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Oluwatosin Okunoye
oluwatosinokunoye@gmail.com

Oluwatosin Okunoye

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Assessing Level of Availability and Hindrances to ICT Facilities for the Provision of E-Resources Services in University Libraries in Southwest Nigeria

Oluwatosin Olubunmi OKUNOYE

University Library, Osun State University, Osogbo, Osun State Nigeria,

Email:oluwatosin.okunoye@uniosun.edu.ng. Phone Number +234-8053830726

Abstract

This study assessed the level of availability of ICT facilities and hindrances to the adequacy of ICT facilities for the provision of e-resources services in university libraries in Southwest Nigeria. Information and Communications Technology facilities are indispensable tools in the new information and digital environment and e-resources services provision are hampered in academic libraries without them. A descriptive research design was adopted for this study. The instrument used for data collection was a structured questionnaire administered to 12 seasoned librarians drawn from 12 public university libraries, 11 usable responses to the questionnaire were received. Findings revealed the availability of most ICT facilities was varied and to a high level. Computers, internet and server, access to alternative supply of power using a power generator, electronic databases, library software, WIFI, LAN, e-journal, e-mail and CD-ROMs are some of the facilities that were available to a high level. Technological factors that hinder adequate ICT facilities include, low Internet connectivity bandwidth, unreliable telecommunication network, expensive hardware and software, expensive ICT facilities, unstable power supply and inadequate ICT facilities for networking. Managerial factors causing hindrance include, insufficient funding, poor policy on ICT adoption, inadequate ICT budgeting and lack of good maintenance of ICT facilities. The study concludes that there is need for authorities in charge of the concerned university libraries to revisit the policies being put in place and come up with better measures that can ensure high level of ICT facilities provision sustainability in the university libraries. It was recommended that priority attention should be given to adequate budget allocation for the proper funding of ICT facilities in university libraries especially since they are highly beneficial but capital intensive.

Keywords: Level of Availability, ICT Facility, E-Resources, University Libraries, Southwest Nigeria

Introduction

Information and Communication Technology (ICT) has become an important part of modern libraries and their operations and services. The management and functioning of academic

libraries have become faster and more reliable for e-resources 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, Obuezie and Ogwuche (2017) the real reason why ICT is needed in the library is to make sure there is free and equal access to information which can allow learning and national integration to flourish. According to Ikolo (2020) the use of ICT is a common phenomenon in 21st century organizations especially because ICTs are technological tools and resources that help to facilitate creation, dissemination, management and storage of information. Of great benefit is the advantage of ICTs, which, according to Ebinuwele, Ola, and Uduebor (2014), adoption of ICT facilities in 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 personnel who routinely interact with users and observe their satisfaction or dissatisfaction with the quality of services they 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 ICT devices of hardware and software, internet, e-mail, teleconferencing, telefascimile, CD-ROMs in their acquisitions (Adebisi, 2009, Aliyu, 2011) as critical facilities needed to develop human capacity.

The introduction of ICT into library services 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. According to Barad (2019) 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 paper assesses the level of availability and also the hindrances to the adequacy of ICT facilities for the provision of e-resources in university libraries in southwest Nigeria.

Purpose of the Study: The purpose of the study is to assess staff perception on the availability of ICT facilities and also the hindrances to the provision of e-resources services in academic libraries in Southwest Nigeria. The specific objectives are to:

1. assess the level of availability of ICT facilities for the provision of e-resources services in selected university libraries in Southwest Nigeria.
2. identify the factors that hinder the adequacy of ICT facilities for the provision of e-resources services in selected university libraries in Southwest Nigeria.

Research Questions:

1. What is the level of availability of ICT facilities for the provision of e-resources services in selected university libraries in Southwest Nigeria?
2. What are the factors that hinder the adequacy of ICT facilities for the provision of e-resources services in selected university libraries in Southwest Nigeria?

Literature Review

In their definition, Osuchukwu, Obuezie, and Ogwuche (2017) posit that ICT includes all internet-enabled infrastructures which are widely used today for all kinds of knowledge acquisition and networking. Otubelu (2010) enumerates some of the infrastructure to 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. On their part, Dunmill and Arslanagic (2006) explain ICT as a range of equipment (hardware: personal computers, scanners and digital cameras), computer programs (software: database programs and multimedia programs), as well as telecommunications 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. In their work, Adebayo, Ahmed and Adeniran (2018) explained that a number of ICT tools are available which

continuously provide needed assistance for several library services. Umana (2018) identified 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. On their part, Mishra and Mishra (2014) highlight printing technologies and Online Public Access Catalogue (OPAC) as major ICT facilities that can be found in the library. In a study on availability and use of ICTs in collection management, Nwalo (2005) had enumerated computers, DVDs CDs Internet and telephones as necessary ICT facilities for the management of collections in the libraries.

In a study on availability of ICT tools and skills for use in operation in medical libraries in Nigeria, Ikolo (2020) found that there was availability of most ICT tools to a moderate extent. Included in the available tools are: mobile phones, Internet connectivity, computers, OPAC, printers, and E-mail. Major factors that hinder the use of ICT tools for library operations in Nigeria according to the study are: lack of and inadequate funding, erratic power supply, erratic Internet access, lack of trainer/training for ICT application and insufficient technical support for maintenance of ICT tools. A study on availability, and utilization of information communication technology facilities in a private university library in Nigeria, by Osuchukwu, Obuezie and Ogwuche (2017) revealed that the ICT section of the university has resources and facilities that are available which the students utilized to a certain extent. There were challenges that included epileptic power supply and irregular internet connectivity among others. In a study on availability, use and constraints to use of electronic information resources by postgraduate students at the University of Ibadan, Adeleke and Nwalo (2017) results revealed that internet was ranked most available and most used in the university, while interrupted power supply was ranked as the most hindrance to usage of electronic information resources. A study by Mia (2019) on university libraries as facilitators of academic development, using Noakhali Science and Technology University Library, Bangladesh, identified inadequate ICT facilities and lack of relevant resources as challenges affecting the university library under study. Oyeniran and Olajide (2016) study on the influence of ICT skills on electronic resources use by distance learning students of Delta State University, Abraka, results showed that institutional audio tape and computer were readily available for use by distance learning students with 41.7% and 37.6% respondents respectively. Only 8.0% respondents agreed that the internet, e-mail facilities were not available for access in the university distance learning center. In a study on the impact of

information and communication technology on library services, Remy (2018) found that ICT enabled library services that were available made it possible for students to utilize various applications for accessing e-books and e-journals. In their research work, Archana, Saxena and Dubey (2015) discuss the use and impact of digital technology and role of academic libraries in an age of knowledge and information societies. The results revealed that quite a number of the library users are dissatisfied with the application of digital technology in their libraries just because there is inadequate digital technology infrastructure. In Barfi and Afful-Arthur (2018) study on accessibility and postgraduate students' use of electronic resources in University of Cape Coast, results revealed that some of the major problems respondents indicated in their use of electronic resources include: inadequate computers in the library, poor internet connectivity, power outages and insufficient search skills. In a study, Mairaj and El-Hadi (2012) found that the provision of hardware, standardized library software, adequate financial resources, and quality training facilities for medical libraries will ensure that ICT applications in Medical libraries of Lahore were strengthened. According to Sivakumaren, Geetha and Jeyaprakash (2011) in their study found that no library in the study had implemented digitization software and stated that there was the need for university libraries to increase the numbers of computers available to enable the users to make maximum use of the ICT-based resources and services. There was need to digitize rare collections such as older and out of print editions. In a study, Walmiki and Ramakrishnegowda (2009) examined ICT infrastructure in university libraries and found that many of the libraries being studied lacked adequate hardware and software facilities as well as adequate internet nodes and bandwidth. It was revealed that the campus LANs were not fully extended to exploit the benefits of digital information environment. Ukachi (2010) found impediments to the use of provision and ICTs to include non-availability of internet access in order to provide downloading of software, among other reasons. Several studies have also highlighted the challenges of effective ICT availability and use (Ogbomo, 2010; Aliyu, 2011 and Eguavon and Adeyemi, 2012). Lack of funds for acquisition, maintenance and training/retraining of ICT staff of university libraries are among the most pressing challenges bedeviling African universities as reported by these studies.

Methodology

The study employed a descriptive survey design. The population of the study comprised of librarians in public university libraries in southwest geopolitical zone of Nigeria. This was made up of 12 librarians purposively selected from 12 public universities. The universities included (7) federal universities and (5) state universities. Due to the manageable size of the population, there was no sampling. Data for the study were collected using a well-structured questionnaire. The questionnaire had three sections. Section A Demographic Information, Section B: Level of Availability of ICT Facilities scale and Section C: Factors that Hinder the Adequacy of ICT Facilities scale. Section A elicited background information of the respondents. Section B collected information on the level of availability of ICT for the provision of e-resources services in the selected university libraries. This section was rated on a five-point scale ranging from Very Highly Available, Highly Available, Available, Lowly Available, and Not Available. Section C concentrated on collecting information on the factors that hinder adequate provision of ICT facilities in the selected university libraries. This section was also rated on a five-point scale ranging from Strongly Agree, Agree, Disagree, Strongly Disagree and Not Applicable. This section was sub-divided two sections, which are: Technological factors that hinder the adequacy of ICT facilities and Managerial factors that hinder the adequacy of ICT facilities. Of the 12 university libraries, librarians from 11 responded. The data collected was analyzed using both descriptive and inferential statistics. The libraries of the universities selected for the study are indicated below:

Respondents Institutions

The list of participating university libraries is presented in Table 1

S/N	Universities	Type of Public University
1	University of Lagos, Akoka	Federal
2	University of Ibadan	Federal
3	Obafemi Awolowo University, Ile-Ife	Federal
4	Federal University of Agriculture Abeokuta	Federal
5	Tai Solarin University of Education	Federal
6	Federal University of Technology Akure	Federal
7	Federal University, Oye, Ekiti	Federal

8	Olabisi Onabanjo University, Ago-Iwoye	State
9	Ladoke Akintola University of Technology, Ogbomoso	State
10	Osun State University, Osogbo	State
11	Ondo State University, Akungba	State
12	Ekiti State University, Ekiti	State

Findings

Research Question 1: What is the level of availability of ICT facilities for the provision of e-resources services in selected university libraries in Southwest Nigeria?

Table 1: Level of availability of ICT facilities for the provision of e-resources services

S/ N	Level of Availability of ICT Facility	VHA (%)	HA (%)	A (%)	LA (%)	NA (%)	Total (%)	Mean
1	Computer (Desktop)	8(72.7%)	1(9.1%)	2(18.2%)	0(0%)	0(0%)	11(100%)	4.5
2	Computer (Laptop)	7(63.6%)	1(9.1%)	1(9.1%)	1(9.1%)	1(9.1%)	11(100%)	4.1
3	Printers	4(36.4%)	1(9.1%)	2(18.2%)	1(9.1%)	0(0%)	11(100%)	4
4	Scanning Machine	2(18.2%)	7(63.6%)	1(9.1%)	1(9.1%)	0(0%)	11(100%)	3.9
5	Flash Drives	3(27.3%)	3(27.3%)	3(27.3%)	0(0%)	2(18.2%)	11(100%)	3.5
6	Modem	3(27.3%)	2(18.2%)	1(9.1%)	3(27.3%)	2(18.2%)	11(100%)	3.1
7	Uninterrupted Power Supply UPS)	4(36.4%)	3(27.3%)	2(18.2%)	2(18.2%)	0(0%)	11(100%)	3.8
8	Internal OPAC	5(45.5%)	3(27.3%)	1(9.1%)	0(0%)	2(18.2%)	11(100%)	3.8
9	Radio Phone	2(18.2%)	3(27.3%)	1(9.1%)	1(9.1%)	4(36.4%)	11(100%)	2.8

							%)	
10	Internet	7(63.6%)	2(18.2%)	1(9.1%)	1(9.1%)	0(0%)	11(100%)	4.4
11	Server	7(63.6%)	2(18.2%)	1(9.1%)	1(9.1%)	0(0%)	11(100%)	4.4
12	Photocopy Machine	4(36.4%)	4(36.4%)	2(18.2%)	1(9.1%)	0(0%)	11(100%)	4
13	Power Generator	6(54.5%)	3(27.3%)	1(9.1%)	1(9.1%)	0(0%)	11(100%)	4.3
14	Library Software	5(45.5%)	5(45.5%)	0(0%)	0(0%)	1(9.1%)	11(100%)	4.2
15	CCTV Camera	2(20%)	4(40%)	2(20%)	0(0%)	2(20%)	10(100%)	3.4
16	LCD/Overhead Projector	4(36.4%)	5(45.5%)	1(9.1%)	0(0%)	1(9.1%)	11(100%)	4
17	Digital Camera	5(50%)	2(20%)	1(10%)	0(0%)	2(20%)	10(100%)	3.8
18	Fax Machines	0(0%)	2(20%)	3(30%)	1(10%)	4(40%)	10(100%)	2.3
19	CD/DVD Player	0(0%)	5(45.5%)	2(18.2%)	1(9.1%)	3(27.3%)	11(100%)	2.8
20	Multimedia Projector	4(36.4%)	5(45.5%)	0(0%)	1(9.1%)	1(9.1%)	11(100%)	3.9
21	USB Pen Drives	2(20%)	3(30%)	1(10%)	2(20%)	2(20%)	10(100%)	3.1
22	Electronic Database	5(45.5%)	4(36.4%)	2(18.2%)	0(0%)	0(0%)	11(100%)	4.3
23	Library Website	4(40%)	5(50%)	1(10%)	0(0%)	0(0%)	10(100%)	4.3
24	Web OPAC	5(45.5%)	4(36.4%)	2(18.2%)	0(0%)	0(0%)	11(100%)	4.3
25	Wide Area Network (WAN) i.e WIFI	6(54.5%)	4(36.4%)	1(9.1%)	0(0%)	0(0%)	11(100%)	4.5

26	Local Area Network (LAN)	6(54.5%)	4(36.4%)	1(9.1%)	0(0%)	0(0%)	11(100%)	4.5
27	Electronic White Board	1(10%)	4(40%)	3(30%)	1(10%)	1(10%)	10(100%)	3.3
28	E-Journal	7(63.6%)	3(27.3%)	1(9.1%)	0(0%)	0(0%)	11(100%)	4.5
29	E-mail	7(63.6%)	4(36.4%)	0(0%)	0(0%)	0(0%)	11(100%)	4.6
30	CD-ROMs	6(54.5%)	4(36.4%)	1(9.1%)	0(0%)	0(0%)	11(100%)	4.5
31	Instructional Video DVD/VC	4(36.4%)	4(36.4%)	2(18.2%)	1(9.1%)	0(0%)	11(100%)	4
32	Television Set	4(36.4%)	5(45.5%)	2(18.2%)	0(0%)	0(0%)	11(100%)	4.2
33	Any other, please specify and rate	1(25%)	0(0%)	1(25%)	1(25%)	1(25%)	4(100%)	2.8

Source: Field data 2022

The result in Table 1 presents the analysis of results on the level of availability of ICT facilities for the provision of e-resources services. The results showed that the availability of desktop computers in most of the university libraries is high with mean (4.5). This is followed by the availability of laptops which is also high with mean (4.1). Other ICT facilities which showed high level of availability include Internet (4.4), Server (4.4), Power generator (4.3), Library management software (4.2), Electronic databases (4.3), Library Website (4.3), Web OPAC (4.3). Also, respondents indicated that there was a high level of availability of WIFI (4.5), LAN (4.5), high presence of E-journals (4.5) and E-mail (4.6), as well as CD-ROMs (4.5) and TV (4.2), printers (4), Internal OPAC (3.8), Overhead projector (4), Digital camera (3.9), multimedia projector (3.9), and DVDs/CDs (4). Very few respondents (2.8) indicated that there were other facilities that their libraries had that are not captured in the list.

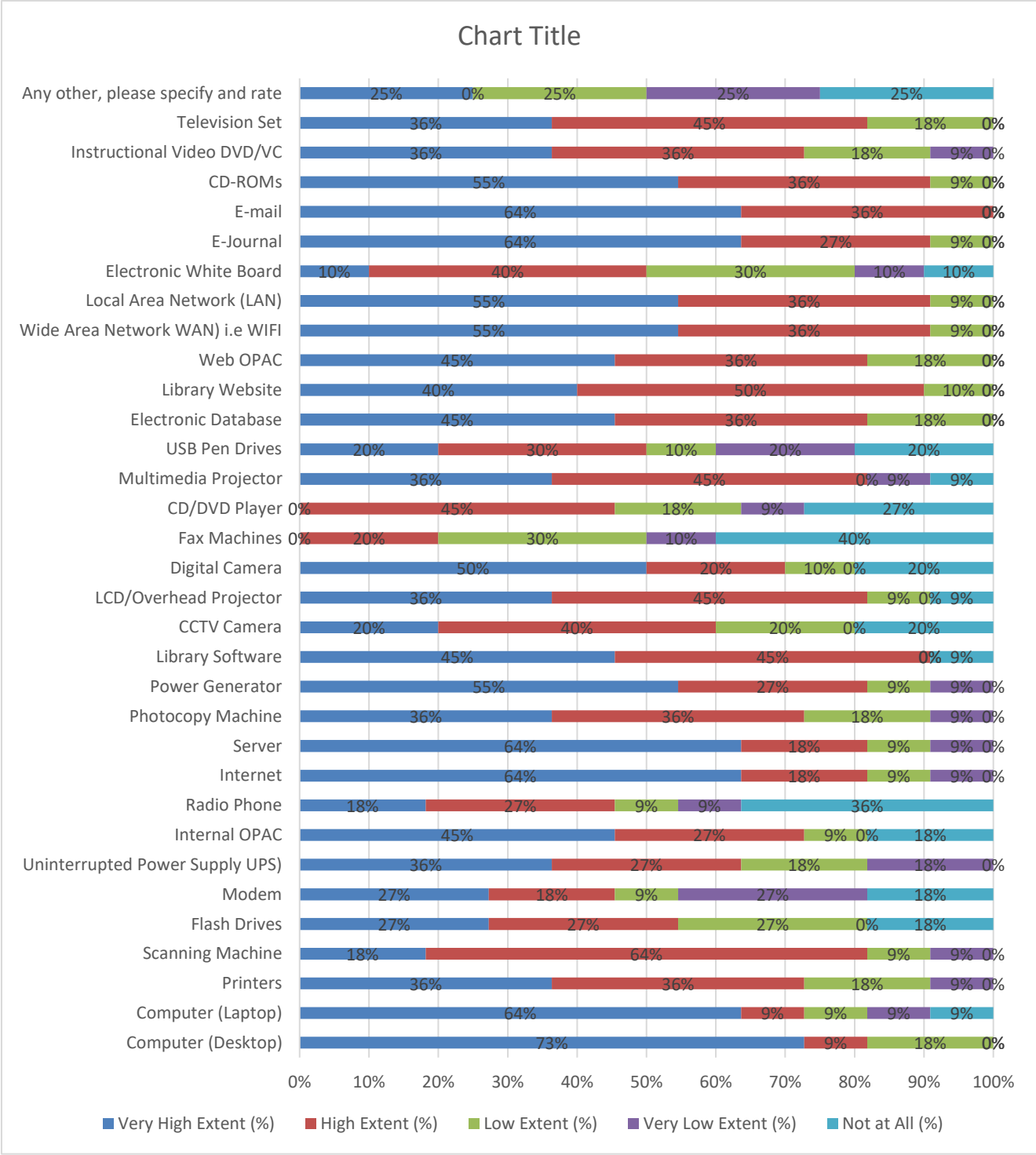


Figure 1

Figure 1 summaries the level of availability of ICT facilities for the provision of e-resources services by the university libraries under study. The results showed that the respondents

indicated that there was a high level of availability of ICT facilities in their university libraries. Some of these include: Desktop computer (82%), Laptops (73%), scanning machines (82%), Internet (82%), server (82%), library software (90%), power generator (82%), printers (72%), internal OPAC (72%), digital camera (70%), library website (90%), WIFI (91%), LAN (91%), E-journal (91%), Email (100%), and CD-ROM (91%), multimedia projector (81%), electronic database (81%), library website (90%), and web OPAC (81%) .

Research Question 2: What are the factors that hinder the adequacy of ICT facilities for the provision of e-resources services in selected university libraries in Southwest Nigeria?

Table 2: Technological factors that hinder the adequacy of ICT facilities.

S/N	Technological Factors	SA (%)	A (%)	D (%)	SD (%)	NA (%)	TOTAL (%)	Mean
1.	Unstable Power Supply	5(45.5%)	1(9.1%)	4(36.4%)	1(9.1%)	0(0%)	11(100%)	3.9
2.	Low Internet Connectivity Bandwidth	6(60%)	2(20%)	2(20%)	0(0%)	0(0%)	10(100%)	4.4
3.	Unreliable Telecommunication Network	6(54.5%)	1(9.1%)	3(27.3%)	1(9.1%)	0(0%)	11(100%)	4.1
4.	Expensive Hardware and Software	5(45.5%)	4(36.4%)	1(9.1%)	1(9.1%)	0(0%)	11(100%)	4.2
5.	Expensive ICT Facilities	3(27.3%)	7(63.6%)	0(0%)	1(9.1%)	0(0%)	11(100%)	4.1
6.	Inadequate ICT for Networking	1(9.1%)	6(54.5%)	2(18.2%)	2(18.2%)	0(0%)	11(100%)	3.5

Source: Field data 2022

In response to research question 2, two categories of factors that hinder the adequacy of ICT facilities are presented. These include: Technological factors and Managerial factors. Table 2 presents the analysis of the results on the technological factors that can hinder the adequacy of ICT facilities. The results showed that low Internet connectivity bandwidth is a major hindrance

to the adequacy of ICT facilities as indicated by respondents (4.4). Other major hindrances are expensive hardware and software (4.2), unreliable telecommunication network (4.1), expensive ICT facilities (4.1), unstable power supply (3.9), and inadequate ICT facilities for networking (3.5).

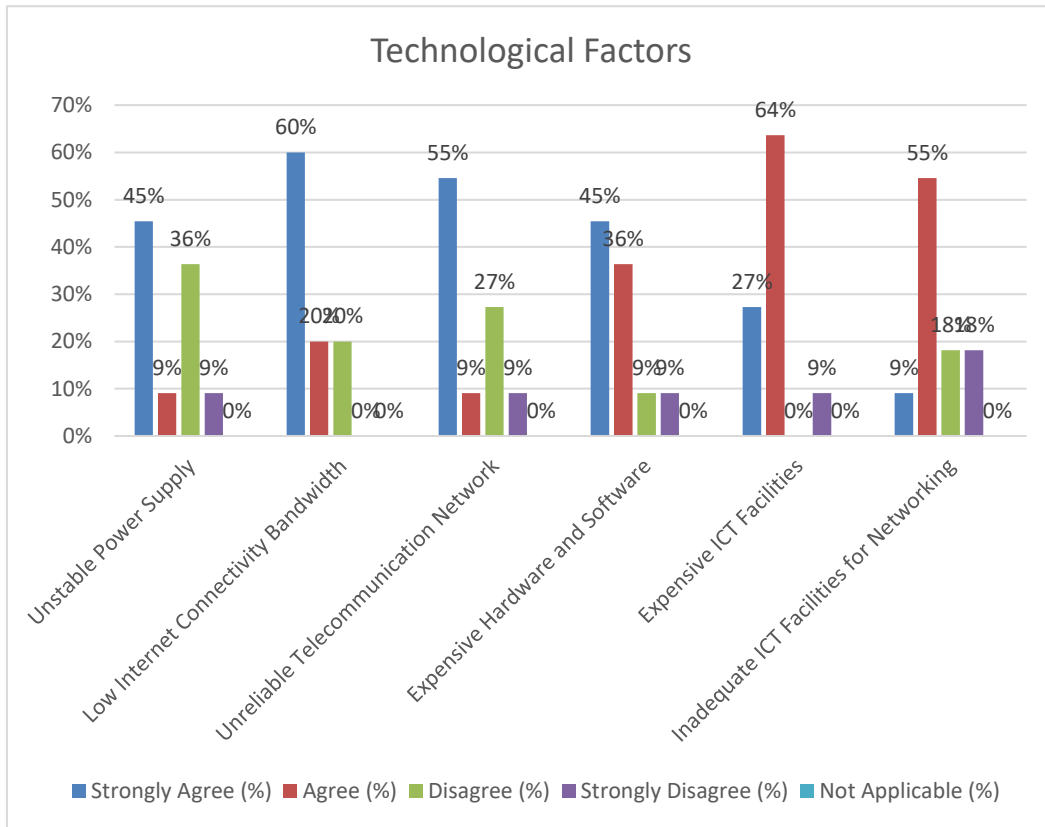


Figure 2

Figure 2 shows the summary of the analysis of results for the responses on the technological factors that hinder the adequacy of ICT facilities. The results showed that the respondents agree that low Internet connectivity bandwidth (80%), unreliable telecommunication network (64%), expensive ICT facilities (91%), expensive hardware and software (81%), inadequate ICT facilities for networking (64%) and unstable power supply (54%) are major hindrances to adequacy of ICT facilities.

Table 3: Managerial factors that hinder the adequacy of ICT facilities

S/N	Managerial Factors	SA (%)	A (%)	D (%)	SD (%)	NA (%)	TOTAL (%)	Mean
1.	Inadequate ICT Budgeting	2(18.2%)	7(63.6%)	2(18.2%)	0(0%)	0(0%)	11(100%)	4
2.	Library Insecurity	0(0%)	5(45.5%)	6(54.5%)	0(0%)	0(0%)	11(100%)	3.5
3.	Insufficient Funding	3(27.3%)	7(63.6%)	1(9.1%)	0(0%)	0(0%)	11(100%)	4.2
4.	Poor Policy on ICT Adoption	4(36.4%)	6(54.5%)	1(9.1%)	0(0%)	0(0%)	11(100%)	4.3
5.	Low Managerial Interest in ICT	1(9.1%)	4(36.4%)	5(45.5%)	1(9.1%)	0(0%)	11(100%)	3.5
6.	Lack of Good Maintenance of ICT Facilities	3(27.3%)	4(36.4%)	4(36.4%)	0(0%)	0(0%)	11(100%)	3.9
7.	Obsolete and Poor Infrastructure	2(18.2%)	2(18.2%)	7(63.6%)	0(0%)	0(0%)	11(100%)	3.5
8.	Lack of Skilled Library Staff	1(9.1%)	2(18.2%)	6(54.5%)	2(18.2%)	0(0%)	11(100%)	3.2
9.	Any other, please specify and rate	1(20%)	1(20%)	2(40%)	0(0%)	1(20%)	5(100%)	3.2

Source: Field data 2022

Table 3 presents the analysis of the results on the managerial factors that hinder adequacy of ICT facilities. The results showed that inadequate ICT budgeting (4.0), insufficient funding (4.2), poor policy on ICT adoption (4.3) and lack of good maintenance of ICT facilities (3.9) are indicated as the most hindrances to adequacy of ICT facilities. Low managerial interest in ICT (3.5) and library insecurity (3.5) are indicated as moderate hindrances. However, obsolete and

poor infrastructure (3.5), lack of skilled library staff (3.2), and other unlisted factors (3.2) are indicated as low hindrances to adequacy of ICT facilities.

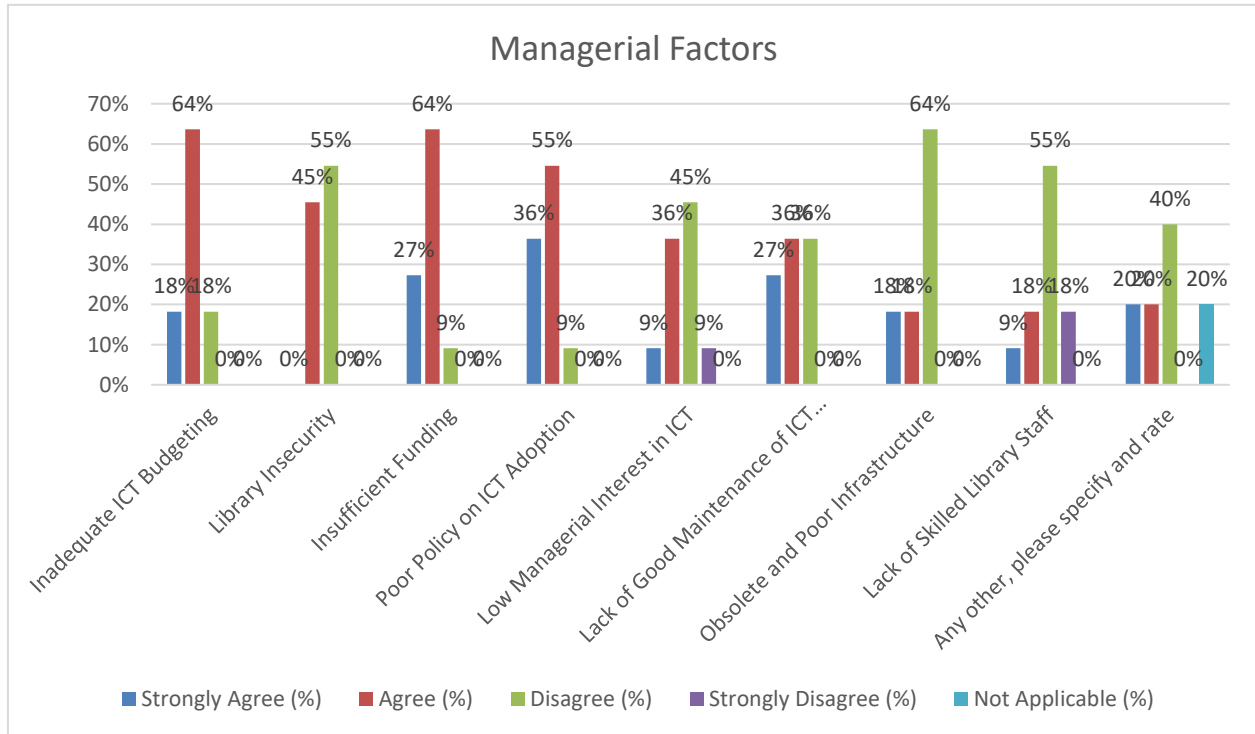


Figure 3

Figure 3 shows the summary of the analysis of results for the responses on the managerial factors that hinder the adequacy of ICT facilities. The results showed that the respondents agree that inadequate ICT budgeting (82%), insufficient funding (91%), poor policy on ICT adoption (91%) and lack of good maintenance of ICT facilities (63%) are the most hindrances to adequacy of ICT facilities. Other factors are: low managerial interest in ICT (45%), and library insecurity (45%). Obsolete and poor infrastructure (36%), lack of skilled library staff (27%) and other unlisted factors (30%) are indicated as very low hindrances to adequacy of ICT facilities.

Discussion

The findings of this study on research question one on the level of availability of ICT facilities in the university libraries being studied revealed that the highly available ICT facilities include

desktop computers and laptop computers, needed for use by library users and also library staff. Care was taken to specify desktop computers as against laptop (PCs) computers basically in order to clarify the kinds of computers the university libraries had. Others are Internet, and Server, to ensure provision of internet access to the libraries to facilitate downloading of software and services provision using the library management systems. Also available are: power generator - for the supply of alternative power, WIFI, e-journals, printer, multimedia projector, library website, electronic database, Scanning machine, photocopy machine, library software, LAN, email facility, CD-ROMs and DVD/VC, among others. This is supported by the study by Osuchukwu, Obuezie and Ogwuche (2017) where an observation checklist of the available ICT facilities in the university library studied showed computers, internet, photocopier and flash drives were readily available and used to a great extent. So also, Scanner, CD-ROMs, e-mail services, and institutional websites were available but not accessible. Also, in Ikolo (2020) there was availability of most ICT tools to a moderate extent. These included: mobile phones, Internet connectivity, computers, OPAC, printers, and E-mail. Even though the respondents agree that several of the ICT facilities are in available, results however showed that technological factors hindering adequacy of ICT facilities - hardware and software facilities (4.2), as well as other ICT facilities (4.1) are expensive.

The findings of this study on research question two present the factors that hinder the adequacy of ICT facilities in the university libraries being studied. The findings on the technological factors showed that low Internet connectivity bandwidth was a major factor that was hindering the provision of adequate ICT facilities for most of the university libraries. Other technological factors are: unreliable telecommunication network, expensive hardware and software and expensive ICT facilities. This showed that whereas the level of availability of the ICT facilities is high, the technological factors hinder the facilities from being effectively utilized. So also, the findings of this study on the managerial factors showed inadequate ICT budgeting, insufficient funding, poor policy on ICT adoption and lack of good maintenance of ICT facilities as the factors that most hinder adequate provision of ICT facilities. This result reveals that the university libraries may experience setback in sustainability and maintenance of their high level available ICT facilities if the managerial issues persist. The result of this study agreed with the result of Olowokere, Ismaila & Rashaq (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 supported by Lawal, Basse and Ani (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) study on some of the major impediments to e-resources access are, poor internet connectivity, power outages and insufficient search skills.

Conclusion

Based on the findings of this study, ICT facilities are available for the provision of e-resources services in majority of the university libraries to a high level. The level of availability of these facilities also varies. The study reveals that majority of the university libraries have a high level availability of computers - both desktops and laptops, Internet and server, access to alternative supply of power using a power generator, electronic databases, library website, library software, WIFI, LAN, e-journal, e-mail and CD-ROMs, among facilities. Furthermore, the findings from the study reveal obvious projections from hindrances to adequate provision of ICT facilities. All the listed technological factors pose major hindrances to the adequacy of ICT facilities provision. They include: low Internet connectivity bandwidth, unreliable telecommunication network, expensive hardware and software, expensive ICT facilities, unstable power supply and inadequate ICT facilities for networking. The managerial factors constituting the most hindrances include: insufficient funding, poor policy on ICT adoption, inadequate ICT budgeting and lack of good maintenance of ICT facilities. The study concludes that there is need for management of the concerned university libraries to revisit the policies being put in place and come up with better measures that can ensure high level of ICT facilities provision sustainability in the university libraries.

Recommendations

Based on the findings obtained from this study, the following recommendations are made:

1. Procurement and maintenance of ICT facilities should be made a sustained priority in order to ensure that they are highly available for the provision of e-resources services.

2. Priority attention should be given to adequate budget allocation for the proper funding of ICT facilities in university libraries especially since it is highly beneficial but capital intensive.
3. Internet speed and bandwidth should be increased to create fast access for web-based information resources. This is because high internet speed is necessary for efficient and effective use of e-resources.
4. The provision of sustainable alternative power supply should be made a priority. This is not just with power from generating sets but other innovative measures like solar energy, bio gas energy and so on.
5. The training and retraining of library staff should be sustained, especially where on-the-job training is concerned.

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