

**Barriers to use of ICT-based Library Services by Persons with Disabilities: Case
Study of Kenya National Library Services (Nakuru Branch)**

Felicitas C. Ratanya
Egerton University
Email: fratanya@gmail.com

and

Istusta, M.
Masinde Muliro University
Email: isutsainc@gmail.com

Abstract

Advances in Information and Community Technology (ICT) have resulted in providing access to information for all users, irrespective of their ability. This is basically a requirement for all libraries and information centers. While most people recognize that the world we live in is more and more permeated by information and communication products and services, not everyone realizes the impact this has on our ability, as individuals, to be fully enabled citizens. It is worth mentioning that it is not the people's "disability" that makes it impossible for them to use certain technologies rather the developers of such products and services which do not take into account the notion that people are individuals, with differing abilities and preferences. This paper describes services that have been developed by the Kenya National Library Services (KNLS) in using ICT to enable persons with disabilities gain access to information. Particular reference is focused on the Nakuru Branch Library in conjunction with the KNLS headquarters. Services range from the talking books for the blind, use of sign language communication for the deaf people, building of ramps for the physically challenged, personalized assistance for psychiatric cases. This paper identifies the barriers that prevent persons with disabilities from taking advantage of the wealth of opportunities that are available through ICT. The paper concludes that a holistic approach should be adapted, by the KNLS board in recognizing and tackling all of the barriers so as to help persons with disabilities take advantage of ICT as a force for social inclusion.

Key words: E-accessibility, Persons with Disabilities; Internet; Information technology; Library services.

Introduction

“The disabled are not really disabled but differently enabled”

The development of information technologies, and in particular the internet, has created a completely new environment in which the role of traditional information services must be thoroughly revised. Technology is changing our lives, and changing it profoundly. But while most people recognize that the world we live in is more and more permeated by information and communication products and services, not everyone realizes the impact this has on our ability, as individuals, to be fully enabled citizens. Availability of ICT has brought about digital divide; In fact, it has already created a divide between those who can use it and those who are excluded from it: the digital divide is an undeniable reality.

In today’s society, persons with disabilities; focused in the traditional model as the individuals who lack functions of mobility, sight, intellectual, hearing or one who is confined in a wheel chair, are increasingly demanding equal access to the full range of community resources, information and opportunities. Persons with disabilities use ICT services for exactly the same things as everyone else—for information, shopping, banking, and leisure. Some surprisingly visit the same mainstream sites as their ‘able-bodied’ peers, rather than opting for disability-related sites. This implies that disability *per se* is no longer accepted as being a barrier to gaining adequate information for a country’s and individual development.

According to Tilley, Bruce & Hallen (2007) people with disabilities have a harder time using technologies when it is physically difficult to use a computer. Such a challenge therefore is to create ICT based services in such a way that they are more accessible and more usable by a wider range of citizens. It is worth mentioning that it is not the people's "disability" that makes it impossible for them to use certain technologies rather the developers of such products and services who do not take into account the notion that people are individuals, with differing abilities and preferences.

Able people are not any better in making a voice phone than a deaf person, neither is the able person required to become blind so as to use some ‘badly’ designed web pages to be

able read its highly resolution graphics mode, nor when one is using a pram can't he or she happily go over the same ramps that a wheelchair user can draw on to enter the building!. Even as we age we loose our cognitive power; hearing diminishes; eyesight deteriorates and mobility becomes harder to even use a mouse or the keyboard. Basically therefore the need to create more accessible and usable products and services is not so much as people may think as a minor issue. This challenge will affect many more citizens of our country than we may think.

Access to Information

In the context of this paper, access is defined as the ability of persons with disabilities to make use of Information and Communication Technology.

We are in the era of information society, where the most powerful resource is information. Information technology has been identified as an important aspect of the wider strategy for the social inclusion of the impaired persons.

The emergence of ICT is heralded as enabling people with disability to fully participate in the social and economic life of their communities, offering the old and the young alike opportunities to overcome social barrier to interaction and communication. ICT can also offer persons with disability an increased degree of independence in everyday life.

Disability is not a tragedy but an inconvenience.

Saravanan (2005) observed that some ICT services still remain unsuitable and unused by persons with disabilities. For example, different people with disabilities experience different barriers to access when using web pages; blind persons may require that all non-text items such as pictures, charts and graphic elements have text alternatives. It is thus good design to remove barriers on web sites. This benefits all users such as those with low end technology.

To address the discrepancies in access, the policy makers should redefine the policy on how to access ICT services to incorporate the needs of the impaired members of the society.

This will make ICT an effective tool, allowing a greater number of people to play a valuable role in society.

The UNESCO Public Library Manifesto (1994) points out that libraries are essential components of any strategy aimed at improving information access, both for the general public and the specialized groups. The proliferation of electronic information has revolutionized the lives of the users with disabilities in society. Internet and the computer technology can now be used even by severely disabled people to communicate via email, Dyslexic people, the blind and visually impaired and equally by those with learning difficulty.

ICT deals with the use of electronic devices and software to convert, store, protect, process, transmit, and securely retrieve information. Most libraries in the developed countries are fully accessible to users with disabilities and offer a variety of assistive technologies such, as induction loops for hearing impaired users, Free photocopy enlargements Text magnification units, Adjustable height tables, library networked machines, TechDis toolbars on all PCs with customized web pages for accessibility requirements. Such initiatives enable full access to information by all members of society.

In Kenya there is basically lack of research into the social and economic reasons why some persons with disabilities are unable to take advantage of opportunities available through ICT.

KNLS Initiatives in providing ICT based services to the persons with disabilities

Background

The Kenya National Library Service (KNLS) was established by an ACT of parliament (Cap.225) in 1965. The mandate of KNLS is to promote, establish, equip, manage, maintain and develop libraries in Kenya as a National Library Service. KNLS services are open to all persons regardless of their race, creed, gender, and physical ability, social status economic statutes which is in line with the IFLA public library manifesto (1984).

According to Ondari & Kitendo (2004) KNLS board has established a total of 54 branch libraries in various parts of the country; at the provincial, area level and at the district level. In line with achievement of the Kenya Vision 2030, KNLS endeavours to provide relevant and timely information to all citizens .In line with this, two ultra modern public libraries have been constructed in Buru Buru –Nairobi and Nakuru Districts. Community libraries like, Karatina (1991), Laikipia (1991), Mutyambua (1995), Kinyambu (1995), Kithyasia(1995) Naivasha (1996) among others have been established in order to take library products and services closer to the community.

ICT Based Library Services

There is an increased demand for ICT –based library services by all members of society. Like all other able persons, those with various forms of disabilities too demand for ICT services and have a desire to access information resources on the Internet and other technological based services. Unfortunately ICT services have not been established in any of the KNLS branches. A visit to the Nakuru Provincial Library revealed that only a few Personal Computers (PCs) have been designated for use by staff and library patrons. Not withstanding challenges of inadequate bandwidth, internet connectivity and lack of ICT facilities KNLS has put in place Wi-Fi connectivity where users can freely access the internet. According to the Nakuru Branch Librarian such access has however not considered the needs of persons with disabilities though plans are underway to implement assistive technology to cater for the needs of persons with disabilities.

- Internet and email services

According to Ondari & Kitendo (2004) in recognizing the need to provide ICT facilities to the public, KNLS opened a cyber café at the headquarters in 1999. Currently fifteen computers are connected to the internet. ICT based services provided to the library community include: web browsing email services via Yahoo or Hotmail; access to online periodicals, books and databases.

The cyber café has attracted many users and the Board has plans of expanding the service to other branch libraries in the network to meet the growing demand for current and more authenticated information and incorporate services to suit persons with disabilities.

KNLS has also continued to play a crucial role in providing access to ICT facilities to the community through training staff, users and interns on the use of ICTs; assisting other government departments and institutions in establishing IT departments; and enhancing library automation through the development and installation of KNLIS library software in other libraries. KNLIS is currently being used for the automation of the circulation and OPAC functions, while CD/ISIS is being used for cataloguing.

The KNLS has taken serious steps in recognition of the imminent need to satisfy the disadvantaged members of society. It has managed to establish ICT based information services for a variety of user groups.

- Braille and large print books service for the Visually impaired persons

In an effort to provide information and acknowledge to all members of society, in conjunction with various authors and other stakeholders like the African Braille Centre KNLS has transcribed into Braille, now being incorporated in the modern personal computers.

KNLS also provides a comprehensive transcription service offering braille, large print, audio tape and digital formats to organizations and individuals. Other facilities include Talking books, Talking computer Closed Circuit Televisions (CCTV) donated by FORCE Foundation through Africa Braille Centre, Perkins Brailier.

Braille Technology has been incorporated to help the visually impaired persons chat, download files, music use email, typing in Braille and printing in text. Specialized awareness training and consultancy in the field of visual and hearing impairment is also provided to users and institutions for the visually impaired.

According to Nga'nga (2003) as the leading public library network, KNLS was the first to establish services for the visually impaired persons in 1996, 31 years later since its

establishment. The visually impaired persons are basically inadequately represented in both the public and private realms of society. Access to information in this era of information technology implies that such a group is able to actively participate in the national, political and economic life and as a result be viewed as full citizens. This will be in line with the UNESCO public manifesto... “Specific services and materials must be provided for those who cannot, for whatever reason, use the regular services and materials, for example linguistic minorities, people with disabilities or people in hospital or prison.”

According to the World Union Blind (2009) The KNLS head office in Nairobi has been equipped with modern equipment and a diversified collection; talking computers, audio books, script magnifiers and audio book players. This service is managed by qualified members of staff some of whom are visually impaired. The ministry of education has made efforts in providing e-content to be incorporated in curriculum materials thought out the country.

- CD-ROM services; KNLS offers a reliable collection of CD-ROMs/DVDs on various topical issues. In total there are about 200 CD-ROMs on various subjects (both in text and multimedia). Some of the databases available on CD-ROM include: African databases; World Bank Development, Global Development; Reports; Key Indicators of the Labor Market; East African Development Library; Publishers’ International Library ISBN Directory; and Mediclip, a medical image source. PERii e- resources are also available.

- Library Website

KNLS has an operational website available at- <http://www.knls.or.ke> The site provides access to information on the services offered, current events, opening and closing hours, online membership application, online ISBN application form and links to information resources.

Ondari & Kitendo(2004) are of the opinion that, in spite of the large number of public library services available to the users, indicating that they had access to Internet facilities,

almost none are providing Web-based information services to the library users with disabilities.

- Audio and Video shows.

KNLS provides audio and video shows for the visually and hearing impaired persons. Such as service is prepared on various topics affecting the society. Such as HIV/AIDS. The service is available at the headquarters and at times provided as an outreach service to the communities.

Factors that hinder access to ICT-based Library Services by persons with disabilities.

All persons with disabilities should receive information that is accessible to them. Information enables all of us to make decisions and lead independent lives. In the scenario at hand, Libraries and Information Centres acquire and select resources for their user populations without incorporating the unique needs of the disadvantaged/disabled users in society. As a result this has basically created an information divide which needs to be bridged to achieve equity of access to information. To highlight barriers into accessing ICT, a structured interview session was conducted with the Nakuru Provision Librarian who revealed the following as barriers that hinder the persons with disabilities from accessing ICT services at the Provincial library:

Lack of adequate networking of KNLS branches. The fact that only the KNLS headquarters in Nairobi offers most of the ICT based services is itself a major barrier to information access. Majority of the persons with disabilities are left out from being served.

Lack of interest: this refers to the interest of persons with disabilities in maximizing the opportunities available to them through ICT. Some people exclude themselves from the benefits of ICT through the lack of interest. Some may perceive ICT with a significant problem associated with interest in the use of technology which is seen as a stigma attached to special needs products.

Lack of on-going support: From the interview session with the Librarian at Nakuru it was revealed that more often when computers break down, isolated persons with disabilities lose independence and may not get through. Staff should be available to provide immediate and on-going support to make the best use of technology they have been provided for.

Digital divide: Most persons with disabilities are digitally divided; such that they are not able to access ICT services on regular basis due to the nature of disability. For instance some are not able to visit the KNLS premises due to their extent of mobility.

Constantly changing nature and sophistication of technology: Technology becomes obsolete so fast when the operating software it interacts is upgraded. Since costs are associated in the need to keep up with the latest versions of technology, the users with disabilities may be reluctant to persist with internet use.

Information illiterate and technological illiterate: Majority of staff and persons with disabilities lack appropriate information literacy skills and the use of ICT –based services provided by the library. Lack of training for people with any form of disability is a major barrier to the access of ICT services.

Lack of appropriate policies: There is an absence of appropriate policies to support the development of public libraries and their acquisition of ICT facilities to cater for the users with disabilities.

Economic barriers: Majority of persons with disabilities are on low income. Some may not afford to pay for the services provided by the Library however minimal they may appear. This thus becomes a great barrier to accessing some ICT services like the internet.

Lack of Awareness on availability of ICT based services: Most persons with disabilities lack awareness on the existing or available ICT based services at the KNLS. This relates to lack of advice and support on relevant and appropriate ICT systems.

Lack of understanding of the needs of the persons with disabilities: Few librarians understand the needs of the users with disabilities. This leaves them marginalized from the formulation of a balanced collection.

Inadequate trained manpower to handle persons with disabilities: The number of trained personnel to address the needs of the persons with disabilities is relatively small compared to the high numbers of people in need. This basically widens the gap for the need of specialized assistance towards the disadvantaged groups.

Economic hardship: most persons with disabilities lack economic empowerment and as such they spend most of their time looking for alms instead of seeking for knowledge and information in the public library.

Way forward

Whereas ICT usually improves the productivity of individuals, for the persons with disabilities it represents more, it is an opportunity to communicate, to gain access to educational services and become gainfully employed.

According to the UNESCO public Library Manifesto, ... “The library services must be adapted to the different needs of communities...” Libraries need to consider how best they can provide information to meet the different needs of the range of users. This basically means providing information in other ways than the usual.

*Formats-*the formats used to disseminate information and knowledge should meet the needs of the users with disabilities. Librarians should discuss with the users the kind of format that effectively suits them. For instance some people may require information given to them via telephone other than print format; others like it face to face encounter. Such requests should be taken seriously and should at no time cause embarrassment to the person in need.

*Disability Awareness-*staff attending to persons with any kind of disability need to be sensitive and helpful in their approach to any problems raised by the users. It should thus

be appreciated that the inherent disabilities are not due to their own failings but are the faults of the products and services which have not been appropriately designed to cater for their needs. For example, it is important to organize training with an element of awareness such as customer care, etiquette and appropriate language to addressing such groups of people.

Developing accessible information policy and guidelines-Developing a formal strategy for providing access to information. Such strategies are more likely to work if well understood and supported by everyone in the public library

Proper planning-Librarians should be proactive in service provision. They should not wait for demands to show up. Rather planning ahead for all the needs of the disabled users would end up being a worthy effort.

Budgeting-inadequate funds poses as a major challenge to providing adequate ICT based services. Public libraries should build in budgets for the production and provision of accessible services to specifically cover services for persons with disabilities.

Internal communication- The library management should at all times keep staff informed and fully aware of the diversity of needs of persons with any form of disability visiting the library. There should be no assumption that persons with disabilities pose in wheelchairs, some may be as able as possible but only the degree makes the whole difference.

Enhancement of Assistive technology (AT) According to the wikipedia encyclopedia, Assistive technology is a generic term that includes assistive, adaptive and rehabilitative devices for people with disabilities. It should be considered as it basically promotes greater independence by enabling people to perform tasks that they were formerly unable to accomplish, or had great difficulty accomplishing. For instance a telecommunication device for the deaf (TDD), an example of an electronic device can be used by those with hearing and speech difficulties.

Use of ergonomic accessories reduces the strain associated with the use of a QWERTY keyboard and a mouse in the PC. Such accessories are fitted with height-adjusted furniture, footrests and arm supports to ensure correct posture. The accessories are also fitted with keyguards to avoid unintentional key presses.

Specialized ICT training services should be offered to the users with disabilities. For example, IT services for non-sighted and partially sighted individuals can be carried on one to one basis and can start from basic computer awareness up to word processing, audio editing, the internet and email. Training sessions for persons with intellectual or communication impairments can also be organized by the library.

It is also important to facilitate and encourage regular seminars, conferences and workshops dealing with the information needs of persons with disabilities and their role in national development.

Conclusion

The introduction of ICTs has scaled to imaginable heights in growth around the world. The new technologies may offer new opportunities to reduce the impact of some disabilities. Some known strategies to help people with disabilities include and are not limited to creating services and products right from the start which consider the needs of the whole community; able-bodied and the users with disabilities; establish inclusive design to enable mobility features so that access is available to all types of services (i.e. banking, chat rooms, blogs, social networks, etc.).

From the services provided, it was observed that the overall work environment, web applications, telecommunication equipment, were not fully accessible to individuals in demonstrating their capabilities for independence. Ignorance and lack of awareness in designing technology that meets the needs of people with disabilities are some of the main obstacles for progress towards ICT that is accessible to all.

To provide equitable access to information to all then concrete action should be included in the policy framework in Kenya, in order for the initiatives for persons with disabilities worldwide to be effective.

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