internet access, web authoring, web housing, ISP to other ISPs, Local/Wide area networks (LAN/WAN), on-line advertising, E-mail services, Internet banking security, File transfer protocol (FTP), etc. Libraries in developing countries which are yet battling with the cost-effectiveness of computerization should work extremely hard to justify their relevance in the new dispensation in order to retain their clientele. Hughes' study (as cited in Horton and Ilcheva, 1995) states that 'Internet currently provides information and communication services and all the above-mentioned services to a daily average of 20 million users in over 50 countries.'
Origin Of The Internet

Internet means International Telecommunication Network (Jibril, 1999). It is defined as “a network that connects thousands of other computer networks” (Krol, 1992; Faboro, 1999). Faboro (1999) stated that computer networks became practical when Ethernet and the Berkeley 4.1 follow on release of the Berkeley BSD UNIX system, started becoming widely available in the 1982 time frame. These Local Area Networks (LANs) typically spanned an area smaller than a couple of square kilometers. Some hardware existed to connect these LANs to extend the area slightly but not on nationwide scale. Prior to this development, Krol (1992) wrote that the Internet was born about 20 years ago as a United States Defense Department network called ARPAnet. The ARPAnet was an experimental network designed to support military research, in particular, research about how to build networks that could withstand partial outages (like bomb attacks) and still function. In the ARPAnet model, communication always occurred between a source and a destination computer. Faboro (1999) stated that ARPAnet’s lower speed (64,000 bits/second and slower) network connected a few dozen highly distributed institutions (using a cross-country communications backbone). He stated that those were the days when 56,000 – 64,000 bits/second were an incredibly high speed that was astonishing in its high transfer capacity. In the 10 to 12 years after 1982, local Ethernet (and later, token ring) networks penetrated the market place in large companies and institutions, educational institutions and smaller organizations. Users of local networks exploited them by sharing files (much easier than moving floppy discs or tapes from one computer to another), communication (e.g. electronic mail), remote printing (i.e. sharing a printer among several workstations or PCs) and occasionally other features like remote job execution and file sharing, Faboro (1999). While Ethernet was gaining its foothold, another kind of communication evolved in the UNIX world as groups leveraged a programme called “UUCP” (Unix to Unix Copy) to share electronic mail and newsgroups (which are discussion forums somewhat similar to bulletin boards) via a loosely organized nation-wide dialup network called USENET.

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Messages were passed from computer to computer with a routine scheme that often required the sender of a message to know the exact path of ten computers that would process a message before it was delivered to its recipient. This nation-wide network whetted the appetite of the technical community for ever-larger and ever-faster networks. E-mail delivery on USENET could take hours or days, depending on the frequency of telephone dialing at the various sites. As communication technology costs decreased, computers with LANs proliferated, and the TCP/IP (Transmission Control Protocol/Internet Protocol) was proven successful, the notion of a nation-wide or worldwide network continued to assert itself in the minds of many. According to Faboro (1999), with the dramatically increased bandwidth of fibre, decreased digital communication costs, and a number of high technology firms marketing and selling products, the Internet has taken on a life of its own.

Internet Connectivity In Nigeria

To connect to the Internet, one identifies a bandwidth wholesaler that is already connected to the Internet and negotiates a business agreement to join the Internet through her. In Nigeria, NITEL is the only “wholesaler”. It has commissioned the national gateway and has five points of Internet presence in Nigeria. They are Lagos, Enugu, Bauchi, Kaduna and Abuja. Others include MCTWorldCom, SPRINT, Level 3 and AT & T. In Nigeria, the afore-mentioned ISPs negotiate with NITEL (THE BANDWIDTH Wholesaler) for assignment of a bandwidth.

As an insight into how the Internet works, Krol (1992) states that the Internet has rules about how to use it. The rules are called protocols. The Internet protocol (IP) takes care of addressing or making sure that the routers (Routers are a set of computers by which the different pieces of the Internet are connected) know what to do with one’s data when they arrive. Routers connect networks together. These networks are sometimes Ethernets, sometimes token rings and sometimes telephone lines. The telephone lines and Ethernets are equivalent to the trucks and planes of the postal service. They are means by which mail is moved from place to place. The routers are
equivalent to postal substations; they make decisions about how to route data (packets) just like a postal substation decides how to “route” envelopes containing mail. Further information on how the Internet works is given in Krol (1992, 1994).

Invention of the World Wide Web (www).

Krol (1994) as reported in Horton and Ilcheva (1995) stated that the enormous physical mass of intercommunication computers represented by the Internet and the proliferation of information storage and distribution systems and retrieval tools were as fast in becoming a setback as they were in gaining demand for a global information network. Hence the Internet became messy and poorly coordinated. In a bid to solve this problem resource part of the Internet called the World Wide Web (WWW) was invented by Berners-Lee (Horton and Ilcheva, 1995) and was developed by specialists in the European Centre for Nuclear Research (CERN) in Geneva, Switzerland. By statute, nothing developed by CERN should be sold for profit, so WWW was offered to everyone interested, free of charge. This led to an ever-increasing number of supporting software being supplied also free of charge. As a result, the popularity gained by the WWW surpassed all expectations and in a matter of several years it was established as the most advanced global information system (Horton and Ilcheva, 1995). Also, its simplicity of operation and ease of access to information do not require sophisticated knowledge about computers. The Language of WWW is known as HTML (hypertext mark-up language). Further information on how WWW works is given in Krol (1992 & 1994) and Berners-Lee (1994) as cited in Horton and Ilcheva (1995).

INTERNET AS A CHALLENGE TO LIBRARIANSHIP

WWW: a Challenge to Library’s Cataloguing Processes:

HTML has made traditional librarianship endangered specie. According to Horton and Ilcheva (1995), hypertext mark-up language is:
An excellent method of organizing information that unlike the classification systems applied to the hard-copy world of traditional libraries, is not subject to the constraints of the physical residence of the documents or the macro-versus-micro-retrieval... thus overcoming the cataloguing and/or shelving and therefore browsing, split imposed by the practicalities of storage due to the disparate nature of non-book materials in a traditional library collection (pp. 102-103).

B Other Library Services Available in the Internet

With the Internet, libraries can access programme, retrieve documents, papers and books, exchange data and send mails. University libraries can avail themselves of:

1. Quick and convenient information exchange;
2. Access to experienced and expert individuals in many fields;
3. Access to regular updates on topics of interest;
4. Enhancement of team work across geographic distance Access to archives information
5. Transfer of data between machines and provides a great platform to have fun and be entertained.

According to Alasa and Kalechukwu (1999) librarians can exploit internet services to discharge their obligations as follows:

(a) As a reference tool, the internet provides wealth of up-to-date resources unavailable in bound volumes;
The internet gives personal access to specialists and experts in hundreds of disciplines;

It enables one to reach fellow librarians with messages and documents independent of the constraints of mail, telegraph or even fax.

One can collect news and facts which can be stored on one's computer for later use in reference;

Resources in the internet allow librarians to provide better service to their patrons by giving one access to information that will be difficult to locate in any other manners;

The internet on-line catalogues for libraries very close to, or on another continent, give access to bibliographic records of millions of books as the details on the holdings of academic and research libraries around the world, electronic journals and newsletters are made available on regular schedules;

Librarians can make the selection of books required in their institutions and order them without going from one bookshop or publisher to another.

C Availability of an Avalanche of ISPs:

University libraries have to contend with the unprecedented number of ISPs, which render identical services.

HITCHES TO IMMEDIATE INTERNET DOMINANCE OVER TRADITIONAL LIBRARIANSHIP IN DEVELOPING COUNTRIES
Compared to the developed countries, Internet awareness in developing countries is terribly insignificant. This is attributed to two major factors, the lack of basic telecommunication infrastructure and the general poor state of the economy. Ngiebor (1999) stated that the minimum cost of acquiring a telephone line in Nigeria before September 1999 was ₦50,000 compared to Ghana where one could acquire a telephone line for ₦12,000 while in South Africa similar lines cost ₦5,000. It was only in September 1999 that the Nigerian Federal government announced a reduction in the cost of acquiring a telephone line from ₦50,000 to ₦20,000. Also, according to Ngiebor (1999) the telephone density of Nigeria needs to be improved from the present four lines to 1000 people to a ratio near the International Telecommunications Union (ITU) standard of 10 lines to 1000 people. Computer, which is the basic tool of accessing the Internet, is beyond the reach of the ordinary people. The exorbitant service charges by the Internet Service Providers (ISPs) do compound the problem.

Frequent power outages, high cost of generators, and low level of computer literacy among the masses are factors to contend with.

RELEVANCE OF LIBRARIANSHIP IN THE INTERNET REVOLUTION:

The notion is unquestionable because as recorded by Horton and Ilcheva (1995), even Berners-Lee who invented www described the www virtual library as "an amateur collection of resources, to demonstrate what could be done if librarians were to get involved and do it properly". They also recorded that Tilton (1994) called for Internet librarians who would create and maintain the following:

- a clear ordering of information by subjects or some other way, e.g. table of contents, searchable index, what’s new.

- Documents of the right length that cannot be logically decomposed into more than one.
Librarians are indeed so often invited to help with the organisation of cyberspace. Today computer scientists, information scientists, librarians and sociologists join their efforts in exploring novel user sociology at digital libraries and information systems (Horton and Ilcheva, 1995: 103).

The level of computer literacy already acquired by librarians in developing countries can enable them appreciate the intricacies involved in using the Internet to provide services to their patrons. Developed countries will have little problem integrating Internet into their library services.

Professional services like indexing of local documents, production of some audio-visual materials and audio/video recordings will still remain within the domain of librarians. As bibliotherapists, librarians will enhance their relevance in the society. According to Kenney (1962) as recorded in Agaja (1997):

"The bibliotherapist is primarily, a librarian who goes further in the field of reader guidance and becomes a professional specialist. As a bibliotherapist, it will be imperative for him to be able to evaluate the emotional significance of the patient's responses to relate reading assignments to the patient's mental and emotional needs and to make valid interpretations of his reactions to reading (p. 97)."

Conclusion:

Internet revolution is like the industrial revolution and any country that is left out now will not be able to catch up. The exorbitant service charges of the Internet Service Providers keep off many patrons especially the university students. This category of patrons especially in developing countries will always find traditional library service handy and invaluable even in the 21st...
century. Nevertheless, in the new dispensation where library books and journals are not very current, coupled with the fact that only few university libraries have been connected to the internet, researchers are bound to source their information through the numerous commercial ISP enterprises thereby depriving libraries of services which were hitherto their exclusive preserve. To this extent, Internet constitutes a challenge to university libraries in Nigeria.

Recommendations:

1. There is need to improve the telephone density in Nigeria;
2. A downward review of the cost of acquiring a telephone line is advocated.
3. The curricula of library/information science schools should be reviewed to reflect present realities.
4. Intensive staff development programme for library and information science professionals should be encouraged.

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