

EFFECTIVE SERVICE DELIVERY AND INFORMATION COMMUNICATION TECHNOLOGY (ICT) DEVELOPMENT IN NIGERIA UNIVERSITY LIBRARY

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Abstract

The study examined effective service delivery and information communication technology (ICT) development in Nigeria university library. It was guided by two research questions and adopted descriptive survey method. The population of the study was 132 respondents consisting of professional, paraprofessional, and non-professional librarians drawn from the entire library staff of the library. Questionnaire was used as instrument for data collection. A total of hundred and thirty-two (132) questionnaires were distributed and collected back. The data collected were analyzed with the use of percentages and mean scores. The findings of the study revealed that the skills the librarians require for the deployment of ICT facilities are application software, using keyword phrases to search for information on the WWW, sourcing of academic data basis, copying file from one disk to another, creating a directory or folder. It also revealed that the contributions of ICT resources are to very high extent; updates in their technologies are the appropriate strategies for enhancing the deployment of ICT resources in service delivery. Based on the findings it was recommended that every section of the library should be automated in order to facilitate and create an avenue for effective services delivery, orientation programs on the use of computer for information retrieval should be conducted and made compulsory for new staff so as to cope with the current trend or the new technological revolution, There should be collaboration between experts in ICT know-how in the computer centers in the institution and library to fast-track the active participation of library delivery for their library services.

Keywords: ICT, effective, services, deployment, skills

Introduction

Information, as power is effectively an infinite resource and a vital tool needed for the development of all sectors in any nation. In this 21st century, the drastic role of ICT in library operations cannot be overemphasized. ICT is a generic term that refers to the technologies that are used to collect, store, edit and communicate information in various format (Raji, 2018). The use of ICT improves access to digital information, narrows down the digital divide and also improves standard of living. This is an era, people need to access timely information with ease, and this can only be done through the application of ICT to library services. It is also a way of contributing to sustainable development of the nation, since timely and effective provision of useful information can assist in building up a society ICT as an enabling tool, assist libraries in provision of information, which is very paramount to development of the various faculty and departments in the universities. Libraries are playing a very important role facilitating access to global information and knowledge resources, using ICT (Onunka, Onunka, Fawole, Adeleke, & Daraojimba, 2023). Apparently, ICTs are indispensable tools needed for provision of value-added information that support the sustainable development (Mantovani Ribeiro, Hournaux Junior, Lara Cunha, Kaetsu, Dionizio-Leite, & Machado Junior, 2021). Although, many

institutions and organizations including libraries face diverse challenges in the process of integrating ICTs to their services.

Information and communication technology have created a global village because of information revolution and the consequent computer-based messaging system, and electronic networks for access to information and library services. Library is a dynamic and evolving enterprise in education. Hence, the trend now is ICT through which information have undergone various stages on transformation, storage and retrieval of information application in delivering library services (Onunka, Onunka, Fawole, Adeleke, & Daraojimba, 2023). Such as oral tradition, letters, and figures on leaves and skins, while the librarians then were custodians. Notably, Information and communication technology is an electronic means of capturing, processing, storing and disseminating information (Mulauzi, 2019). Since ICT facilitates access to electronic information which has become invaluable in complementing traditional library resources, the role of university libraries.

University libraries are libraries that exist in the universities which are set up primarily to support teaching, research and learning in the institution. Reitz in Aliyu and Joseph, (2017) posits that university libraries are a library/library system established, administered and funded by a university to meet the information, research and curriculum needs of its students, faculty and staff. This includes what makes Ahmed, Umar and Dewa (2020) postulate further that university libraries in Nigeria, like all other libraries, provide information services that enable users to locate, evaluate and access information in a variety of formats. However, library services could be hindered by lack of ICT infrastructure thereby frustrating the effort of providing the right information to the right audience at the right time and with ease. The deployment of ICT in the library has caused significant changes in the library leading to automated cataloguing, circulation, information retrieval, electronic document delivery, and CD-ROM data base. It has been observed that Nnamdi Azikwe Library have been registered with databases such as Agora, HINARI, ARDI, Oare, CAB, AGRIS, Blackwell, Elseviere among others. As such, researchers can access relevant research information from these databases. Because of the existing cooperation among the AGORA publishers and other database providers, it is possible for researchers to have access to these databases through AGORA from any of the registered libraries.

Literature Review

Social media is an interactive form of Media that allows users to interact with each other and publish to each other, generally by the means of the internet. According to Bentz, Chase and Deloach (2021), in their work social media debate position 4: social media and information services - social media provides a constant source of information and offers everyday citizens an easy way to connect with breaking news (Cuenca, Pérez, 2025). As noted by Astroulakis (2026), social media is an umbrella term of web 2.0 which is an evolution of web technology applications that began after the dot-com bubble. Through this evolution the web has become much more focused in linking people, not pages (Dhillon, 2016). Social media is a computer-based technology that allows users to share ideas and information through the settings of virtual networks and communities. It contains new online tools for publishing multimedia content, iPhone in different formats including texts, video, audio and photos (Mchaney & Sachs, 2016). They are seen as a means of managing information, disseminating knowledge and highlighting achievements. Social media is unique in that it allows for two-way communication online between creators and consumers of information (Tankosic, Ivetic, & Vucurevic, 2016; Gunawan, et al., 2023).

Platforms are tools, materials, instruments, aides through which tasks are accomplished. Social media platforms are working apparatus which aids in sustaining social media functionality and originality in cases of emergencies. Considering the importance of social media platforms for emergency management (Panagiotopoulos, Barnett, Bigdeli & Sams, (2016) explained that during emergencies, the public will give sustained attention to social media and suggests tweets originating from traditional sources of authority will be rapidly propagated. According to Biczysko, and Jabłońska (2016), social media tools and resources were listed in line of marketing which includes: blogs, marketing glossaries, social media marketing tools, social media and analytics tools, visual resources and tools, video resources. Social networking sites are interactive networks by which ICT gets to the modern society through the instrumentality of the internet and the telecommunication gadgets (Eke, Omekwu, & Odoh, 2014). Onomo by Eke, Omekwu, Odoh (2014) acknowledged that social media has become a widespread tool for communication and exchange of ideas, helping individuals and organizations with just courses to reach a phenomenally vast audience that could hitherto not be reached by traditional media. Social media have come in handy to researchers and professors in carrying out projects. The use of these various platforms not only promotes good communication, but also creates a collaborative atmosphere and increases students' engagement.

Undergraduates are students pursuing first degree, Diploma, National Certificate of Education who is yet to acquire it. According to university of Cambridge (2013), an undergraduate student is a student who is studying for his/her first degree (usually entitled Bachelor of Arts (BA) or Bachelor of Science (BSc). Undergraduate student is a learner, or someone who attends an educational institution but yet to acquire first degree. The students must be under the control/ guide of a professional or master in that field. Obeh (2016) the undergraduate students are those individuals that are yet to acquire their first degree in an institution of higher learning. Undergraduate students which this research work is focused on are individuals studying for their first degree (usually entitled Bachelor of Arts (BA) or Bachelor of Science (BSc.).

A team according to Merriam Webster is a group of people who work together. An online source (ASQ) defines team as a group of people who perform independent tasks work towards accomplishing a common mission or a specific objective (Vieira Jr, & Grantham, 2011). Benishek, & Lazzara (2019) defined a team as two or more individuals who must interact interdependently and adaptively to achieve specified, shared, and valued objectives. Additionally, Thomas, Morin and Kira (2017) had defined team building as coordinating work - bringing together work from multiple sources and team members; team cooperation/collaboration - interpersonal skills, resolution of differences; communication skills - conveying ideas effectively, both orally and written.

Statement of the Problem

There is no gainsaying that social media is the new media or medium to maintain business relationships and keep communication active. This was actively in practice at the emergence of the covid-19 pandemic, an era when meetings were held via the zoom platform, students engaged in lectures through Google classroom, telegram etc. Twitter was a run to for information especially during the 2020 endsars protest and the ASUU strike issue. Though many believed that social media is the devil's tool to wreak havoc in youngsters especially students most especially when taking into considerations the high rates of cyber-crimes perpetuated by youths; crimes ranging from hacking into someone's

social media account to claim ownership and scam others, the online bullying among others. Though this has placed much suspicion on youths making use of social media resources. It will appear that students of the department of library and information science in the University of Nigeria Nsukka, have found social media majorly for entertainment purposes and nothing to promote team spirit or to work out team building by utilizing the same social media resources for the task. It is in view of this that the work seeks to find out what can be done to engage the students in other opportunities social media seeks to offer them and how to utilize these opportunities for the future.

Purpose of Study

The general purpose of this study is to examine the information and communication technology (ICT) deployment for effective service delivery in Nnamdi Azikwe Library. The study will be guided by seven specific purposes:

1. To ascertain the skill level, possess by the staff in the deployment of ICT facilities in Nnamdi Azikwe Library effective service delivery.
2. To ascertain the extent to which deployment of ICT resources contribute to the effective service delivery in Nnamdi Azikwe Library.

Research Questions

The following research question were formulated to guild the study

1. What is the skill level possessed by the staff in the deployment of ICT in Nnamdi Azikwe Library for effective service delivery?
2. What is the extent to which deployment of ICT resources contribute to effective service delivery in the Nnamdi Azikwe Library?

Methods

The design adopted for this study is descriptive survey design. This study is set to obtain data on the Extent of ICT Deployment for effective service delivery in Nnamdi Azikiwe Library. The area of the study is Enugu State precisely, Nnamdi Azikwe Library. It is located on the campus of University of Nigeria, Nsukka, it is named after the first president of Nigeria, Nnamdi Azikwe. Enugu State is located in the South-East, Nigeria. It lies between latitude 6300N and longitude 7300E. The population consist of 132 library staff who are Academic librarians, non-academic librarians and technical librarians from the university under study. Data collected from the questionnaire were analyzed using quantitative descriptive statistics. These involved frequency tables, simple percentages and mean scores. Data were presented using percentages and mean scores as the case may be and presented in tabular forms for clarity and easy understanding.

Results

Table 1: Frequency Count and Mean Rating of Librarians on the Skills Required in the Deployment of ICT for Effective Service Delivery

S/N	Items	HR	R	LR	NR	Mea n	Std	Ran k	Dec
1	Application software	.	.	.	.	3.28	.74	1 st	R
2	MS-power point	.	.	.	.	3.27	.69	2 nd	R
3	Library software	.	.	.	.	3.27	.71	3 rd	R
4	Using keyword phrases to search for information on the www	.	.	.	.	3.25	.68	4 th	R
5	Interconnectivity	.	.	.	.	3.23	.77	5 th	R

6	Sourcing of Academic Data Basis	.	.	.	.	3.20	.78	6 th	R
7	Copying a file from one disk to another	.	.	.	.	3.20	.79	6 th	R
8	Creating a directory or folder Accepted	.	.	.	.	3.18	.67	7 th	R
9	Taking part in an online discussion or chat (video conferencing)	.	.	.	.	3.16	.68	8 th	R
10	Installing program	.	.	.	.	3.11	.70	9 th	R
11	Sourcing of Academic Data Basis such as OARE, AGORA, EBSCOHOST, HINARI, OPAC	.	.	.	.	2.82	1.03	10 th	R
Cluster Mean						3.17	.74		R

HR-Highly Required; R = Required; Less Required; Not Required

Table 1 shows result on the skills required by the staff in the deployment of ICT for service delivery in Nnamdi Azikwe Library. It suggests that all the identified skills are rated required such as application software, MS-power point, library software, using keyword phrases to search for information on the WWW, sourcing of academic data basis, copying a file from one disk to another, creating a directory or folder, etc. The cluster means score $3.17 \pm .74$ shows that the identified skills are required in the deployment of ICT resources in service delivery. The standard deviation scores that range from .63 to 1.03 shows high response variation among the librarians.

Table 2: Frequency Counts and Mean Rating of Librarians on the Extent the Deployment of ICT Resources Contribute to Effective Service Delivery

S/N	Item Statements	VHE	HE	LE	VL E	Mean	Std	Ran k	Dec
1	Provision of search engines	.	.	.	.	3.51	.85	1 st	VH E
2	Storing and retrieval of data	.	.	.	.	3.39	.61	2 nd	HE
3	Electronic mail	.	.	.	.	3.39	.83	3 rd	HE
4	Serials management	.	.	.	.	3.39	.61	4 th	HE
5	CD-ROM searching	.	.	.	.	3.38	.65	5 th	HE
6	Selective Dissemination of information	.	.	.	.	3.37	.86	6 th	HE
7	Virtual reference services	.	.	.	.	3.36	.68	7 th	HE
8	General online services to users	.	.	.	.	3.34	.62	8 th	HE
9	Online cataloguing	.	.	.	.	3.34	.68	8 th	HE
10	Resource sharing	.	.	.	.	3.31	.61	9 th	HE
11	Current Awareness Services	.	.	.	.	3.31	.65	9 th	HE
12	Computer base circulation services	.	.	.	.	3.26	.97	10 th	HE

13	User base research assistance	.	.	.	.	3.18	1.02	11 th	HE
14	Digital Reference service	.	.	.	.	3.18	.71	11 th	HE
15	Resources sharing through networks	.	.	.	.	2.89	1.09	12 th	HE
16	Ask a Librarian services	.	.	.	.	2.88	1.07	13 th	HE
17	Bibliographic Services	.	.	.	.	2.74	1.07	14 th	HE
18	Online orientation services	.	.	.	.	2.69	1.01	15 th	HE
19	Video Library Services	.	.	.	.	2.62	1.06	16 th	HE
Cluster Mean						3.18	.82	HE	

VHE = Very High Extent, HE = High Extent, LE = Low Extent, NA = Not at All

Table 2 shows result on the extent the deployment of ICT resources contributes to effective service delivery in the Nnamdi Azikwe Library. It indicates that to a very high extent it contributes to the provision of search engines (3.51). Whereas, to a high extent it contributes to storing and retrieval of data, sending electronic mail, serials management, CD-ROM searching, selective dissemination of information, virtual reference services, general online services, online cataloguing, resource sharing, etc. The cluster mean score $3.18 \pm .82$ shows that the deployment of ICT resources to a high extent contributes to effective library service delivery. The standard deviation scores that range from .61 to 1.09 shows high response dispersion rate among the librarians.

Discussion

From the finding, it is established that all the identified skills are rated required such as application software, Ms-power point, library software, using keyword phrases to search for information on the WWW, sourcing of academic data basis, copying a file from one disk to another, creating a directory or folder. A study by Bello (2022), reveals that staff with master's degree have formal computer knowledge while staff with B.SC., B.A. have formal computer knowledge, acquired computer knowledge through on-the-job training and 20% acquired formal computer knowledge through S.S.C.E. (12%) acquired formal computer training before a secured employment in National Open University of Nigeria while 16% acquired computer knowledge on the job and 28% acquired computer knowledge off the job.

The finding indicates that to a very high extent ICT resources contributes to the provision of search engines. Whereas, to a high extent it contributes to storing and retrieval of data, sending electronic mail, serials management, CD-ROM searching, selective dissemination of information, virtual reference services, general online services, online cataloguing, resource sharing, etc. The cluster mean score $3.18 \pm .82$ shows that the deployment of ICT resources to a high extent contributes to effective library service delivery. Ugwuanyi (2011) pointed out that ICT are used in libraries for database management, internet search, web management and general online service for their users. This simply shows that apart from the role of ICT into the traditional library operation, it has brought librarianship into a novel platform for operation (digital platform). Kasim, Abba & Jibril (2022) stated that ICT can be applied in libraries for resource sharing as no single library can be all sufficient in terms of its acquisition. A study conducted by Krubu and Asowaru (2011) found that the major contribution attached to the use of ICT resources was for information storage and retrieval. The study also revealed that ICT has an

enormous impact on Nigeria libraries and their users based on its effectiveness. Rana (2009) opines that ICT holds the key to the success of modernizing information services, not only does ICT introduces new ways of information handling, it also brings about change in the structure of information and its communication.

Implication of the Study

The findings of the study revealed that Nnamdi Azikwe library have been able to deploy important ICT facilities as expected which imply that research output by the library staff will be well enhanced. The findings of the study revealed that many ICT facilities are deployed in the library for effective service delivery. This implies that there is an improved service delivery in Nnamdi Azikwe Library due to ICT deployment. The findings imply that the ICT facilities are highly deployed in library service delivery in the library. It indicates that deployment of library-based software in service delivery is highly effective. The implication of this is that Nnamdi Azikwe Library had fully embraced ICT tools in carrying out library routines.

Conclusion

In conclusion, it must be observed that Information and communication technology (ICT) has fulfilled its promise in the libraries; there is high percentage in the use of ICT. It has tremendously changed the way information is stored and disseminated. It has threatened the traditional approaches to the academic libraries and its services. Use of ICT has also led to the speed on library operations services such as cataloguing and classification, acquisition, processing storage, retrieval and dissemination operations.

Libraries have undoubtedly benefited from application of ICTs to library operations and services. For any library not to be relegated and be in conformity with the global trends in terms of ICT deployment, the onus lies in the hands of stakeholders in the LIS profession to ensure that libraries are run with written and appropriate guideline/ICT policies. Heads of libraries should consider the strengths and the weaknesses of their institutions vis-a-vis ICT deployment in libraries with a view to developing and implementing ICT policies that will have maximum impact on information service delivery.

It is obvious that library and librarians in Nnamdi Azikwe library will be required to do a lot more for them to adequately bring the benefit of library services to their clientele. Government lukewarm attitude at both the federal and state levels to the funding and provision of ICT infrastructure and facilities in Nigerian libraries should change and be more supportive. The training and re-training of librarians in the necessary ICT skills is a necessity for the benefits of library services to be impacted on academic libraries and their users in the library. Some of the libraries are now ICT driven. This is the only way librarians can retain a place of relevance in the challenging world of information services delivery or else they become obsolete. Therefore, Nnamdi Azikwe library in this era will be assessed more on their ability to satisfy their current user needs for information and their ability to link their users to electronic databases scattered worldwide and not necessarily on their ability to buy or subscribe to information materials on paper formats.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. The library should try and bridge the gap in ICT availability and deploy same to library serves

2. Every section of the library should be automated in order to facilitate and create an avenue for effective services delivery.
3. Librarians in the library should realize that ICT is now the tool needed to move libraries forward and also to meet client need, thereby making their library relevant, if not they face obsolescence

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