



# Issues and Challenges to Availability and Accessibility of CD-ROM and Online Databases in Public University Libraries in Cross River State in the South-South, Nigeria

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**Abstract:** The paper assessed the issues and challenges to availability and accessibility of CD-ROM and Online Databases in public university libraries in Cross River State in the South-south, Nigeria. The paper discussed the concept of CD-ROM and Online Databases. The paper further highlighted the issues and challenges to availability and accessibility of CD-ROM and Online Databases in Nigerian university libraries. The survey design was adopted for the study. Questionnaire was used to collect the data. Tables and percentage were used in the analysis. The study was carried out in Cross River State in the South-south, Nigeria where 91 librarians in federal and state owned public universities were used for the study. The paper concluded that the issues and challenges to availability and accessibility of CD-ROM and Online Databases are anchored to a large extent on underfunding of university libraries, epileptic power supply, poor telecommunication and Internet facilities, and lack of ICT skills among librarians, among others. The paper recommended that the level of funding/financial support to university libraries by both state and federal should be reviewed upward to enhance the procurement of modern CD-ROM and Online databases for the provision of library services to users, Library management should adopt CD-ROM and Online databases in libraries as well as exhibit a maintenance culture of equipment, Library management in these libraries should fully embrace and utilise ICT in their libraries to provide quality services to their clientele since computers and other ICT facilities reputedly provide quick access to relevant information both within and outside the library, among others. Moreover, librarians who cannot use computer and Internet-based technologies to deliver services become obsolete in the future.

**Keywords:** Accessibility, Availability, CD-ROM and Online Databases, Issues and Challenges, Public University Libraries, Nigeria

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## 1. Introduction

### 1.1. Background to the Study

The university library is looked upon to provide the necessary information for teaching, research and long life learning, achieving the mission, vision and goals of its institution. The library acts as a medium of getting the latest scientific and technological information either in printed or electronic forms. University libraries are expected to provide information materials in all formats, providing wider access to information in form of electronic journals, books, full text journals, CD-ROM, databases, Internet. These resources include not only traditional

print-on-paper media like books, journals, newspapers, and maps, photographs, but also microfiches, CD-ROM, computer software, online databases, Internet, electronic books and e-journals, which will lead to access and retrieval of information. In other words, the library resources and services should be sufficient in quality, diversity and currency to support the institutions' curriculum and research.

Indeed, the revolution in information technology has made great impact in all fields of knowledge, including library and information science. The issue is that librarians are now not only custodians of collections but they have to make the information available and accessible to the users. Libraries now provide access to databases, electronic scholarly journals,

encyclopaedia and other reference sources. Today, information invariably is changing in content, value, quality, utilisation and variety, taking new forms and being conveyed by variety of information technologies, which enhance the process of information location, capture, access, organisation, storage, retrieval and utilisation. Libraries, especially university libraries, are acquiring such electronic information resources such as CD-ROM, as well as creating online databases, and making them available for use for the benefit of their users.

It is of interest to note that the attempt to have some number of CD-ROM databases and drives in each of Nigerian university libraries is a bold step to show their level of preparedness and readiness to automate their services and to transform university libraries into new information centres, electronic circulation function and so on to accredited information users. The greater storage capacities of CD-ROM databases are used to give library users full-page access to such materials as journals, catalogues, and encyclopaedias. CD-ROM as a sophisticated information storage and retrieval tool can significantly reduce the most laborious and tedious aspects of research. For example, a single compact disk can store full text of all the collections of several libraries in Nigeria, full text of journals, full text of patents, full text of newspapers and magazines, full text of encyclopaedia, full text of standard documents, handbooks, manuals, directories and collection of software used for storing archival materials. Thus 'availability' and 'accessibility' to information would be the key factor to success in the future of individuals, business, education, and so on.

Accessibility of CD-ROM and Online databases in libraries rests heavily on availability of CD-ROMS and Online databases in these libraries. Other considerations include: Relevancy – meeting the criteria of information sought after; Credibility – sources of information being authoritative and well known; Topical in nature – contents being up-to-date and focused; Balanced – the information disseminated should be free from bias, and Accessibility – the CD-ROM and Online databases should be easily available on demand or documented and clearly represented. CD-ROM and Online databases must not only be available in the right quantity and time, but also has to be accurate and must be accessible. Thus timely availability and accessibility of these information resources are prerequisites for information utilisation. This fact necessitates proper handling and management of CD-ROM and Online Databases because to a large extent, the method of arrangement or organisation of these CD-ROM and Online Databases will either enhance or impair access, retrieval and use of the resources.

Nevertheless, there is no doubt that most Nigerian university libraries though aware of the need for electronic information resources in their libraries contribute to the poor attitude of university authorities by showing apathy in the support of their libraries to stock these resources. What is now important is the availability and accessibility of CD-ROM and Online Databases in Nigerian university libraries. Nigerian university libraries should take advantage of these facilities.

## 1.2. Objectives of the Study

The study seeks to:

- 1) identify the issues and challenges to availability of CD-ROM and Online Databases in university libraries in Cross River State in the South-south, Nigeria.
- 2) ascertain the issues and challenges to accessibility of CD-ROM and Online Databases in university libraries in Cross River State in the South-south, Nigeria.

## 2. Literature Review

### 2.1. CD-ROM and Online Databases: Conceptual Overview CD-ROM

CD-ROM is a type of read-only memory. The capacity of CD-ROM, according to Wikipedia [24] is 194 MiB (8cm), 650-900 MiB (12cm), Read mechanism: 600-780nm laser diode, 150KiB/s (1<sup>x</sup>), 10,800 KiB/s (72<sup>x</sup>) and Standard: ISO/IEC 10149. CD-ROM is an information storage device as well as information technology tools and has a very high density in terms of information storage capacity (Udensi, [22]). The CD-ROM is an optical disk technology. Information on different subject areas can be stored in the CD-ROM and can also be accessed from various other points via the computer. It is very compact, and portable. The information stored in the CD-ROM lasts for a very long time. In addition, it does not need any telecommunication facility to access it. It is user friendly. In the same vein, the potentials for the use of CD-ROM databases in library operations have in it storage compactness; portability; reduced shelf space; maintenance cost; and durability up to hundred (100) years.

In Nigeria, availability and accessibility of CD-ROM and Online database technology are encouraging in Nigerian academic libraries. The arrival of CD-ROM technology in libraries has revolutionised the storage and retrieval of information. Issa [12] affirmed that CD-ROM technology for searching international databases are available especially on agriculture, biology, water resources, environment, fisheries, extension, library and information science, and science and technology. Encyclopedias, dictionaries and computer programmes are also purchased in CD-ROM format by some libraries for their reference sections. CD-ROM and Online database systems have expanded users access to the most current information. In order to function and serve the information users, the CD-ROM, Online Databases, the Internet, the World Wide Web, and other related electronic devices need to be available and accessible.

A study cited in Haliso [10] on the availability and use of ICT in Saudi-Arabian academic libraries, revealed that the E-mail, fax, OPAC, CD-ROM, Online searching technologies were available in most of the libraries studied. Furthermore, another survey study of Puerto-Rican academic libraries, found out that availability of OPAC, CD-ROM, Optical technologies, Fax and Online searching facilities improve academic productivity since the introduction of ICTs. Another study revealed that CD-ROM use in academic libraries has provided

an opportunity for users to easily access database information. For librarians it provides relevant information to their end-users without any tension. The use of CD-ROM has provided a wide range of services, saving time and cost effectiveness in relation to search time, as opposed to a manual search which can be slow and tedious and general improvement of the efficiency of the library services.

#### *Online Databases*

A database is a collection of files containing related information stored and could be retrieved at a desired time for the purpose of dissemination. A database is a collection of individual records that are most often standardised in both format and content. Online database, according to the Law Dictionary [15] and Business Dictionary [6], is a web-based filing system used to store information or records, accessible by using web scripts. Online databases are purchased by subscription. Online database is a database accessible from a local network or the Internet, as opposed to one that is stored locally on an individual computer or its attached storage (such as a CD). Online databases are hosted on websites, made available as software as a service products accessible via a web browser. Online databases, on the other hand, are databases that are in machine readable form and these require electricity to make them usable. It is the electronic abstracts or indexes where users and researchers can search for journal articles and materials on a particular topic.

Some of these databases provide access to the full text. Examples of Online Databases include: Ebsco Hosts; Agora; Hinari; Jstor; NEXUS; Sabinet Online; ERIC; MARC; LISA; AGRICOLA; MEDLINE; AGRIS; OPAC. Some of these databases need subscription before one can have access to them while some have free access. Database in which publishers' catalogue are stored can be given to the book sellers and the libraries via the Internet. Database on the internet can give information regarding authors' catalogue on radio or television programme (Akor, [2]). Online database facilitate interconnectivity. Instead of dealing with single organisation, it is now possible to make computerised files available to other libraries and information centres. Librarians can select from the files available for them and make them available for those that need related information. Reference librarians can possibly process their enquiry online and receive answers directly or have it printed out for them. The online database forms one of the electronics source/resources available to reference librarians.

Nevertheless, Komolafe-Opadeji [14] study pointed out that students seem to be aware of certain scholarly e-resources and databases such as Ebsco Host, JSTOR, Questia, HINARI and High Beam. She further discovered that students have regular access to the Internet and also preferred using resources from Wikipedia, Google and some selected Online databases such as EBSCO Host, JSTOR, Questia, HINARI and High Beam. Kamdani and Kumbar [13] and Bart [5] study also found that majority of the respondents visit institutional website regularly. It was concluded that libraries should provide web-based services to their users.

## **2.2. Availability and Accessibility of CD-ROMs and Online Databases in Nigerian Libraries**

Today, the modern libraries require ICT facilities such as CD-ROMs and Online Databases to deliver services to users. Availability of CD-ROM and Online database in university libraries has provided general improvement of the efficiency of the library services, save time and cost effectiveness in relation to search time, as opposed to a manual search which is slow and tedious. Availability and accessibility of CD-ROM technology as well as Online databases are very encouraging in Nigerian academic libraries. Where these are lacking, impacted negatively on library service delivery in Nigerian university libraries.

However, on the other hand, many factors limit the availability and accessibility of CD-ROMs and Online databases in Nigerian university libraries. Availability of CD-ROM and Online databases in university libraries is, however, frustrated by inadequate funding, lack of the necessary equipment, and destructive interruption of electric power. Other constraints include: unreliable power supply, on and off access to the Internet, low bandwidth, among others. On funding problems face by university libraries, Umar [23] stated that funding of library services in Nigeria has been a long standing problem for several decades. This is in line with Simisaye, Salisu and Awodoyin [21] statement that, inadequate funding support to Nigerian libraries hampered the abilities of libraries to invest in human capital development needed for the delivery of library services. Regrettably, Haliso [10] study supported this statement when he interviewed 25 head librarians who responded that fund had been a big problem for libraries to sufficiently provide quality ICT based information services to their users.

Omolayole [20] identified that low level of computer culture, poor telecommunications infrastructure and general lack of awareness stand against the effective utilisation of ICTs in Nigerian academic libraries. In the same vein, the result of Oduwale [18] study on the impact and use of CD-ROM databases in 10 Nigerian academic libraries revealed that high cost of subscription to CD-ROM databases was ranked high as major constraint. Furthermore, a study carried out by Haliso [10] to sought if academic libraries in the Southwestern Nigeria provide CD-ROM and Internet services in the libraries. The study found that 17 (58.6%) of the libraries provide access to CD-ROM facilities whereas 12 (31.4%) libraries are yet to start providing the CD-ROM services. Furthermore, on the provision of Internet services in the libraries, 5 (17.2%) academic libraries responded that they use Internet services from their own Internet service provider (ISP) while 6 (20.7%) of the libraries responded that they provide Internet services through a shared service provider, and 18 (62.1%) libraries stated that they do not have any form of Internet service provider.

Nok [17] averred that regular power generation remains a problem in Nigeria. Power outages and epileptic power supply in university libraries, according to Ogunrombi and Ossai-Ugbah [19], is a recurring decimal in Sub-Saharan African.

Nkanu and Eyo [16] study on problems faced by libraries in utilisation of ICT revealed that inadequate electricity supply is the most prevalent. They further affirmed that unavailability and instability of power supply adversely affected most university libraries. Moreover, CD-ROM and Online database facilities cannot function without adequate electricity. Erratic power supply also results in incessant destruction of some library equipment which cannot be easily replaced. According to Babalola [3] affirmation, to access information from the databases of other information providers, librarians need equipment and stable power supply. This shows that the provision of equipment and constant power supply to Nigerian university libraries are strong determinant of availability and accessibility of CD-ROM and Online databases.

Stable power supply and Internet connectivity in university libraries could serve as influencing factors on availability and accessibility of CD-ROM and Online databases in university libraries. If there is a stable power supply accessing and downloading of relevant electronic materials could be done with much ease. Unfortunately, inadequate training opportunities are also major problems to availability and accessibility of CD-ROM and Online databases in libraries. Adeyoyin [1] and Haliso [10] stressed that many library personnel in Nigeria still lack various forms of technical and ICT skills hence finding it difficult in keying into this library modern trend. Bamidele, Omeluzor, Imam and Amadi [4] posited that computer skills are requisite for library work in general while library personnel must have a high level of knowledge to troubleshoot and assist users in all areas of service need.

Haliso [10] reported Igbeka and Okpala [11] study on the usage pattern of CD-ROM database technology by students and library staff in Kenneth Dike Library, University of Ibadan. The findings showed that lack of trained library personnel was found to be among strong reasons why CD-ROM users showed dissatisfaction. Secondly, users were not knowledgeable on how to conduct a successful CD-ROM literature search. Similarly, Chisenga [7] surveyed the use of

ICTs in public libraries in ten (10) Anglophone African countries and found that all libraries studied pointed out lack of inadequate ICT personnel and fund. Fadehan and Ali [8] and Gbaje [9] further stated that academic and research libraries in Nigeria are lagging behind in library automation because of inadequacy of information technology (IT) skilled library staff.

More importantly, accessibility of CD-ROMs and Online databases in this 21<sup>st</sup> Century needs ICT knowledge on how ICT functions and how to apply ICTs in library services delivery. This implied that there is a relationship between library personnel possessing ICT skills and their job performance. Most information professionals who may have the traditional skills need to have the ICT skills which augment the traditional skills.

### 3. Methodology

The research design for this study is a descriptive survey. Questionnaire was used to collect the data for the study. The study was carried out in Cross River State in the South-south, Nigeria. The public university libraries used in the study are Cross River University of Technology (CRUTECH), Calabar library and University of Calabar (Unical) library. The population of the study includes 91 librarians in federal and state owned universities. The sampling technique adopted for the study was a total enumeration. Tables and percentages were used in the analysis.

### 4. Findings and Discussions

Table 1 shows that only 70 usable questionnaire were completed and returned. This sums it up to 76.9%. Out of the 70 questionnaire returned, 15 (21.4%) respondents were librarians of Cross River University of Technology, Calabar library and 55 (78.6%) respondents were librarians of University of Calabar library.

*Table 1. Pattern of questionnaire distribution.*

University Library	No of Questionnaire Distribution	No of Useful Questionnaire Returned	Response %
CRUTECH library	22	15	21.4
Unical library	69	55	78.6
Total	91	70	76.9%

The study investigated issues and challenges to availability of CD-ROM and Online Databases in the surveyed public university libraries as presented in Table 2.

*Table 2. Issues and Challenges to Availability of CD-ROM and Online Databases in Public University Libraries in Cross River State in the South-south, Nigeria.*

Statements	No. of Respondents	Response %
Attitudes of library management towards the adoption of ICT/acquisition CD-ROM and subscriptions of Online Databases in my library.	70	100%
Inadequate funding of my university library.	70	100%
Absence of ICT skills among library personnel in my library.	65	92.9%
Unreliable electricity supply in my library.	63	90%
Lack of Internet connectivity in my library.	70	100%
Unavailability of required CD-ROM and Online Databases equipment in my library.	65	92.9%
Absence of knowledge of CD-ROM and Online Databases implementation processes by librarians.	55	78.6%

Statements	No. of Respondents	Response %
High cost of maintaining CD-ROM and Databases equipment in my university library.	60	85.7%
Lack of adequate computers in my library.	60	85.7%
Poor telecommunication facilities in my library.	60	85.7%
Others (specify)	0	0

Table 2 shows the issues and challenges to availability of CD-ROM and Online Databases in public university libraries in Cross River State in the South-south, Nigeria. The result in Table 2 ranked attitudes of library management towards the adoption of ICT/acquisition CD-ROM and Online Databases in my library, inadequate funding of my university library and lack of Internet connectivity in my library 70 (100%) as the principal issues and challenges militating against availability of CD-ROM and Online Databases; the next highest are absence of ICT skills among librarians/library personnel in my library and unavailability of required CD-ROM and Online Databases equipment in my library 65

(92.9%); followed by unreliable electricity supply in my library 63 (90%); the next are high cost of maintaining CD-ROM and Databases equipment in my university library, lack of adequate computers in my library and poor telecommunication facilities in my library 60 (85.7%), and lastly, absence of knowledge of CD-ROM and Online Databases implementation processes by librarians 55 (78.6%) in public university libraries in Cross River State in the South-south, Nigeria.

The issues and challenges to accessibility of CD-ROM and Online Databases in public university libraries as indicated by respondents are presented in Table 3.

**Table 3.** Issues and Challenges to Accessibility of CD-ROM and Online Databases in Public University Libraries in Cross River State in the South-south, Nigeria.

Statements	No. of Respondents	Response %
Lack of adoption of ICT in my library.	62	88.6%
Lack of CD-ROM and Online Databases in my library.	70	100%
Lack of equipment in my library to access CD-ROM and Online Databases.	70	100%
Lack of Internet connectivity in my library.	65	92.9%
Absence of ICT skills among library personnel to use CD-ROM and Online Databases in my library.	65	92.9%
Unreliable electricity supply in my library.	64	91.4%
Lack of adequate computers in my library.	63	90.0%
Poor maintenance culture of equipment in my library.	63	90.0%
Others (specify)	0	0

Table 3 shows the issues and challenges to accessibility of CD-ROM and Online Databases in university libraries in Cross River state, Nigeria. Respondents in these university libraries indicated the following issues and challenges: lack of CD-ROM and Online Databases in my library and lack of equipment in my library to access CD-ROM and Databases 70 (100%), lack of Internet connectivity in my library and absence of ICT skills among library personnel to use CD-ROM and Online Databases in my library 65 (92.9%), unreliable electricity supply in my library 64 (91.4%), lack of adequate computers in my library and poor maintenance culture of equipment in my library 63 (90.0%) as well as lack of adoption of ICT in my library 62 (88.6%).

## 5. Discussion of Findings

The findings of this study are quite revealing. On issues and challenges to availability of CD-ROM and Online Databases in public university libraries in Cross River State, the finding ranked the following as the principal issues and challenges militating against availability of CD-ROM and Online Databases: attitudes of library management towards the adoption of ICT/acquisition CD-ROM and Online Databases in my library, inadequate funding of my university library, lack of Internet connectivity in my library, absence of ICT skills among librarians/library personnel in my library, unavailability of required CD-ROM and Online Databases

equipment in my library, followed by unreliable electricity supply in my library, high cost of maintaining CD-ROM and Databases equipment in my university library, lack of adequate computers in my library and poor telecommunication facilities in my library.

The findings of this study supported Oduwale [18] study which ranked high cost of subscription to CD-ROM databases as major constraint. Furthermore, Umar [23] revealed that funding of library services in Nigeria has been a long standing problem for several decades. This is in line with Simisaye, Salisu and Awodoyin [21] statement that, inadequate funding support to Nigerian libraries hampered the abilities of libraries to invest in human capital development needed for the delivery of library services. Omolayole [20] affirmed that low level of computer culture, poor telecommunications infrastructure and general lack of awareness stand against the effective utilisation of ICTs in Nigerian academic libraries.

The issues and challenges to accessibility of CD-ROM and Online Databases, on the other hand, as indicated by respondents include: lack of CD-ROM and Online Databases in my library, lack of equipment in my library to access CD-ROM and Databases, lack of Internet connectivity in my library, absence of ICT skills among library personnel to use CD-ROM and Online Databases in my library, unreliable electricity supply in my library, lack of adequate computers in my library, poor maintenance culture of equipment in my

library as well as lack of adoption of ICT in my library. The study confirmed Babalola [3] statement that to access information from the databases of other information providers, librarians need equipment and stable power supply. Nok [17] opined that regular power generation remains a problem in Nigeria.

In the same vein, Ogunrombi and Ossai-Ugbah [19] supported that power outages and epileptic power supply in university libraries is a recurring decimal in Sub-Saharan African. Nkanu and Eyo [16] affirmed that inadequate electricity supply is the most prevalent, and that, unavailability and instability of power supply adversely affected most university libraries. Furthermore, Igbeka and Okpala [11] and Haliso [10] indicated lack of trained and knowledgeable library personnel on how to conduct a successful CD-ROM literature search. Fadehan and Ali [8] and Gbaje [9] stated that academic and research libraries in Nigeria lagged behind because of inadequacy of information technology (IT) skilled library staff. Adeyoyin [1] and Haliso [10] stressed that many library personnel in Nigeria still lack various forms of technical and ICT skills.

Consequently, the availability and accessibility of CD-ROMS and Online databases are very important in university libraries to sufficiently provide quality ICT based information services to users. In this 21<sup>st</sup> Century, library management should take cognisance of these factors, especially provision of adequate funds, required equipment, stable power supply as well as Internet connectivity and staff development, for improved job performance of library personnel and services delivery to users in universities.

## 6. Conclusion

As a result of rapid development in information and communication technologies, the traditional library and information services have changed their role in response to diverse information and educational demands in Nigeria. Library activities have moved from the use of manually operated activities to the use of electronic resources. However, the major mission of the library in availability and accessibility of CD-ROM and Online databases is for user satisfaction. This can be done by providing users various alternatives that they can use to access and retrieve the required information.

More importantly, the availability and accessibility of these resources are anchored to a large extent on provision of adequate funds, which has to do with the budgetary allocation to university libraries, stable power supply, required equipment, infrastructure, Internet connectivity and ICT skilled personnel, among others. The essence of all these would be for an effective downloading, uploading and repackaging information from CD-ROM and Online Databases for library users' use. Endemic epileptic power supply, poor telecommunication and Internet facilities, unskilled technical and professional manpower, uncomputerised library services as well as, gross underfunding of university libraries programmes and

activities pose challenges for librarians. These challenges may probably cause low level of job performance of librarians and other library staff as well as services delivery to users in universities.

## 7. Recommendation

Therefore, it is hereby recommended that:

- 1) The present level of funding/financial support to university libraries by federal and state governments should be reviewed upward to enhance the procurement of modern CD-ROM and Online databases for the provision of sufficient and efficient library services to users. University libraries that have few or none of these resources should persuade the university authorities to live up to their responsibilities by providing ICT enabling environment in their libraries.
- 2) Library management should adopt CD-ROM and Online databases in libraries as well as exhibit a maintenance culture of equipment to encourage the accessibility of CD-ROM and Databases in the university libraries.
- 3) Library management in these libraries should fully embrace ICT rechnologies in their libraries to provide quality services to their clientele since computers and other ICT facilities reputedly provide quick access to relevant information both within and outside the library. Moreover, librarians who cannot use computer and Internet-based technologies to deliver services will become obsolete in the future.
- 4) As far as university libraries would want to remain relevant to researchers in this 21<sup>st</sup> century information superhighway (ICT age of information), they have to wake up from their slumber to take full advantage of the facilities of modern information communication technology through constant staff development for skills acquisition.

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