

# Adoption of Information and Communications Technology in Polytechnic Libraries

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**Abstract** - This study assessed the level of information and communications technology use in polytechnic libraries in Ghana. The study used the survey method and questionnaire as the data collection instrument from five polytechnic institutions in Ghana. The study revealed that the Polytechnic Libraries use one form of ICTs or the other. Also, some of the libraries provide ICT-based services. The challenge of funding, lack of ICT infrastructure, low bandwidth as well as misunderstanding between library staff and ICT department were identified. It was recommended that an ICT policy for the libraries to guide them in the acquisition and use of ICTS in their libraries be developed. Also, librarians in the Polytechnic Libraries should be trained in various technological applications and trends in information service and delivery to enhance the services they provide. Finally, the Polytechnic leadership must prioritize the acquisition and use of ICTs in their libraries and make budgetary allocation that could support that drive.

**Keywords** - *Polytechnics, Libraries, Information and Communications Technology, Policy*

## 1. Introduction

Ghana has now become a middle income country as a result of its economic growth and discovery of oil on its shores. The numbers of educational institutions are also growing to meet the demands of the economy and emerging oil industry. The role of library therefore is very key in meeting this expansion in education and the quest for knowledge in the Ghanaian society. The quest for knowledge and education has also been necessitated as a result of the growing number of youth who forms a majority of the Ghanaian population who have adopted information technology as a way of life. Libraries, and for that matter Polytechnic libraries have a role to play in providing access to knowledge and information through modern and effective means to meet the demands of the society. According to Ghosh (2004), public libraries have a major role to play in bridging the “digital divide”. Information and communication technologies (ICTs) have the capacity to open up new ways of interactive communication between the citizen, public libraries and civil society at large.

Adeleke and Olorunsola (2009) asserts that if libraries are to function effectively in the present age, the manual processes or methods will have to give way to information and communication technologies (ICT) and a computer driven environment. It is therefore worthwhile to note that polytechnic libraries will function effectively and efficiently if they adopt ICTs in their operations and activities. Ghosh (2004) reiterates that Information and communication technologies (ICTs) have the capacity to open up new ways of interactive communication between the citizen, public libraries and civil society at large.

Users and information seekers in libraries are becoming more and more sophisticated in their quest for information and knowledge. Therefore, the library must position itself well to meet these needs of sophisticated users in the world of ICT. Haneefa (2007) adds that libraries and information centres have been employing ICT and electronic information resources and services to satisfy the diverse information needs of their users. It is therefore important that polytechnic libraries would need to adopt more technology in its approach to meet and satisfy the needs of its users and patrons.

The major constraints faced by polytechnic libraries in the effective delivery of information through the application of Information and Communications Technologies is as result of lack of adequate infrastructure to provide technological services as well as the lack of adequate funds to acquire and use these ICTs.

## 2. Objectives

1. To find out various ICTs that have been adopted by Polytechnic Libraries
2. To find out ICT based services in the libraries
3. To find out the sources of funding for ICTs in their Libraries
4. Challenges of ICT use in the library

## 3. Research Questions

1. What ICTs are been used by your library?
2. What services in the library are ICT based?

3. What are the sources of funding for ICTs used in your library?
4. What are some of the challenges you faced in the use of ICTs in your library?

## 4. Literature Review

The adoption of Information and Communications Technology has come to stay and polytechnic libraries will need to find ways and strategies to adopt these technologies to meet user needs and enhance quality of service. Two areas of research are considered relevant for this study ICT based applications for libraries and challenges of ICT use in libraries.

### 4.1 ICT-Based Technology in Libraries

According to Haneefa (2007), the monopoly libraries have had on information provision is over. Today libraries are shifting their role from the custodian of traditional information resources to the provider of service oriented digital information resources. Widespread use of computers, increased reliance on computer networks, rapid growth of Internet and explosion in the quality, and quantity of information compelled libraries to adopt new means and methods for the storage, retrieval and dissemination of information.

Many modern libraries have adopted various ICTs in managing library services and activities. These include the use of integrated library management software (ILMS), CD-ROMs, networks, internet, Online Public Access Catalog (OPAC), online resources such as electronic journals, databases, online libraries etc.

Okon et al (2005) emphasized the use of library networks to facilitate library cooperation and resource sharing; hence the need for the adoption and provision of electronic or computer networks in academic libraries. A study conducted by Okebukola (2002) in Nigeria also proposed that since no single library in Nigeria can ever be totally sufficient in terms of its acquisition, there is a need for networking of academic libraries in the country, which will ensure that network members make up for the short falls from the strength of others. Collections that are not available in a given library can be accessed from another library having such collections within the framework of a network. The pooled resources are, therefore, made available electronically to each library site through ICT.

Harris (2006) adds that the introduction of electronic document delivery (EDD) via the web has allowed the British Library (BL) to commercialize one of its most highly regarded services. About 70 per cent of the BL document supply transactions are still paper-based, but

operators now convert documents held as hard copy into files, which are then emailed direct to library users. The library is currently using digital rights management (DRM) software (developed jointly with Adobe Systems) to charge fees for documents supplied.

Chandrakar and Arora (2010) provided the Indian experience on the use of ICT in the cataloguing process. The paper discussed the use of IndCat (Online Union Catalogue of Indian Universities), Catalogue of Library of Congress and others in copy cataloguing in Indian libraries. According to Zaid (2008), the advantage of online cataloguing cannot be over-emphasized, "for cataloguers and classifiers that have embraced the new technology, it is no longer common to see newly acquired information resources held up in the cataloguing unit for months". Egberongbe (2003), and Adeyemi(2001) stress that large amounts of cataloguing data available in the databases of the Online Computer Library Center (OCLC) World-Cat and the Library of Congress (LC) Online Catalog have saved libraries from the repetitive nature of catalogue information in all libraries.

Grosbeck (2009) also indicated that many Web 2.0 technologies like blogs, microblogs, wikis, syndication of content through RSS, social bookmarking, media sharing, networking sites and other social software artifacts were incorporated in teaching and learning process in higher education. He added that these technologies provide unique and powerful information sharing and collaborative features in teaching as well as with colleagues, administrative and libraries' staff.

### 4.2 Challenges of ICT Use in Libraries

Various studies and researches have outlined a number of factors that are affecting the use of ICTs in academic libraries. These factors pose great challenge to the effective and efficient functioning of libraries in Ghana and for that matter in the polytechnics.

A study conducted by Okon et al (2005) in Nigeria showed that the major factors militating against effective adoption of ICT in Nigerian university libraries is inadequate funding this is because these libraries basically depend on library funds (Library Development Funds) for development. He also adds that another prominent factor that impedes effective adoption of ICT in these libraries is frequent power outage.

Adeleke and Olorunsola (2007) also found out from their studies that some of the factors that pose a challenge to the use of ICTs in libraries includes, ICT infrastructural problems, Skills for effective use of ICT, Access to online

catalogue, Supportive role of it department, and Low bandwidth and internet speed.

## 5. Methodology

A survey method approach was used for the study. A questionnaire was used to collect data from respondents from the various Polytechnics in Ghana, they include the Accra Polytechnic, Koforidua Polytechnic, Kumasi Polytechnic, Bolgatanga Polytechnic and Cape Coast Polytechnic.

## 6. Results of the Study

### 6.1 ICTs Used by Polytechnic Libraries

The study revealed that the Polytechnic Libraries use one form of ICTs or the other. From the data collected, two of the libraries have adopted an integrated library management system which helps them cataloging and classification. Also, three of the libraries have access to the Internet whiles the other two do not have access to the Internet. All the libraries also computers which they use to do administrative and library work.

In spite of the adoption of various ICTs in these libraries as indicated above, only one of the libraries have an ICT policy that guides it in the acquisition and use of these technologies.

### 6.2 ICT-Based Services in the Libraries

The study also revealed that the libraries provide ICT-Based services in their libraries. Out of the total responses three of the libraries provide online electronic resources services. This was acquired through the International Network for the Availability of Scientific Publication (INASP) and the Consortium of Academic and Research Libraries in Ghana (CARLIGH). None of the libraries provides an OPAC (though two indicated that they have an in-house OPAC service) service as well as any internet based service. Only one of the libraries has recently setup a library blog to promote its services and activities. Only one has also setup a electronic mail and electronic book services.

### 6.3 Sources of Funds for the Acquisition of ICTs

Data gathered from respondents to find out the sources of funding for ICTs in the libraries indicated that four of the libraries get their funding from budgetary allocation which they indicated to be woefully inadequate and one library also stated that they get their funds from fees paid by students.

### 6.4 Challenges of ICT Use in Libraries

The results of the study indicated the challenge of funding for the acquisition of Information and Communication Technologies. They indicated that it was the major stumbling block to the full utilization of ICTs in their libraries. Also, the respondents indicated the challenges such as inadequate computers (all libraries), lack of a network infrastructure in the library (two libraries), low bandwidth and slow internet speed (all libraries), Obsolete ICT equipments (one library), Power failures (all libraries) and problems with IT department in the institutions (three libraries).

## 7. Conclusion

The data for the study has revealed that only few Information and Communications Technologies are been used in some of the Polytechnic Libraries. According to Okon et al (2005) the recent advances in ICTs have strengthened further the link between knowledge and broad based development and the “knowledge revolution” provides an opportunity to foster access to basic library services and improved education outcomes. Polytechnic Libraries must therefore take advantage of technological advancement and changes to provide high-end technology oriented services to its patrons and users. The use of these technologies will not only improve the services provided by the library but also open the polytechnic libraries to the outside world for information sharing and delivery.

## 8. Recommendations

The researcher makes the following recommendations for consideration by the Polytechnic Institutions and other bodies associated with polytechnic education:

8.1 Development of an ICT policy for the libraries to guide them in the acquisition and use of ICTS in their libraries.

8.2 Librarians in the Polytechnic Libraries need more training in various technological applications and trends in information service and delivery to enhance the services they provide.

8.3 The Polytechnic leadership must prioritize the acquisition and use of ICTs in their libraries and make budgetary allocation that could support that drive. The libraries must also find some innovative ways in soliciting for funds to support ICT use in their libraries.

8.4 One of the major challenges the study revealed was the frequent power outages that disrupts the flow work in the libraries. The researcher recommends that the

Polytechnic institutions be equipped with power generating plants to support ICT usage in times of power failure or outage to ensure an uninterrupted power supply.

8.5 Libraries, for that matter Librarians must create a good relationship with their IT departments and Heads to ensure constant support in the usage of ICTs in the libraries.

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