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Information and Communication Technology (ICT) Application in Polytechnic Libraries in South-South, Nigeria

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Abstract

The study was designed to access the information and communication technology application in polytechnic libraries in South-South Nigeria. The objectives of the study were to identify the ICT facilities available; to determine the purpose of ICT application in those libraries; to determine the extent of ICT application in the libraries; to identify the challenges of ICT to library services and to suggest strategies for improving ICT application to library services in those libraries. A descriptive survey design was used for the study with a population of 94 library staff and 711 library users. All the library staff were used while 142 library users were sampled. Questionnaire and observation checklist were used for data collection. Out of 94 copies of questionnaire distributed to library staff, 84 representing 89.4% were correctly filled and returned and used for the study while out of 142 questionnaires distributed to the library users, 121 representing 85% was returned and used for the study. Data generated for the study were analysed using percentages and mean. The results obtained revealed that various ICT facilities such as network facilities, photocopiers, printers, scanners, local area network among others are available in the libraries; that ICT application are used for different purposes in the libraries; that the extent of ICT application to library services in those libraries is extensively low except few services that are of great extent, that there are same challenges associated with ICT application in the libraries such as inadequate funding, incompetent personnel, erratic power supply and management problems and many strategies like increased funding of ICT in libraries, provision of adeqaute technical support and provision of qualitative bandwidth were suggested to enhance maximum application of ICT in the libraries. Based on the findings, it was recommended that more ICT facilities should be made available, power supply should be improved and that adequate fund should be provided by the government to the libraries.

Introduction

The concept of the library as a store house of knowledge as embodied in books has been greatly altered by trends in the information and communication technology (ICT) fields. Anaeme (2006) stated that the emerging and fast growing information and communication technology application in libraries especially academic libraries have continued to revolutionalised the pattern and scope of library services. The library as the heart of the polytechnic can benefit tremendously from the full implementation of ICTs.

There is a growing acceptance among academics, education policy-makers and employer groups that the development of ICT skills is part of higher education, Quadri and Olaleye (2017). The new technology enables the library to perform all its operational routines and provide efficient, effective and optimal services to its clientele.

The prime functions of polytechnic libraries is to provide facilities and information for teaching, learning, research and cultural development. Today, libraries especially polytechnic libraries are confronted with intricate and constantly developing network of knowledge and exist in world where the use of ICT has become essential to progress towards more efficient information service delivery. According to Adewale and Adesanya (2003), the manual method of acquisition, organization, maintenance, documentation, circulation of library materials and other services involves a lot of paper work and skilled man power of labour which is tedious, time consuming and prone to error. It usually leads to unnecessary delays in fulfilling its services to library users. As the library records are becoming larger and keep on increasing by day, the task of controlling the records will be more difficult and complex to handle manually. The situation calls for the need to apply ICT to solve problems created by

manual methods in this era of information explosion in the acquisition and processing and management of library resources as well as the satisfaction of users needs. Fausat, Lawal & Dolapo,(2018) Information communication technology (ICT) is one of the greatest inventions of mankind which played unprecedented roles in changing the landscape of human and organisation activities around the globe from which libraries are not exempted.

Libraries have remained unchallenged until recently as providers of convenient and comprehensive information to meet a wide range of the information needs for the public. Henderson (1992) states that information technology provides numerous benefits and advantages to library users, some advantages he identified include: provision of speed and easy access to information; provision of more up to date information; and provision of information flexibility to be used by any individual according to his or her requirements. Other importance of ICT to the effective organisation of materials includes that: it boosts the service of the library; it facilitates the typical library standard; it brings about standard information and library system; it saves time in processing, organization and retrieval of materials and accuracy is guaranteed.

At this point, it is worthy to note that when ICT is mentioned in the library, it is not just about the facilities as an isolated machine, it is simply the information and communication technology application to these libraries that facilitates its operations. No wonder. Aniodo and Ayalogu (2012) take information communication technology to be the use of the computer as well as other electronic telecommunication appliances to input, solve, and receive information from different sources, create and transfer massages in form of ideas and also input knowledge to recipients.

Is used to inspire students into action can be used to demonstrate correct techniques and to develop students outstanding and knowledge of their courses. Information and communication technology application to libraries had been responsible for the changing role of traditional libraries setting of handling information packaged in printed format to that of computer networks dealing with all forms of knowledge. Thus, the information stored in libraries has taken a major shift from volume-limiting paper to limitless multimedia digital form. ICT has been described to be the medium by which the highest quality service in the library and information profession can be achieved. According to Ufuoma (2011), ICT in libraries has changed the mode of information storage and retrieval such as acquisition, cataloguing and classification, circulation of materials, serials control management statistics and administrative activities such as budgeting. This has ultimately led to the provision of more efficient information services to the users and overall improvement in the performance of the libraries and other related information institution (Chisenga, 1995).

Information communication technologies enable society to create, collect, consolidate, communicate, manage and process information in multimedia and various digital formats for different purposes. Contuning, Ashikuzzaman (2018) observed that ICT has changed the library professionals. E-Learning in education is the wholesome of model integration of modern telecommunications, equipment and ICT resources particularly the inker, into the education system (Makeri 2017).

The fifth law of library science according to Ranganathan cited in Ufuoma (2011) is that the library is a growing organism. Growth must imply change and libraries are faced not only with an unprecedented rate of change, but also challenges on their existence in contemporary society (Weiner, 2003). Aina (2004) has extensively discussed ICTs applied to libraries including personal computer application, CD-ROM searching, telefasmile, networks, electro copying, electronic mails, on-line searching and the internet. ICT application in libraries all over the world have brought about more efficient technical services and improved readers' services.

In spite of the numerous benefits derived from the current wave of innovation, which has transformed the contours of information services in academic and other libraries worldwide, the development pose some challenges to library services. Some of these challenges associated with the application of ICT to library services include: frequent

change in the designs of information technology, financial constraints of various academic libraries, poor infrastructural facilities erratic power supply, and lack of technical skills (Oketunji, 2001; Omekwu, 2004; Gbaje, 2007; Ashcroff and Watts, 2005 and Womboh and Abba, 2008).

Information and communication technology application has become an important issue by which library standard could be measured. According to Agim, Iroeze, Osuji and Obasi-Haco (2018) ,ICT has the potential to support and approve education across the curricula and also enhance opportunities for effective communication between teachers and students more than ever before.

The application of ICT has provided more effective and efficient service delivery in the library in order to enhance library services. Some researchers like Kanton (1994), Warner and Barber (1994). Mitchell and Mooney (1996) and Ede (1996) have all carried out studies that relate to information and communication technology application in academic libraries. The studies revealed that ICT in libraries have tremendously revolutionalised library operations and services. However, the extent of ICT application in polytechnic libraries in South-South Nigeria has not been explored, hence the need for this study.

Purpose of the Study

The general purpose of the study is to determine the extent of information and communication technology application in polytechnic libraries in South-South Nigeria. The specific objectives of the study are to:

1. Identify the information and communication technology (ICT) facilities available in polytechnic libraries in South-South Nigeria.
2. Find out the purpose of ICT application in Polytechnic libraries in the zone.
3. Examine the extent of ICT application in Polytechnic libraries in the zone.
4. Examine the challenges of ICT application to library services in Polytechnic libraries in the zone.
5. Suggest strategies for improving ICT application to library services in Polytechnic libraries in the zone.

Research Method

The study adopted a descriptive survey design and the population consists of 94 library staff in polytechnic libraries in south-south geo-political zone of Nigeria and 711 registered users. All the library staff were used while 142 registered users were sampled using proportionate stratified sampling technique because the population varies across the polytechnic libraries in the geo-political zone. The instruments for data collection were researchers' developed questionnaire titled Information and Communication Technology Application in Polytechnic Libraries Questionnaire (ICTAPLQ) and observation checklist. Two sets of questionnaire were developed, one for the library staff and another for the library users. The questionnaire contains 68 items grouped into five clusters, A – E, with each cluster addressing each of the specific objectives of the study. The instruments were subjected to face-validation through expert opinions. The validates were requested to scrutinize the instruments to ensure proper wording of items, appropriateness and adequacy of the items of the instruments. Their observations, comments, criticisms and recommendations were used in the modification of the final draft of the instrument. The instruments were administered by the researchers with the assistance of research assistants who were selected from each of the polytechnic libraries used for the study. The questionnaire were administered and retrieved by the researchers within a period of three months. A – 21 item observation checklist was used by the researchers to find out the available ICT facilities in those libraries. Data generated for the study was analyzed using percentages and mean scores. For clarity, the data were presented in frequency tables. The responses for research question 1 was in percentages while research questions 2-5 were based on a 4 – point rating scale with a criterion point of 2.50. thus any mean score that is equal to or above 2.50 was regarded as positive while any mean score that is below 2.50 was regarded as negative. On the other hand, any percentage that ranges from 50% and above was regarded as acceptable while 49% and below was regarded as rejected.

Results

Table 1: Information and Communication Technology (ICT) Facilities Available in Polytechnic Libraries in South-South Geo-Political Zone

	Facilities	Ogwashi-ukwu polytechnic library		Rivers State polytechnic library		Ozoro polytechnic library	
		AV	NA	AV	NA	AV	NA
1.	Network facilities	√	-	√	-	√	-
2.	On-line database	-	√	√	-	-	√
3.	Machine readable catalogue (MARC)	-	√	√	-	√	-
4.	Photocopiers	√	-	√	-	√	-
5.	Printers	√	-	√	-	√	-
6.	Scanner	√	-	√	-	√	-
7.	CD-ROM	√	-	√	-	√	-
8.	DVD-ROM	√	-	√	-	-	√
9.	On-line Public Access Catalogue (OPAC)	-	√	√	-	-	√
10.	Projectors	√	-	√	-	√	-
11.	Library based software e.g. X-lib	-	√	√	-	√	-
12.	Local area network	√	-	√	-	√	-
13.	Wide area network	-	√	-	√	-	√
14.	Wireless internet access	√	-	√	-	-	√
15.	Telephone	√	-	√	-	√	-
16.	Telefascmile equipment	-	√	-	√	-	√

Table 2: Mean responses of the respondents on the purpose of applying ICT in Polytechnic libraries

	Purpose of Application	$\overline{x}$	Decision
1.	Increases the range of services offered	3.68	Agree
2.	It allows easy integration of activities.	3.98	Agree
3.	It facilitates library cooperation and networks.	3.92	Agree
4.	It saves time and generates money	3.73	Agree
5.	It increases efficiency	3.81	Agree
6.	It helps to speed up the process of document delivery	3.82	Agree

Table 3: Mean responses on the extent of ICT application in the polytechnic libraries

	Extent of Application	$\overline{x}$	Remarks
1.	Current awareness services (CAS)	2.31	Reject
2.	Provision of bibliographies	1.83	Reject
3.	Photocopying	3.42	Accept
4.	Refereal services	2.45	Reject
5.	Displays	1.84	Reject
6.	Bibliographic searches	2.11	Reject
7.	Selected Dissemination of Information	1.41	Reject
8.	Lending	2.46	Reject
9.	Indexing and abstracting services	2.12	Reject
10.	Short loan services	2.99	Accept
11.	Registration of users	3.67	Accept
12.	Charging and discharging	2.56	Accept
13.	Inter library loan	2.09	Reject
14.	Exchange of information	2.40	Reject

Table 4: Mean responses of the respondents on the challenges assoicated with ICT application in the polytechnic libraries

	Challenges	$\overline{x}$	Remarks
1.	Inadequate funding	4.12	Accept
2.	Lack of infrastructural facilities	3.61	Accept
3.	Incompetent personnel	3.83	Accept
4.	Erratic power supply	3.77	Accept
5.	Management problems	3.75	Accept
6.	High cost of maintenance	3.41	Accept
7.	Software problems	3.69	Accept
8.	Frequent changes in technology	3.27	Accept

The data in table 1 shows the facilities that are available in the polytechnic libraries in the study area. It is evident from the table that network facilities, photocopiers, printers, scanners, CD-ROM, DVD-ROM, projectors, local area network, and telephone are available in all the libraries. Other ICT facilities such as machine readable catalogue (MARC), On-line database, On-line public access catalogue (OPAC), library based software wide area network and telefascmile equipment are available in some libraries but not available in others.

Table 2 indicate that the respondents agreed that the purpose of ICT application in Polytechnic libraries include that it increases the range of services offered, allows easy integration of activities facilitates library coperation and networks, saves time and generates money, increases efficiency and helps to speed up the process of document delivery. This is because all the items had mean scores above 2.50 which is the criterion point.

It is evident from table 3 that the respondents agreed that the extent of application of ICT with respect to photocopying, short loan services, registration of users, and charging and discharging is high in those libraries while it is low with respect to items 1,2,3,5,6,7,8,9,13 and 14. This is because these items have mean scores of less than 2.50 which is the criterion point while the rest have mean scores of less than 2.50.

Table 4 indicates that the challenges of ICT application to library services in polytechnic libraries are inadequate funding, lack of infrastructural facilities, incompetent personnel, erratic power supply, management problems, high cost of maintenance, software problems, and frequent changes in technology. All of them have mean scores which is above 2.50 and were therefore accepted by the respondents.

Table 5: Mean responses of the respondents on the strategies for improving ICT application in the polytechnic libraries

	Strategies	$\bar{x}$	Remarks
1.	Increased funding of ICT in libraries	3.91	Accept
2.	More qualified staff needed in the library	3.73	Accept
3.	Training of staff of ICT facilities	3.69	Accept
4.	Constant power supply	3.82	Accept
5.	Provision of adequate technical support	3.91	Accept
6.	Procurement of all relevant ICT components.	3.71	Accept
7.	Effective management of the libraries	3.83	Accept
8.	Provision of qualitative bandwidth	3.91	Accept
9.	Provision of intranet and internet connectivity	3.76	Accept

The result as presented in table 5 indicated that all the strategies including increased funding of ICT in libraries provision of adequate qualified staff in libraries, training of staff on ICT facilities, provision of constant power supply, among others could be adopted to enhance the application of ICT in polytechnic libraries. All these items have mean scores which is more than 2.50, which is the criterion point and were therefore accepted.

Discussion of findings

The study revealed that there are some ICT facilities available in the polytechnic libraries in the zone. These ICT facilities include network facilities, on-line databases, machine readable catalogues (MARC), photocopiers, printers, scanners, CD-ROM, On-line public access catalogue (OPAC), local area network, wide area network, telefascmile equipment among others. It is however, important to note that these facilities are not generally available in all the polytechnic libraries. Whereas some of them are available in some libraries and some are not available in other libraries. The need for the availability of these facilities agrees with the findings of Onwubiko (2006) who asserted that academic libraries in Nigeria must embrace the technological innovation if they must meet up with emerging challenges associated with library services.

It was revealed from the study that the purpose of ICT application to library services include the increment of the range of services offered, easy integration of activities, saving of time, increased efficiency and facilitation of cooperation and networks. Etim (2002) and Madu (2006) are of the view that ICT

application to library services will bring about increased efficiency, save time and energy, facilitates cooperation and widen the range of services that the library could offer.

The extent of ICT applications to library services in the polytechnic libraires could be said to be minimal. The study revealed that it is only on photocopying, short loan services, registration of users and charging and discharging that it is applied. This situation shows that the extent of application is still low and it is obvious that ICT application is libraries have become indispensable (Sharp, 2002).

The study equally revealed that there are some challenges associated with the application of ICT facilities in polytechnic libraries in the zone. These challenges ranges from lack of infrastructural facilities incompetent personnel erratic power supply, high cost of maintenance and frequent changes in technology. Alakpodia (2010), Gbaje (2007), Tejiri (2009) all agreed that ICT application in libraries is faced with a number of challenges such as inadequate infrastructure, erratic power supply as well as high maintenance cost.

The finding revealed that ICT application in polytechnic libraries could be improved through adequate provision of ICT infrastructure in the libraries, training and retraining of staff, provision of alternative source of power supply and procurement of relevant spare parts which according to Ngurukwem (2006), Ukachi (2008) and Daze and Dutse (2003) will ensure that the polytechnic libraries will live up to expectation and will be able to meet the ever changing needs of the users.

Conclusion

The application of ICT to library services has come a long way. The development of ICT has changed tremendously the mode of information storage and retrieved as well as dissemination of information to library users. It could be seen that ICT encompasses all devices and technology employed in information handling which facilitates communication between man and the electronic environment. It serves in the storage, retrieval, dissemination and display of information through processing and management system and effective dissemination of information to the clients. The challenges associated with the application of ICT facilities in polytechnic libraries notwithstanding concerted effort should be made to ensure full ICT application to the libraries so as to equip them with all it takes to render effective and efficient services to the users, which is the main purpose of their establishment.

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