Effective Library and Information Services
Sustainability and the Impact of Information and Communication Technology

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Abstract

With the incorporation of information and communication technologies and more open models, the library has the potential of becoming more involved at all stages, and in all contexts, of knowledge creation, dissemination, and use. This paper looks at the impact and challenges of ICT on Library and Information Services. Various library services were highlighted, especially those services that ICT have great impact upon. The paper proffers recommendations and concludes that ICT is cost effective and can improve library services and ensure sustainability.

Key words: Library and Information services, Information Communication Technology, Sustainability

Introduction

The world is going through an information technology revolution that has drastically changed many facets of the human life, from education, industry, economy, and politics to entertainment. The past two decades have been a time of tremendous social, economic, and institutional change for all sectors of higher education, including the library community, and even in poverty alleviation by generating or creating new jobs and investment opportunities. While responding to the unprecedented development in technology, colleges and universities have also addressed issues of social relevance, accountability, diversity, and globalization. Although academic institutions are notoriously slow to change, they have experienced considerable ferment, prompting shifts in priorities and constituencies and within disciplines. Across the world the library and information centers are undergoing transformational changes in response to the new information and communication technology. Emergence of the post-industrial economy, proliferation of information, the codification of knowledge and technological advances all enable unprecedented innovation. Because library and information centers support all sectors of academic life, they reflect a context where these issues converge. This presents them with a challenge of unusual scale and complexity. In response, libraries have embraced new technologies and adjusted to the program priorities of their parent institutions. As the so-called information revolution has taken shape, libraries have also demonstrated broader leadership in bringing their intellectual and service missions to bear on the issues raised by parent institutions.

However, library and information centers face significant challenges in responding to change while sustaining their traditional functions. With this explosion, information technologies have become powerful competitive forces that raise fundamental questions about the role of libraries and librarians. Such questions are as follows:

1. Can the basic functions of libraries be maintained in a distributed information environment, or will totally new functions emerge?
2. Does the capabilities of the new information services give rise to credible competitors?

3. Are libraries at risk of becoming irrelevant, or is the librarian's expertise more critical than ever?

The emergence and convergence of information and communication technologies has therefore remained at the centre of global socio-economic transformations. It is worth noting that information has become a strategic resource, a commodity and foundation of every activity. In fact information and communication technology is now regarded as a utility such as water and electricity and hence it has become a major factor in socio-economic development of every nation.

Information technology is providing new learning opportunities which transcend boundaries of space, place and time enabling global competition, not only from other universities throughout the world, but from non-traditional competitors. At the same time library and information users' expectations of service and demand for quality are increasing. In addition, unprecedented capabilities of information technology to process, store, refine and disseminate data, information and knowledge in a variety of ways across geographical boundaries has dramatically changed the ways in which libraries, governments, the public and private sectors operate all over the world.

Information and communication technology is a powerful tool for the development of quality teaching and learning. Its value can be seen from the cost effective and improvement of the quality of service delivered worldwide. Systematic approaches to develop information and communication technologies and their applications in view of the goal of sustainable development are therefore essential for library and information services growth.

According to Daniel (2002), Jen (2002) and Lopez, (2003) information and communication technology usage in library and information center assists in the process of collecting, storing, editing, retrieving and transfer of data in any format, it offers quicker and easier way of performing increasing task with greater efficiency. Its significant impact on learning and research has brought tremendous growth on education.

Information explosion sparked by digital technology has fostered an increasing awareness of the sheer mass of information available today in a variety of media, from traditional formats such as paper to the more recent film, optical, and magnetic formats. Institutions charged with collecting, storing, preserving, and making accessible recorded information are struggling to keep pace with the growth of information production, even though their brief is to collect only a portion of what is published and an even smaller portion of what is produced and disseminated in unpublished form.

Library and Information Services: Roles and Expectations

Library and information services have traditionally focused on collections support, that is, helping users identify, retrieve, and use resources, or educational activities to help patrons use their libraries more effectively. These activities have largely been distinct; for example, reference services respond to individuals with specific questions, and instructional programs target classes with general educational needs. Thus libraries have reported decline in library attendance and use of library services such as reference and circulation, although some are experiencing increases in instructional activity.

The library has a continued role to play as a system. Buckland (1988) describes library and information services and users as well as some departments as a system. Ferguson (2000) explained that system in a persuasive call for the complete integration of reference, research assistance, and technological support processes as the next generation of library services.
In the past, library service was been characterized as a location for individuals and information to interact; a place for users to tap collections or for library staff to bring users and information together. The physicality of libraries and their collections is an often-cited value. The ability to browse and experience the gestalt of an array of resources has been a time-honored technique for inquiry, and the physical experience of books, maps, or manuscripts is important for many. Libraries face a paradox with respect to facilities and their use. Library as a system also serve as a social function, providing a common ground for users to interact or a neutral site for individuals from different disciplines to come together. The changes in library roles discussed thus far have obvious consequences for library facilities.

Osborne & Nakamura (2000) offer a more comprehensive view of a library-based system composed of information resources, technological tools, librarian-mediators, and participating users adapting and contributing to the database. Thus a library serves as an essential instrument for making real the great inherent potential materials available to all readers who need varied assistance.

According to Buckland (1988) library service may be concerned with knowledge. Firstly, library services are concerned with texts and images that are representations of knowledge. Secondly, library services are, in practice, often concerned less with the texts and images themselves than with physical objects that are text-bearing and image-bearing, such as books, journals, manuscripts, and photographs. Libraries deal with text-bearing and image-bearing objects in vast quantities.

Library service is essentially a service to the community of users. The development of users-oriented services skills not only allows the library to put forward the services offered as effectively as possible, but also tests its services and facilities against users' needs and wants. Thus, the library needs to re-examine the ways in which it serves its users. Service is of little benefit to the institution if it is not made available in the most effective way. Part of this strategy will involve the careful presentation and packaging of services and facilities offered to give both the best individual service, and at the same time, a clear and effective message about the total library services to users.

According to Bamgboyes (2007) libraries have always been services, in the sense that they offer a collection for consultation by a body of people, with a catalog as a key to the collection. But service has come to connote a more positive kind of activity than consultation, which requires little direct effort on the part of the library. Even catalogs can be passive-basic and author-designed with users in mind, accessible by a variety of elements, capable of generating selective printouts, while also being interactive.

Nwalo (2000) and Nnadozie (2005) stated that library services and activities are concerned with acquiring, storing, organizing and managing of the stock with view to making them easily retrievable, and resources are to be available to all people. Putting vent to Nwalo (2000) view, Olabisi (2001) concludes that libraries are an essential part of social communication process because they store and disseminate the accumulated thoughts of humanity. The library preserves the recorded human knowledge for use through cordial and intelligent interaction with users. The library aims at providing full satisfaction to the users. Onwuegbuzie and Jiao (1998) and Lucas (2005), argued that libraries need to create an organizational culture in which assessment is a key component to understanding the meeting space of users and libraries.

The past decade has seen a rise in library and information services to support more virtual inquiry. Whereas, initially, the library mainly served remote users who were affiliated with the institution, it eventually came to serve a more global market. Ultimately, the library’s presence becomes more pervasive and its services more fully integrated into the processes of
learning and research.

Library and information services roles in human development is tremendous and cannot be overemphasized; it has become indispensable complement of all human activities such as governance, education, social development, science and technology.

Some of the services being provided include Circulation Service, Routing of periodicals, Reservation Service, Documentation Service, Current Awareness Service, Selective Dissemination Information (SDI), Retrospective Search, Reference Service, Referral Service, Bibliographic Service, User Orientation Program, Inter-library Loan Service, Document Delivery Service, Reprographic Service, CD-ROM Service and Literature Search, Access to Internet and E-mail. Among these services, almost all types of libraries provide the circulation service, reference service, and reprographic service, Current Awareness Service (CAS), SDI service, etc. while CD-ROM Service and Access to Internet Service are newly emerged services due to the advent of information and communication technology.

In providing effective library and information service, according to Oyelude (2004), the library and information center must have relevant resources. The library collection must be relevant to the needs of users and must be easily accessible through a good mechanism, that is, information and communication technologies.

Library Services and Information and Communications Technology

Library services have become justifiably an able communication outlet of the library operational system, and hence information and communication technology can project the library in a better and more appreciable light. This serves as an instrument of campaign for awareness, enlightenment, information, teaching, research and other extra-curricular activities, which abound in library services (Bamgboyé, 2007; Hasson, 1996).

Dulle, Mulimila, Matovelo, and Lwehabura, (2002) and Achebe (2004) suggested that there is a need for the re-orientation of library services in developing countries. Library and information centers should become more proactive in the provision of services and these services have now been sandwiched with information and communication technology. According to Ologunleko (2001), library services success is largely due to a significant reconfiguration of the library's role with information and communication technologies tools and overall a re-branding of the traditional library and its rules and norms.

Library services in Nigeria have been witnessing a paradigm shift and transformation in line with the global order. The country is now experiencing innovations in the provision of library services with unprecedented impact of information and communication technology and the library profession in the 21st century. With the arrival of the knowledge economy, a library is no longer a passive place which simply preserve and deliver documents, but a place of information research, as well as a propeller of knowledge.

Loertscher, Bowie and Ho (1987) examined the library and information services provision in Universities and research institutions that had been identified in previous research as exemplary, in order to establish what library services were provided and whether and how this contributed to their status. The report did suggest some correlation between the information and communication technology and high level services, for instance support for library collections; in-service training for staff and lecturers and providing reading activities. Regarding the quality of ICT services offered in accessing and disseminating information the following limitations abound;

1. The qualities of services provided by the ICT facilities are good except for the slow speed of the computers when downloading
2. The waiting time to access information is long because computers are few in number;
categorization of searches from the Internet and databases is not easy leading to time wastage

3. Most databases do not have full-text articles. They give only abstracts and, therefore, one has to look around for the journal in which the article is published which may not be readily available

4. Most databases from CD-ROMs do not have hyperlinks making accessing related information very difficult

5. The cost of ICT services is high and unaffordable for many.

Other Challenges of Providing Effective Library Services

These challenges according to Yusuf (2005) include limited ICT infrastructures (in terms of facilities and competent staff); poor or nonexistent internet connectivity, as well as poor power supply, a problem that is peculiar to the Nigeria community. Also peculiar with Nigeria are problems that the United Nations Economic Commission for Africa (1999) identified, such as lack of reliable and affordable telecommunication and power infrastructure; unfavourable regulatory, licensing and taxation regimes; failure and high cost of access to the internet; low bandwidth; and high level illiteracy. What is clear is that access to information and dissemination of information using technologies is beset with numerous challenges that hinder effective and efficient management of information to improve the performance of the library and information services.

Although information and communication technology provides enormous opportunities to address the problems mentioned above through storing, processing, retrieving, disseminating and sharing of information, its use in Nigerian libraries is still plagued with many other problems. Little analysis has been undertaken so far to determine the use of ICT in library and information access and dissemination as well as associated problems.

The challenge for libraries and information centers is to sustain the significant capabilities developed through standards-based bibliographic processes while taking advantage of new access strategies that have been created as a result of new media standards and communication protocols.

Although ICT has become so powerful and ubiquitous there are still many challenges in order to use it for the most pressing goals of a sustainable development. Even if the costs of the hardware and of connectivity are decreasing they still remain a major impediment, especially in order to foster library and information services. In the case of internet connectivity, the high cost of international bandwidth is also a major burden, with developing countries often having to pay the full cost of a link to a hub in a developed country. Many countries today have less than 10Mbps of international Internet bandwidth, whereas in countries like Belgium, Germany, and England a 9Mbps high-speed Internet package is available at cheaper price.

Content, language and usability are additional challenges on the way to promote more and better usage of ICT whether it is for sustainable development or the consumer market. The language used in computer programming is English and that is probably not going to change. User interface and content can and must be “localized”, but technical and professional people interested in exploiting the fundamental productive aspects of ICT applications need to master the official language. Additionally, ICT projects have a high failure rate, more than 50% of these projects are canceled or run significantly over budget or do not function as desired. Moreover, due to their intricacies, these information and communication technologies tools especially software applications can be maintained (fixed and improved) only by the original manufacturer or close associates. This situation makes quite unjustifiable the allocation of large amounts of precious and scarce financial resources to such uncertain and expensive
Conclusion and Recommendation

Regrettably, too many times resources are wasted upon facing the same problem, reinvestigating the solution and going through the same trial and error process that may lead to a satisfactory solution or a frustrating failure. The same way a medical professional knows which medicine is needed to cure a specific disease or which chemical to add to make unsafe water portable, library and information centers need to build a basic solid knowledge about information and communication technology in order to reduce the duplication of efforts.

To this end there is a need for a dedicated, broad strategy for a comprehensive assessment of the problems and an organic and innovative long term vision of the ICT opportunities. The parent institution, library and information centers and all the other stakeholders would greatly benefit from using more and better information and communication technology. Improving the efficiency and the effectiveness of library and information services are paramount factors in order to work toward a sustainable development and in particular, the Millennium Development Goals. While these efforts must be greatly appreciated for delivering effective and efficient and services, library and information centers must endeavour to look inward to solve their problems.

The agency should adopt and suggest conscientious and sustainable concrete approaches to the promotion of ICT aimed at sustainable development, bypassing when necessary, the most unethical free market mechanisms.

Lastly the government at the Federal level should set up an agency to:

1. Coordinate all the local and international stakeholders on ICT;
2. Collect, analyze, organize and disseminate best ICT practices;
3. Recommend best ICT tools and methodologies;
4. Establish a series of targets and indicators and monitor the achievements of ICT projects;
5. Promote the building of specialized local human capacity and;
6. Ensure the long term adaptability of the ICT systems

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