



PROMOTING THE USE OF ICTS: THE ROLE OF GHANA'S ACADEMIC AND PUBLIC LIBRARIES IN ACHIEVING THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

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Abstract

Information and communication technologies have brought remarkable changes and transformation in this 21st century. These changes have helped both developed and developing countries to reach greater heights in certain areas of human development. Although its emergence has really transformed the world and everything in it, developing countries still find themselves behind in terms of providing access to either free or affordable ICTs. ICTs are very crucial to sustainable development hence its provision and accessibility should be free or affordable in a developing country like Ghana since it is the only way to being part of the information superhighway. Using the mixed method approach, Heads of ICT Department in the Northern Regional Library, Ghana and University for Development Studies Library, Nyankpala, Ghana and library users of both libraries were selected to participate in the study. The results of the study revealed that both libraries provide access to free computers to users. It was also found that both libraries provide access to the internet but users who visit the Northern Regional library are charged for accessing the internet whilst patrons who use the University library's internet access it free of charge. The results generally revealed that these institutions are working feverously in diverse ways towards the attainment of a sustained project that will impact positively on the lives of citizens by ensuring free or affordable access to the internet and other ICTs.

Keywords: ICT, Northern Regional Library, University for Development Studies, Academic Library, Public Library, Ghana

Introduction

The world today has gone through several phases of development. This has gradually seen it move to a more advanced and industrialized society which is characterized by the use of information and communication technologies in running and managing the affairs of the society. Information and Communication Technology (ICT) in a broader perspective, encompasses so many aspects of technologies ranging from radio, television, phones, computers to particularly the internet. These technologies have the ability to broadcast and make information available to people in every corner of the world. Traditionally, ICTs have been in existence since the time of Gutenberg and his invention of the printing machine in 1439 but because of technological

advancements in the 21st century where information is easily processed and shared within a “twinkle of an eye” ICTs are now seen to be new to the world (Ismail, Ahmad & Affandy, 2013).

The importance of ICTs particularly the internet in this 21st century cannot be over-emphasized. However, there are people in the developing world who are struggling to have easy access to the internet. A research conducted by Sanou (2014) revealed that the global internet usage has reached 40%. He further added that about 78% of internet users are now found in developed countries whilst only 32% are found in developing countries. On the whole, the research revealed that 4 billion people in the world are not using

internet. Interestingly more than 90% of these people are from the developing world.

Internet availability by itself in less developed countries specifically on the African continent is not a problem but because of the cost involved, few people are able to access it. For instance, a study conducted in Botswana revealed that an improvement in the telecommunication system has led to easy accessibility of the internet by the citizens but the question of affordability has been an issue blocking majority of citizens from having easy access to the internet (Maswabi & Sethate, 2011).

ICT and internet usage in Ghana over the past years have witnessed tremendous improvement especially with the emergence of new telecommunications companies. With this, the internet is easily accessed in the country with the use of any hand-held device but the question one may still ask, is whether internet accessibility in Ghana is affordable to the extent that stakeholders are able to easily access information with just a click (Quarshie & Ami-Narh, 2012).

As part of the Goal 9c of the UN 2030 agenda for sustainable development, free and affordable internet need to be made accessible to all, especially those in the less developed countries. This goal is seen to be a huge concern since it is the only way one can have access to instant information.

Additionally, the sustainable development goals with its 169 targets also aim at safeguarding human development and the planet as a whole. Considering the current state of rapid evolution of technology, it would be very prudent if libraries are engaged in these activities to ensure the smooth attainment of these goals since they employ ICTs in their day-to-day rendering of services to users and one of the major routes to disseminating information. Libraries are very important in this 21st century and can therefore contribute towards this agenda.

In an effort to find out how libraries are championing this cause, this paper looks at how the University for Development Studies Library, Nyankpala and the Northern Regional Library, Tamale, Ghana, are increasing access to internet usage and other ICTs. It also attempts to propose ways libraries can promote and ensure improvement in the use of ICT.

University for Development Studies Library, Nyankpala

The University for Development Studies is a multi-campus tertiary institution located in the Northern part of Ghana with its main campus in Tamale. It was established in May 1992 by PNDC Law 279. The main motive for the establishment of the University was to find solutions to the socio-economic challenges confronting the people of the Northern Ghana especially those in the rural areas. The University in 1993 began academic work with only thirty-nine students who were admitted into the Faculty of Agriculture.

The University over the years has witnessed a very huge expansion and therefore has set up other satellite campuses in Upper East (Navrongo), Upper West (Wa) and Northern region (Tamale and Nyankpala). Each campus has a library while the Nyankpala campus library serves as the main library. These libraries form the UDS Library system. The UDS Library system was set up to support learning, teaching, research and the dissemination of knowledge. The libraries have since their inception gone through several improvements especially in terms of providing access to ICT. They provide internet facilities to their users and the whole university community. They also have wireless fidelity (Wi-Fi) connection that users easily access whenever they are within or outside the premises of the Library.

The main library in Nyankpala was established in 1993 to serve the academic and research needs of both students and faculty members of the Faculty of Agriculture. Its collection is mainly centred on agriculture and related disciplines.

Additionally, the Library has a fully air-conditioned ICT Laboratory which can seat forty users. It is also worth mentioning that the adoption of ICT by the Library in its operations has made it possible for users to access over 7,000 scholarly journal titles in different databases through its membership of the Consortium of Academic and Research Libraries in Ghana (CARLIGH). The Library's initiative to offer free internet access to the university community and other users from outside who find their way into the university has really helped because people have begun to appreciate the services of the Library and as a result are enthused about visiting the Library.

Students and faculty on the other hand have been using the internet to access all kinds of information for

research, assignments, teaching and learning (Thompson, Amuda & Akeriwe, 2015).

Northern Regional Library, Tamale

The Northern Regional Library is a public library facility situated in Tamale, the Northern Regional capital of Ghana. It is owned and operated by the Ghana Library Authority and started its operations as a Branch Library on 4th August, 1955. It later became a Regional Library on 21st August, 1964. As a regional library it has branches in Damango and Gambaga. There was also a branch in Salaga which was closed down due to the 1994 ethnic conflict between the various ethnic groups of Gonja, Dagomba and Konkomba.

The Northern Regional Library building is divided into four main sections, namely the children's section, adults section, a conference hall and an ICT laboratory.

The Library's collection consists of materials for both adults and children. The pervasive nature of the digital information era has impacted greatly on the information delivery services of libraries including the Northern Regional Library. Libraries must incorporate ICT into their operations to ensure service efficiency. The Northern Regional Library therefore saw the need to establish an ICT laboratory to boost the services it renders to users. With the creation of the ICT laboratory in 2010, the Tamale community begun to enjoy the services of the Library. The Library's ICT laboratory is fully furnished with computers, each connected to the internet.

It is worth mentioning that, these computers were provided by a Non-Governmental Organization known as the Electronic Information for Libraries network (eIFL.net). It is also recorded that, the provision of these computers with internet connectivity helped the Library to organize its first free ICT training workshop for over 200 youth within the Tamale Metropolis.

Additionally, the Northern Regional Library, through its efforts and support from a non-governmental organization known as Savanna Signatures organized series of lectures for health workers in the Tamale Metropolis and helped them access the internet freely to look for information on maternal health services. This came about as a result of a concern raised that lack of access to information was one of the main factors that put pregnant women at risk (http://www.eifl.net/system/files/resources/201408/northern_hires.pdf).

LITERATURE REVIEW

Sustainable development has been severally defined. One such definition is:

It is a development that goes to meet and solve the needs of the contemporary world without endangering future generations' ability to meet their own needs (www.iisd.org/topic/sustainable-development).

The sustainable development goals tagged as 'Agenda 2030' has its main purpose as safeguarding the environment, ensuring economic stability among nations whilst taking into consideration the social concern or aspect of people in the world. The overall target of the sustainable development goals are to ensure long-term stability of the three aforementioned concerns. The agenda 2030 involves taking serious and necessary steps to transform the world and everything in it. It should be noted that the coming out of the sustainable development goals did not meet any stiff opposition because these goals were commonly accepted by world leaders who met at the UN headquarters for a summit (<http://sustainabledevelopment.un.org/post2015/transformingourworld>). These goals have been widely accepted by all nations including Ghana. This therefore makes Ghana one of the nations that needs to pay particular attention to all the goals and targets and make sure it is able to achieve them by the set date.

Public Libraries and ICT

The public library is commonly defined as a particular type of institution established to assist the provision of information to everyone irrespective of the person's gender, race, religion or status (UNESCO & IFLA, 2004).

Historically, only kings and preferably nobles in the community were privileged to have access to libraries. Thus, the library was restricted and not opened to just anyone in the community. However, libraries today have become part of human development and so are open to anyone who wishes to be informed.

Public libraries are very important in the society because they provide services to both children and adults. It was the belief that with the introduction of ICTs, libraries, particularly public libraries would take advantage of this new development and render better services to its users. However, available literature on ICT usage in public libraries in Africa revealed that computers are hardly found in some public libraries

(INASP info brief 3, 2004). Dadzie and Kavi (2015) also indicated in their recent study that the condition of public libraries in Ghana at the moment is very bad. They attribute this situation to lack of monetary support, skilled human resources and the unavailability of relevant materials in the library. It is also believed that public libraries in Africa and even in some parts of Europe specifically the United Kingdom receive less attention as compared to academic libraries. These libraries are therefore struggling to be seen and heard in the society. In other words, their value in the society has depreciated (Chowdhury, Poulter, McMenemy, 2006).

This notwithstanding, public libraries in the 21st century still play a vital role in making ICT and the internet affordable and accessible to the public. In the view of De Ruyck (2014), the only way society can bridge the gap in internet accessibility and provide equal access to ICT is through public libraries. De Ruyck (2014) also asserts that the public library is the institution that can contribute to the cultural, social and even economic gains of a country. This therefore makes it important for African governments to provide and expand the ICT infrastructure in public libraries.

As observed in Uganda, the Hoima Public Library provides free access to the internet and also provides training workshops in ICT for the public particularly health workers. This has enhanced and improved their community health. Additionally, the Jamaican Library Services, in its attempt to bridge the digital divide and make ICT available and accessible to its nationals provided over 100 computers to public libraries in Jamaica (Beyond Access, 2012).

A study conducted in Botswana also revealed that library staff in public libraries who are ICT inclined conducted an ICT training workshop for the general public and this helped in changing the false ideas or perceptions about libraries being meant only for students or serious minded people. The study further indicated that the ICT training helped people with limited educational backgrounds to exhibit searching and other skills (Maswabi & Sethate, 2011).

Academic Libraries and ICT

The ever increasing pace of ICT usage in the society leave libraries no choice than to try and get along with the pace with which ICT is taking the world. Academic libraries unlike public libraries are believed to be able to provide and make available, computers and internet accessible to its users all the time. With the emergence

of ICTs, academic libraries have now come to see the need to automate so as to be able to provide better services to its users to help bridge the gap between users and the library so that irrespective of the closure of the library, users can still have access to the library's resources via the internet. The introduction of Wi-Fi by libraries which makes connectivity simple and easy on the other hand is also a contributing factor towards the promotion of the use of ICTs since a lot of users are drawn to the library to have access (Perera & Chandra, 2010).

The academic library has transformed itself to the extent that it is able to meet the timely information needs of users. This has been possible largely due to the emergence and use of ICT in its operations. A study conducted in Nigeria indicates that Nigerian University libraries employ ICT tools in rendering services to users and this has helped in ensuring greater user-accessibility of resources (Ani, Esin, & Edem, 2005).

Libraries have a unique role to play towards the promotion and use of ICTs and in order for this to work, library staff need to receive constant training on ICT to improve their skills so that they can easily impart the skills and knowledge they have acquired to their users.

Methodology

This study used the mixed methodology approach (a mixture of both qualitative and quantitative research methods). This method is seen to be appropriate for this study because a combination of two methods provide a better insight and understanding of the research problems compared to the use of only one approach (Creswell & Clark, 2011). It permits the research to be more elaborative and elucidative by using qualitative data to provide explanations to statistical data. The method also allowed generalization of findings from qualitative research.

With this, the study made use of semi-structured questionnaires and interview guide in gathering the primary data for quantitative and qualitative analysis respectively. Convenience sampling technique was deployed in administering the questionnaires to users of both the academic and public libraries. Equal number of questionnaires were administered in both libraries as information on number of users in both libraries' ICT Lab was not available. Paper-based closed ended questionnaires were given to the users to answer. A five point Likert scale was adopted in this

study to find out how respondents agreed or disagreed with various questions posed to them. Mann Whitney U test ($\alpha < 0.05$) was also used to find the existence of any differences or similarities in the performance of academic and public libraries.

On the other hand, purposive sampling method was used in selecting the two (2) Heads of the ICT Units each from the Northern Regional Library, Tamale and University for Development Studies Library, Nyankpala. They were then interviewed to find out what their various institutions had been doing to promote the use of ICT and also ensure that users get access to free and affordable internet. The Heads were selected purposely because of the role they play in the libraries as ICT officers and also with the belief that they were the ones who could throw more light on what their institutions are doing to promote the agenda at hand.

Subjects were asked to discuss how their libraries are promoting the use of ICT. Using qualitative content analysis, patterns in the responses were identified and the emerging themes were broadly categorized.

Analysis and Findings

Interviews were conducted in the offices of the interviewees in November, 2016. Analysis of the data collected was put into two broad categories – Promoting the use of ICTs and Access to free or affordable internet

Promoting the use of ICT

Promoting the use of ICT deals with many important issues. One such item under this is making ICT available and accessible to people.

Access to ICT

As observed in both cases, the institutions' ways of promoting the use of ICT has always been trying to provide access to several computers for users. The following statement gathered from the public and academic libraries' supports the point made:

Public Library: - *Computers are available to anyone who needs one to do any work at no cost. We have several computers in our laboratory that users are always welcome to the lab to use for their personal works or assignments. You will only be charged for using the computer if you ask to be*

connected to the internet. That's the only thing we will charge so that we can get some money to cater for some of our bills and other expenditures.

Academic Library: - *There are many computers as you can see here and they are made available to users anytime of the day at no cost, it's because of them that we are here. These computers were acquired solely for the students and other users who may find their way into our library. If you are able to show us your ID card that you are from this place or that place you are welcome to use the computers for your works. We ask for ID cards because it is necessary to do so for the sake of security. As you can see the place is almost full. Students are always here and mostly not because they are here to use the internet. I personally go round to talk to them at times and to also have a look at what they are doing on the various computers whether connected to the internet or not. I realized that not all of them have their own personal computers and at this age it will interest you to know that some even come to tell you to teach them how to use the computer so that when they are given assignments they can come and type it on their own. That's what majority of the students who are inside this room right now are doing, typing their various assignments and project works because not all of them have personal computers to use when they get to their hostels, homes or halls of residence.*

Subjects also indicated in their submissions that one of their ways of promoting the use of ICT is by organizing workshops for users on the new trends in ICT. This point is illustrated by the following statements from the interviewees:

Public Library: - *we provide workshops for Junior and Senior High School Leavers and also for workers at a fee. As earlier indicated we charge so that we can*

always get some money to keep the place running since little support is received from the government

Academic Library:- Training workshops are organized for Faculty on the emerging academic technologies that enhance research and academic work. Faculties are then expected to train students in their various Departments on what they have been taught. If I remember clearly, recently a trainer of trainers' workshop was organized for faculty on how to use Mendeley application for their research works.

It was also revealed that both libraries have not automated their processes. The following remark was therefore made by the libraries in connection to this.

Public Library.... We are not getting the needed support from government as earlier indicated so doing some of these things is not going to be that simple.

Academic Library... We are in the process, about 90% complete, very soon we will take off and users can access information without necessarily entering the Library. Additionally, we have been able to make accessible our electronic resources available to users in the comfort of their homes or wherever they may find themselves without necessarily entering campus before they can access the electronic resources or databases.

Free or Affordable Internet

The interviewees presented some important information under the issue of free or affordable internet for users. It was made known that internet

usage especially in public libraries is not free and that users are charged for accessing the internet. The reason being that, the government is unable to provide the needed support for these public libraries and so they are not in a position to make such a service free to users. The following comment illustrates this point:

Internet usage is not free and users are charged One cedi per hour for accessing the internet. Users are charged because government is not providing funds as it used to. More so, our data subscription from Vodafone is at times financed by a non-governmental organization called GIFEC (Ghana Investment for Electronic Communication). Apart from that we pay our own electricity and other bills. So for us to be effective and continue providing this service, we need to charge for the usage of the internet by users.

On the other hand, internet usage in academic libraries is free, users are therefore not charged for accessing the internet. This remark was made by an interviewee:

The Library provides free internet to users. The Library's Wi-Fi is also accessible to anyone who finds himself/herself around the premises of the Library. This makes it easier for users to access the internet with their laptops or Smart phones and other digital devices without necessarily entering the Library's ICT lab.

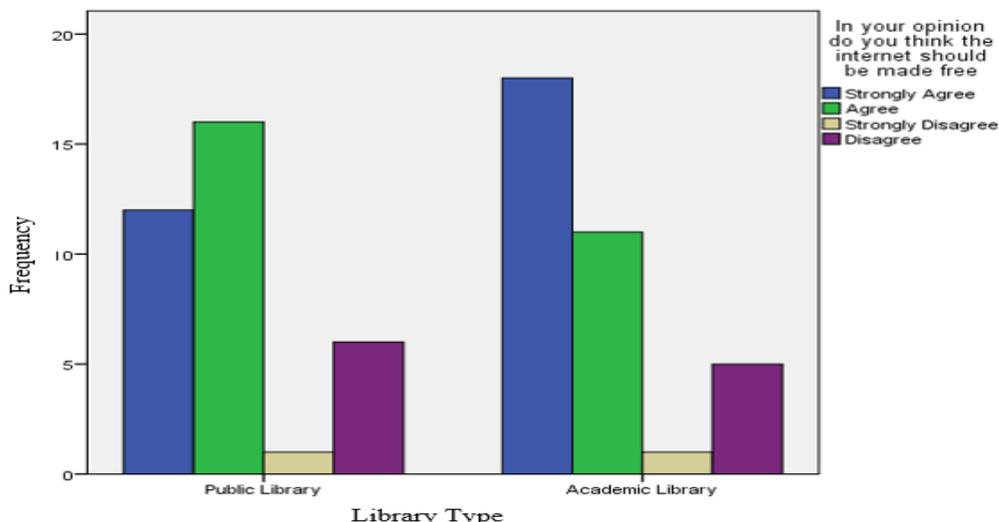
Challenges

The following challenges were indicated as those factors that are not ensuring the smooth promotion of the use of ICTs especially in public libraries:

- *Lack of support from government*
- *Lack of relevant ICT equipment*
- *Lack of skilled personnel/ Inability to retain skilled ICT personnel*

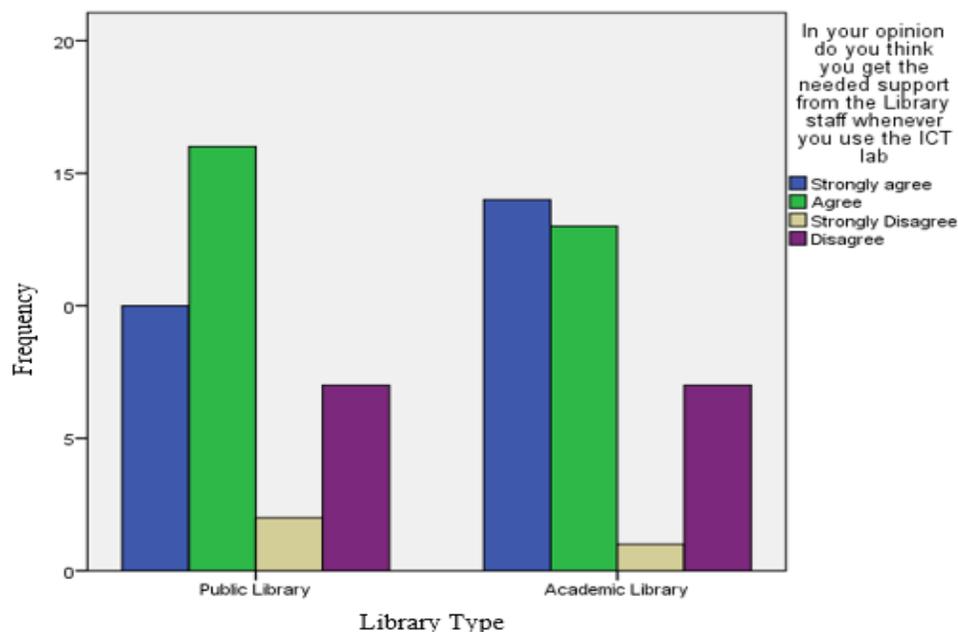
Data collected from the library users are analyzed across cases and presented below.

Figure 1: Respondents Opinion on Free Internet Access



On a scale of one to five, where one is strongly agree and five is disagree, respondents were asked to indicate how much they agree or disagree with the statement “do you think internet should be made free”. The results from the figure indicate that majority of the respondents strongly agreed and preferred that internet should be made freely accessible to all by the libraries. The outcome of the results could also mean that internet accessibility is very difficult and probably expensive in Ghana and so respondents believe that libraries can help make it easily accessible and at a very affordable rate.

Figure 2: Respondents opinion on getting the needed support from staff



Respondents were also asked to indicate how much they agree or disagree with the statement “do you get the needed support from the library staff whenever you use the ICT lab”. The results shown reveal that respondents from the academic library strongly agreed to the statement whilst respondents from the public library just agreed. This implies that respondents from both institutions get the support they need from the ICT lab.

Table 1: Mann-Whitney U Test of Significance Difference in Performance of Academic and Public libraries

Library services	Academic Library			Public Library			Mann-U	P _{value}
	Yes	No	N	Yes	No	N		
Provide free access to computers	32 (91.4%)	3 (8.6%)	35 (100%)	20 (57.1%)	15 (42.9%)	35 (100%)	402.500	0.001
Does the Library provide free access to internet	34 (91.7%)	1 (2.9%)	35 (100%)	1 (2.9%)	34 (91.7)	35 (100%)	35.000	0.000
Does the Library provide access to Wi-Fi	35 (100%)	0	35 (100%)	35 (100%)	0	35 (100%)	612.500	1.000
Does the Library provide ICT training workshops to users	10 (28.6%)	25 (71.4%)	35 (100%)	13 (37.1%)	22 (62.9%)	35 (100%)	665.000	0.448

Since the study is on academic and public libraries, there was the need to also find out by testing the differences in the performance of the two libraries at significance level of $\alpha \leq 0.05$. Literature on academic and public libraries suggests that academic libraries are far ahead of their public counterparts in the provision and rendering of services. In order to prove the existence of any differences the Mann Whitney U test is employed in this study to determine the differences in the performance level of the libraries.

As indicated in the table, there is a significant difference in terms of the provision of free access to computers in the two library types with significant number of respondents stating that academic libraries provide free access to computers to its users as compared to the public libraries (Mann-Whitney U; $p < 0.01$).

As observed in the table, there is also a significant difference in the provision of free internet to users for the two library types under study as majority of the

respondents (91.7%) mentioned that academic libraries provide free access to internet as against public libraries who charge users before they can get access to the internet (Mann-Whitney U; $p < 0.000$).

The test also revealed that there is no significant difference in the performance of academic and public libraries' services provision in terms of accessibility to WiFi and ICT training workshop with p -values of 1.000 and 0.448 respectively as found in the table.

Discussion

The main focus of this study was to find out how public libraries and academic libraries are providing access to ICT and free internet. Access to ICT in this 21st century must be seen as a basic need for every individual hence institutions must make it one of their huge responsibilities to provide this service to the society. Data on access to ICT in both the public and academic library revealed that these institutions are providing and doing all that they can by making available the needed computers to users. Notwithstanding this, they

also organize training workshops for users on how to use computers and also educate them on the emerging trends of technologies for academic purposes. These findings have been supported in past studies such as Beyond Access (2012) and Maswabi & Sethate (2011). It was revealed in a study conducted by Beyond Access (2012) that Jamaica donated over 100 computers to its public libraries as its way of contributing to making ICT accessible to users. Maswabi & Sethate (2011) on the other hand also revealed that library staff in Botswana's public libraries organized training workshops for the general public and this has helped those who participated in them to know how to search for information.

There was an indication from the data collected that both academic and public libraries put in a lot of effort to provide the needed computers and offer training workshops for their users. However, there is also the perception that academic libraries receive more attention than their counterparts in the public libraries (De Ruyck, 2014). This indication manifested in this study as the Northern Regional Library authorities revealed that they pay their own electricity and other bills and so they are forced to charge for the usage of such services like the internet and even the training workshops they organize for junior and senior high school leavers.

The world today runs on the wheels of the internet since it is the only way of making information accessible to people across borders. The availability of Wi-Fi which is provided by both institutions is also a laudable way of promoting the use of the internet and making it accessible to those users who have their own personal computers and other hand-held devices. As remarked by Perera & Chandra (2010), the introduction of Wi-Fi by libraries has made internet connectivity simple and easy and has also helped by bringing people to the library thereby promoting the use of the library.

Conclusion

This study and literature has revealed that indeed public libraries unlike academic libraries to some extent are left on their own to fend for themselves especially on the funding of ICT infrastructure and internet provision to their users. The high cost of ICT and bandwidth therefore renders the Northern Regional Library incapable of providing the needed services to the society. This consequently leads to the

shifting of the cost to users. On the other hand, the academic library renders this service at a minimal or no cost to users because the parent institution absorbs a greater part of the cost.

The study also revealed that both public and academic libraries are not just providing ICT and internet services to users but are also training users in ICT and internet use. By equipping users with ICT skills this service will help in the achievement of the Sustainable Development Goal 9c which aims at significantly increasing access to ICT as well as providing universal and affordable access to the Internet in the Least Developed Countries by 2020.

Although these two types of libraries are very important in the society, the public library should be given the maximum support so that it would be effective at serving the society well because it is the only type of library that caters for both adults and children as compared to the academic library which operates towards a certain specific line.

Recommendations

- *Government should provide the needed support for libraries particularly public libraries.*

There is every indication that, in order for public libraries in Ghana to survive and continue to be active in the society, government needs to make it a responsibility to provide them with the needed funds. As revealed in the findings of the study, they need to charge for the services they offer in order to be able to continue rendering such services to patrons or users. With this development, the government must make it a point to provide the needed assistance to the libraries either in monetary form or the needed ICT equipment.

- *Public libraries should seek for external support from NGOs.*

Based on the findings of this study and literature, the perception out there that academic libraries are far ahead of their public counterparts in the provision of ICT is true especially in the area of providing free internet to users. In the light of this, public libraries in Ghana should therefore be encouraged to seek for assistance from non-governmental organizations so that they would be able to render the needed services to users.

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