



UTILISATION OF INFORMATION AND COMMUNICATION TECHNOLOGY AND ITS IMPACT ON SERVICE DELIVERY AMONG LIBRARY STAFF IN FEDERAL POLYTECHNIC BIDA, NIGER STATE

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Abstract

This study investigated the Utilisation of Information and Communication Technology and its Impact on Service Delivery among Library Staff in Federal Polytechnic Bida Library, Niger State. Three specific objectives with three corresponding research questions were formulated to guide the study. Descriptive survey research design was adopted and the population consisted of 52 staff in Federal Polytechnic Bida Library, Niger State. Total enumeration or a complete census technique was used for the study since the population of the study was small and manageable. Structured questionnaire was designed and used for data collection. Descriptive statistical tool was used in answering the research questions. Results indicated that the types of Information and Communication Technologies (ICTs) facilities are available in Federal Polytechnic Bida library, Niger State which include Computers (Desktops), Uninterrupted Power Supply (UPS), Wi-Fi, Library Website, Online Resources, E-mail and CD-ROMs. The study also revealed that Computer (Desktop), Uninterrupted Power Supply (UPS), Library Website and Online Resources were used in high extent. The findings revealed that challenges associated with the utilisation of information and communication technology facilities for effective and efficient service delivery in Federal Polytechnic Bida library, Niger State to be Staff resistance to the introduction of computer technologies, Unstable Power Supply, Low Internet Connectivity Bandwidth, and Inadequate ICT Facilities for Networking. The study recommended that Staff in Federal Polytechnic Bida Library, Niger State should have more interest in utilisation of ICT facilities, provision of constant alternative power supply, more provision of internet connectivity bandwidths, and provision of adequate ICT facilities for networking.

Keywords: *ICT, Service Delivery, Utilisation, library staff*

Introduction

Libraries of any types are being referred to as service-oriented centres that direct all its information services to satisfy its user communities for the attainment of its goals. Delivery of Library services involves the provision of information resources and assistant to users. This is done by providing access to relevant information preferably at the right time and format. That is why Librarians are saddled with the responsibility of collecting, organising and manage books, periodicals and other media for easy access by patrons (Mohan, 2020).

Service delivery should possess attributes such as availability and timely, dependable

and reliable, usable, credible, responsible and flexible, sustainable as well as expandable. Service delivery is a continuous circle process for developing and delivering user focused services. Also service delivery in tertiary institutions can be described as a process of identifying users and understanding their information needs as well as understanding the environment related to their information needs.

Kumar (2015) identified service delivery as a special process describing a complete and integrated approach for performing a specific project type. It provides a complete end to end life cycle and can be used as a reference for running projects with similar characteristics. Effective service delivery in academic library should be provided to users so as to enable them access information need more effectively.

The effective delivery of services in academic libraries can be understood as a scenario where services are delivered as expected and the intended purpose is accomplished successfully (Seyitog? lu & Ivanov, 2020). The effective delivery of services is especially significant in academic libraries for managing their contents and metadata appropriately, searching, accessing and controlling digital contents effectively. The effective library service delivery in academic libraries opined that the repository is trustworthy, sustainable, well managed and well supported (IFLA, 2024). The effective delivery of services in academic libraries also means that the repository will meet all library users' information needs and provide them with the professional assistance required to meet their knowledge-related demands (Igbिनovia, 2022). Various factors affect the adoption of the effective delivery of services in academic libraries. There is a need to adopt technological innovations and apply ICT technologies in universities to ensure effective delivery of services in digital repository (Li *et al.* 2019).

Information and Communication Technology (ICT) has become an important part of modern libraries, their operations and services. The management and functioning of academic libraries have become faster and more reliable for library services provision through the means of ICT. There is also substantial efficiency and effectiveness to routine library service delivery. Of importance also is timely and accurate access to relevant Electronic Information Resources (EIRs) which is an advantage especially since this is the business of libraries and information professionals. In the submission of Osuchukwu, *et al.* (2017) the real reason why Information and Communication Technology (ICT) is needed in the polytechnic libraries for service delivery among library staff is to make sure there is free and equal access to information which can allow learning, teaching and research to flourish.

Chukwueke and Onuoha (2019) affirmed that it is of no argument to believe and support the fact that the efficiency and effectiveness of any library operations and services regardless of the size, type and its user community as an instrument of education, research and community development is determined by the success with which the library is able to provide and satisfy its diverse user's information needs timely and accurately. There are tools that have aided to the above statement. One of these tools that has made tremendous move towards the achievement of the tripartite function (education, research and community development) as well as the wide purpose of a library is the incorporation and advancement in the application and use of Information and Communication Technology, electronic information resources such as electronic books, electronic journals, through the internet to the library's services delivery and operations execution.

The introduction of modern Information and Communication Technology (ICT) and its impact into library service delivery among library staff is also not without its challenges especially since new technologies need to be updated from time to time in terms of acquiring



new versions of equipment and maintenance, and these may require huge costs. There is also need for regular electricity and Internet network, among other factors. The absence of which may pose as hindrances to adequacy and use of ICT facilities. Chukwueke and Onuoha (2019) also agreed that these ICTs cut across computers, digital systems, multimedia technologies, storage devices and platforms, communication systems, the Internet, printers, closed circuit television, photocopier, scanners, servers, projectors, television, e-journals, e-books, CD-ROM and a variety of other ICTs. Barad (2019) asserted that new technologies, databases, as well as innovative systems for accessing information, results in more complications and challenges in library operations and usage. Also, it may not be easy to identify specific use of library's services as a result of new technologies, while difficulty in accessing e-resources can in addition contribute to user dissatisfaction because of unmet information needs. However, every academic library has the duty to ensure the availability of ICT facilities that will bring about provision of e-resources. This study assesses the utilisation of information communication technology and its impact on service delivery among library staff in federal polytechnic Bida, Niger State.

Statement of the Research Problem

The impact of modern Information and Communication Technology (ICT) in the 21st Century libraries cannot be over-emphasized and more especially in the area of information service delivery. ICT in libraries facilitate creation, dissemination, management and storage of information. Despite the numerous benefits derivable from the use of ICT in libraries, the researcher after some preliminary investigations discovered that, ICT facilities has been underutilised in Federal Polytechnic Bida library, Niger State. However, this could be that there were inadequate modern ICT facilities for library service delivery, library staff have low level of ICT skills, irregular power failure in Federal Polytechnic Bida library, Niger State among others. It is against these backdrops that this study seeks to examine the utilisation of information and communication technology and its impact on service delivery in Federal Polytechnic Bida library, Niger State.

Objectives of the Study

The main objective of the study is to investigate the Utilisation of Information and Communication Technology and its Impact on Service Delivery among Library Staff in Federal Polytechnic Bida Library, Niger State. The following specific objectives guided the study:

1. To determine the types of Information and Communication Technology (ICT) facilities available at Federal Polytechnic Bida library, Niger State
2. To examine the extent of utilisation of Information and Communication Technology (ICT) facilities among library staff for service delivery at Federal Polytechnic Bida library, Niger State
3. To identify the challenges associated with the utilisation of Information and Communication Technology (ICT) facilities for efficient and effective service delivery at federal polytechnic Bida library, Niger State

Literature Review

The concept of library service delivery

Library services, according to Olatunji (2023), are regarded as social services which

are bound to stimulate the reading habit of the society, including people in the academic environment. Library services present a picture of remarkable variety and play an important role in the educational, economic, cultural and recreational life of the entire population. There is no doubt that every library is in the business of providing services to its user community. To be most functional, the services it provides should correspond with the needs of its users because the user is the very reason for the existence of the library and it ensures that the services so provided are exploited to the maximum. To determine whether the objectives of the library are met, the opinion of the library staff should be sought. In other words, any library that wants to improve its services must solicit the help of its staff to identify areas of weakness in order to improve upon them.

Information services are library processes and activities with the aim of disseminating desirable information to library and information users. Library staff has provided a range of services including reference and circulating services. These services facilitate the interchange of library data, promote the inter-operability of library system and support national and International networking of libraries. These services play important roles in improving user's accessibility and utilisation of library resources, which are held in the library collection, collection of other libraries or which are accessible in the World Wide Web (Olatunji, 2023).

In line with the above Olubiyo(2024) Library service delivery refers to the process of providing Library services, resources and program to meet the need of users which include responding to queries, providing current awareness service, sending ut reading list and alerting service.

Information Communication Technology facilities for efficient and effective service delivery

The emergence of information and communication technology (ICT) has changed the quality of service delivery in libraries from traditional method to just-in-time access. Among these technologies are personal computers, storage space to internet speed, software, hardware, cloud computing, online cataloguing, metadata description, content management, and web 2.0, among others. According to Osuchukwu et al. (2017), Information Communication Technology (ICT) includes all Internet-enabled infrastructures which are widely used today for all kinds of knowledge acquisition and networking. Some of the infrastructure include: communication devices or applications like computer hardware and software, phones, television, projector, radio satellite systems and all services and applications associated with distance learning, video conferencing, and others. Dunmill and Arslanagic (2016) explained ICT as a range of equipment (hardware: personal computers, scanners and digital cameras), computer programs (software: database programs and multimedia programs), as well as telecommunication infrastructures (phones, faxes, modems, video conferencing equipment and web cameras) that allow access, retrieve, store, organize, manipulate, present, send material and communicate locally, nationally and globally by means of digital media. Adebayo and Adeniran (2018) stated that a number of information and communication technology tools are available which continuously provide needed assistance for several library services. The major ICT tools that are utilised for effective library services delivery by librarians according to Umana (2018) were computers, Internet, electronic mail (e-mail), World Wide Web (WWW), and Video. Printing technologies and Online Public Access Catalogue



The extent of information and communication technology facilities used in library

According to Ikolo (2020) the use of Information and Communication Technology (ICT) is a common phenomenon in the 21st century libraries especially because ICTs are technological tools and resources that help to facilitate creation, dissemination, management and storage of information. *Ebunuweleet. al.* (2014) asserted that adoption of Information and Communication Technology (ICT) facilities in academic libraries help in reducing the duplication of efforts as well as eliminating other uninteresting and repetitive work. The authors also observed that the use of computers in libraries helped to better execute several housekeeping functions. Availability, functionality and adequacy of ICT facilities thus become an issue of concern to library staff who routinely interact with users and observe their satisfaction or dissatisfaction with the quality of service delivery library staff are provided with.

Ultimately, the availability of all necessary facilities with which to attend to the users is a key issue if a library wants to retain patronage of their users. Specifically, academic libraries endeavor to assemble Information and Communication Technology facilities of hardware and software, Internet, e-mail, teleconferencing, telefacsimile, Compact Disc-Read Only Memories in their acquisitions (Okunoye and Okunoye, 2022) as critical facilities needed to develop human capacity.

Oladokunet *al.* (2021) highlighted the transformative impact of ICT on libraries, noting its significant role in education, research, and other scholarly activities by improving communication and access to information. The development of digital catalog systems like Online Public Access Catalogs (OPACs), e-books, and other digital resources have greatly improved the efficiency and accessibility of library services. As libraries increasingly adopt tools like virtual reality (VR) and augmented reality (AR), along with interactive digital signage, they provide immersive learning experiences and innovative ways for users to engage with library resources.

Challenges associated with the utilisation of ICT facilities in library

In spite of the numerous benefits derived from the current wave of innovation, which has transformed the contours of information services in libraries worldwide, the development pose some challenges faced with ICT utilisation in service delivery among library staff. Some of these problems are discussed thus: Financial constraints: ICT application in libraries is a capital-intensive venture both in acquisition, installation, maintenance training and sustainability. As a result, not all libraries do have funds to venture and sustain ICT on their own. Adamu (2017) pointed out that initial investment in system study, design implementation, procurement of hardware and software could be very expensive. He added that even after full implementation of ICT, areas of further expenditure include system maintenance or replacement. Challenges of infrastructural facilities: Another problem associated with the implementation of ICT in libraries is the challenge of poor infrastructural facilities in majority of libraries. Onuohaand Chukwuemeka (2019, maintained that bandwidth connectivity and their providers are deployed using expensive technology like VSAT and radio. Erratic power supply: ICT equipment depend solely on electricity power supply for functionality and effective performance. Omekwu (2018) added that the epileptic power supply causes serious damage to the computer hardware and crashing of huge databases. The author Omekwu (2018) the author further explained that lack of technical skills is another challenge is affecting utilisation of ICT in most libraries. Presently, there is a low

level of ICT skills among information professionals in the country; most of them have little or no skills to work with computers and above browsing or surfing the internet to access and retrieve information (Rawayau, 2024).

Abata (2019), noted that frequent changes in information technologies have not helped matters as some of the equipment and accessories easily become obsolete. This implies that those who are experts in one system of information and communication (ICT) will need continuous training for them to be relevant in the field or else they may no longer be useful. The challenge of old library staff that have become so used to the manual methods, who try to resist the introduction of the new technologies is a great challenge. The potential of library staff resistance to the introduction of computer technologies is on the high side (Tariq and Mehmood,2024).

Methodology

The research design for this study was descriptive survey. The population of this study consists of library staff in Federal Polytechnic Bida library, Niger State. There were 52 library staff in Federal Polytechnic Bida library, Niger State. Total enumeration or a complete census technique was used for the study since the population of the study is small and manageable. Structured questionnaire was administered. The data collected were analysed using the descriptive statistics such as the frequency, percentages and mean.

Results

Research Question 1: What are the types of Information Communication Technologies (ICTs) facilities available at Federal Polytechnic Bida library, Niger State?

Table 1: Types of Information and Communication Technology (ICT) facilities available at Federal Polytechnic Bida library, Niger State

S/N	ICT facilities available	SA 4	A 3	D 2	SD 1	N	FX	mean	Decision
1	Computer (Desktop)	14	20	6	5	45	133	2.96	Agreed
2	Computer (Laptop)	8	10	22	5	45	111	2.47	Disagreed
3	Printers	3	16	20	6	45	106	2.36	Disagreed
4	Scanning Machine	3	16	20	6	45	106	2.36	Disagreed
5	Flash Drives	3	16	20	6	45	106	2.36	Disagreed
6	Modem	2	8	28	7	45	95	2.11	Disagreed
7	Uninterrupted Power Supply UPS)	11	21	9	4	45	129	2.87	Agreed
8	OPAC	14	22	5	4	45	136	3.02	Agreed
9	Internet	14	20	6	5	45	133	2.96	Agreed
10	Photocopy Machine	8	10	22	5	45	111	2.47	Disagreed
11	Library Website	16	22	5	2	45	142	3.16	Agreed
12	Online Resources	12	19	10	4	45	129	2.87	Agreed
13	Multimedia Projector	3	8	29	5	45	99	2.20	Disagreed
14	E-mail	10	21	10	4	45	127	2.82	Agreed
15	CD-ROMs	12	22	6	5	45	131	2.91	Agreed

Key: SA=Strongly Agreed, A=Agreed, D=Disagreed, SD=Strongly Disagreed



Table 1 revealed that fifteen statements were listed for staff in Federal Polytechnic Bida library, Niger State on the types of Information and Communication Technology (ICT) facilities available, eight statements produced high mean score which were above the benchmark of 2.50. The statements are: Computer (Desktop) (2.96), Uninterrupted Power Supply UPS) (2.87), OPAC (3.02), Internet (2.96), Library Website (3.16), Online Resources (2.87), E-mail (2.82) and CD-ROMs (2.91). While seven statements showed low mean scores below the bench mark of 2.50. They are: Computer (Laptop) (2.47), Printers (2.36), Scanning Machine (2.36), Flash Drives (2.36), Modem (2.11), Photocopy Machine (2.47) and Multimedia Projector (2.20).

Research Question 2: What is the extent of use of Information and Communication Technology (ICT) facilities among library staff for service delivery at Federal Polytechnic Bida library, Niger State?

Table 2: The extent of use of Information and Communication Technology (ICT) facilities among library staff for service delivery at Federal Polytechnic Bida library, Niger State

S/N	Extent of use of (ICT) facilities	VHE	HE	LE	VLE	N	FX	mean	Decision
1	Computer (Desktop)	12	22	6	5	45	131	2.91	High Extent
2	Computer (Laptop)	8	10	22	5	45	111	2.47	Low Extent
3	Printers	3	16	20	6	45	106	2.36	Low Extent
4	Scanning Machine	3	16	20	6	45	106	2.36	Low Extent
5	Flash Drives	3	16	20	6	45	106	2.36	Low Extent
6	Modem	2	8	28	7	45	95	2.11	Low Extent
7	Uninterrupted Power Supply UPS)	14	22	5	4	45	136	3.02	High Extent
8	OPAC	12	19	10	4	45	129	2.87	High Extent
9	Internet	8	10	22	5	45	111	2.47	Low Extent
10	Photocopy Machine	8	10	22	5	45	111	2.47	Low Extent
11	Library Website	10	21	10	4	45	127	2.82	High Extent
12	Online Resources	10	26	5	4	45	132	2.93	High Extent
13	Multimedia Projector	3	8	29	5	45	99	2.20	Low Extent
14	E-mail	2	10	26	7	45	97	2.16	Low Extent
15	CD-ROMs	3	16	20	6	45	106	2.36	Low Extent

Key: VHE= Very High Extent, HE= High Extent, LE= Low Extent, VLE= Very Low Extent

Table 2 revealed that fifteen statements were listed for staff in Federal Polytechnic Bida library, Niger State on the extent of use of Information and Communication Technology (ICT) facilities by staff for effective and efficient service delivery, five statements produced high mean score which was above the benchmark of 2.50. The statements are: Computer (Desktop) (2.91), Uninterrupted Power Supply UPS) (3.02), OPAC (2.87), Library Website (2.82) and Online Resources (2.93). While ten statements showed low mean scores below the bench mark of 2.50. They are: Computer (Laptop) (2.47), Printers (2.36), Scanning Machine (2.36), Flash Drives (2.36), Modem (2.11), Internet (2.47), Photocopy Machine (2.47), Multimedia Projector (2.20), E-mail (2.16) and CD-ROMs (2.36).

Research Question 3: What are the challenges associated with the utilisation of Information Communication Technology (ICT) facilities for efficient and effective service delivery at federal polytechnic Bida library, Niger State?

Table 3: The challenges associated with the utilisation of Information and Communication Technology (ICT) facilities for efficient and effective service delivery at federal polytechnic Bida library, Niger State

S/N	Statement	SA 4	A 3	D 2	SD 1	N	FX	mean	Decision
1	Staff resistance to the introduction of computer technologies	10	21	10	4	45	127	2.82	Agreed
2	Unstable Power Supply	11	25	5	4	45	133	2.96	Agreed
3	Low Internet Connectivity Bandwidth	14	24	5	2	45	140	3.11	Agreed
4	Expensive Hardware and Software	16	22	5	2	45	142	3.16	Agreed
5	Expensive ICT Facilities	12	19	10	4	45	129	2.87	Agreed
6	Inadequate ICT Facilities for Networking	11	17	10	7	45	122	2.71	Agreed

Key: SA=Strongly Agreed, A=Agreed, D=Disagreed, SD=Strongly Disagreed

Table 3 revealed that six statements were listed for staff in Federal Polytechnic Bida library, Niger State on the challenges associated with the utilisation of information and communication technology facilities for effective and efficient service delivery, all the statements produced high mean score which was above the benchmark of 2.50. The statements are: Staff resistance to the introduction of computer technologies (2.82), Unstable Power Supply (2.96), Low Internet Connectivity Bandwidth (3.11), Expensive Hardware and Software (3.16), Expensive ICT Facilities (2.87) and Inadequate ICT Facilities for Networking (2.71).

Discussion of the Findings

The findings of this study on research question one on the types of ICT facilities that are available in the Federal Polytechnic Bida library, Niger State revealed that the available ICT facilities include Computer (Desktop), Uninterrupted Power Supply UPS), OPAC, Wi-Fi, Library Website, Online Resources, E-mail and CD-ROMs among others. This is supported by the study by Okunoye (2022) in Umana (2018) which revealed that some major ICT tools that are utilized for effective library services delivery by librarians. Such tools include: computers, Internet, electronic mail (e-mail), World Wide Web (WWW), and Video. The research question two's finding which was the extent of use of Information Communication Technology (ICT) facilities by staff for effective and efficient service delivery in Federal Polytechnic Bida library, Niger State revealed that Computer (Desktop),



Uninterrupted Power Supply UPS), OPAC, Library Website and Online Resources were used in high extent. The result of this study agreed with the result of Adamu (2017) which found that ICT is used to a high extent on computerization of all library operations, binding, services, abstracting, classification, indexing and CD ROM.

The findings of this study on research question three present the factors that hinder the utilisation of information and communication technology facilities for effective and efficient service delivery in Federal Polytechnic Bida library, Niger State revealed challenges to include Staff resistance to the introduction of computer technologies, Unstable Power Supply, Low Internet Connectivity Bandwidth, Expensive Hardware and Software, Expensive ICT Facilities and Inadequate ICT Facilities for Networking. The result of this study agreed with the result of Olowokere *et al.* (2020) which found that factors that militate against the provision of ICT facilities in public university libraries include high cost of importation of ICT equipment, inadequate funding of library services, lack of maintenance culture on the part of the ICT manager, as well as inadequate ICT facilities in university libraries, among other factors. The results are also in consonance with Lawal *et al.* (2008) who found that inadequate funds, absence of relevant ICT facilities, epileptic power supply, were among the constraints identified in the use of ICT facilities for efficient and effective information sharing. The study also supported Barfi and Afful-Arthur (2018) who studied some of the major impediments to e-resources access and found poor internet connectivity, power outages and insufficient search skills to be among other challenges.

Conclusion

Based on the findings of this study, it can be deduced that most of the Information Communication Technology (ICT) facilities were available in Federal Polytechnic Bida library, Niger State for service delivery. The extent of use of the available ICT facilities was in a low extent. All the listed challenges pose major hindrances to the utilisation of information communication technology facilities for effective and efficient service delivery in Federal Polytechnic Bida library, Niger State.

Recommendations

In the light of the findings of this study, the following recommendations were made:

1. Federal Polytechnic Bida Library, Niger State should acquire more ICT Facilities such as Computer (Laptop), Printers, Scanning Machine, Flash Drives, Modem, Photocopy Machine and Multimedia Projector.
2. Staff in Federal Polytechnic Bida Library, Niger State should utilise the available ICT Facilities.
3. Federal Polytechnic Bida Library, Niger State should improve on the challenges associated with the utilisation of Information Communication Technology (ICT) facilities for efficient and effective service delivery.

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