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Online Databases as Sources for Scholarly Information: Implications for Librarians

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Abstract

Following the introduction of ICT, the libraries are shifting their role from the custodian of traditional information resources to the provider of service-oriented digital information resources. Online database is a product of information retrieval services provided by producers of online databases in which searches are carried out through a local computer that interacts with far-off systems containing information contents. Online databases are excellent tools for in-depth study, providing a range of consistent and scholarly literature from well-known online database producers or publishers. Hence, this has generated a lot of interest among scholars and other information users. Therefore, librarians as information providers and mangers need to acquire requisite knowledge and skills on how to manage the online databases in order to continue to gain the confidence of their users in satisfying their quest for information. Hence, this paper was designed to examine the benefits of electronic information resources, the concept of online databases are, types of online databases, different methods or techniques used to search for information in online databases, and impacts of online databases on academic activities. The implications of the emergence of the online databases (as a source for accessing teaching, research and learning resources) to the librarians were also elucidated and suggestions were made on how to reposition the librarians towards better online database information service delivery. The paper then concluded that online database as a source for acquiring scholarly materials has come to stay. Therefore, librarians and other information providers must acquire requisite knowledge and skills on how to manage the online databases for effective service delivery in their respective institutions.

Keywords

Online, Databases, Sources, Scholarly, Information, Implications, Librarians

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Introduction

Chattopadhyay and Halder (2022), defined online database as ‘‘a collection of bibliographic information stored in a computer or a central computer and retrospective search is made possible remotely from a distance computer through the use of soft-wares”. Basically, it is an integrated collection of bibliographic information arranged logically in a far located central computer with which users can communicate via telecommunication networks. Online database is a product of information retrieval services provided by producers or vendors of online databases in which searches are carried out by means of a local computer that interacts with far-off systems containing information contents (Ugwu and Orsu, 2017).

Oguche and Nwokedi (2020), inserted that Online databases can be general, multidisciplinary or subject specific in scope. The availability of these databases enables users to search information in a variety of

forms and formats, such as HTML, PDF, RTF, etc. In online databases, contents are arranged in such a way that it can be easily searched and retrieved without the help of any intermediaries. He further submitted that online databases are excellent tools for in-depth study, providing a range of consistent and scholarly literature from well-known online database producers or publishers.

Ugwu and Orsu (2017), further claimed that since, the introduction of ICT the libraries are shifting their role from the custodian of traditional information resources to the provider of service-oriented digital information resources. All the library activities have changed the way from traditional to digital. In this context, e-resources play important role for the academicians especially after the pandemic.

A new way of searching information became also exposure with the introduction of online databases. It is a product of information retrieval services provided by producers of online databases in which searches are carried out by means of a local computer that interacts with far-off systems containing information contents. A large number of publications by various authors at national and international level reflect the interest in online databases. In the present investigation, the researcher has made an attempt to highlight the benefits of electronic information resources; the nature of online databases; their types; different methods or techniques used to search for information in online databases; and impacts of online databases on academic activities. The implications of the online databases as a source for accessing teaching, research and learning resources to the librarians was also elucidated and suggestions were made on how to reposition the librarians towards better online database information service delivery.

It was believed that the findings of the study would help librarians to take a closer look at the online databases as a source for acquiring information resources and make necessary adjustments to reposition their selves toward effective online service delivery to their library users.

Benefits of Electronic Information Resources

Adams (2017), described the electronic resources as digital materials that are accessible online or through electronic devices. These resources include but are not limited to e-books, online journals, databases, multimedia content, websites, and other digital information sources. Adam (2017), further inserted that electronic resources provide numerous benefits compared to traditional printed materials, such as:

1. Accessibility: Electronic resources can be accessed anytime, anywhere, as long as there is an internet connection. This accessibility makes it easier for users to find and retrieve information quickly.
2. Ease of Search: Electronic resources can be easily searched using keywords, allowing users to find specific information within seconds. This feature saves time and effort compared to manually searching through printed materials.
3. Cost-effectiveness: Electronic resources often eliminate the need for physical storage and distribution, reducing costs associated with printing, shipping, and maintaining physical copies.
4. Interactivity: Many electronic resources offer interactive features such as multimedia content, hyperlinks, and search functions, enhancing the user experience and facilitating learning and research.
5. Currency: Electronic resources can be updated more frequently than printed materials, ensuring that users

have access to the most current information available.

Nwokedi, Samuel and Ogugua (2016), submitted that in dealing with electronic resources, it is important to consider issues such as digital rights management, access restrictions, and the reliability of electronic resources when using them for research or educational purposes. Overall, electronic resources play a crucial role in modern information dissemination and are essential tools for researchers, students, and professionals in various fields.

Concept of Online Databases

According to Wong, Shakir,Tong, Alias, Aghamohammadi, and Arumugam (2018), online database is a product of information retrieval services provided by producers or vendors of online databases in which searches are carried out by means of a local computer that interacts with far-off systems containing information contents. He also enumerated some of the basic characteristics of online databases as follows:

1. ***Collection:*** According to Ogwuche and Nwokedi (2020), in an online database, contents are arranged logically to facilitate easy access and retrieval. Documents in such types of systems are organized in a suitable manner for carrying out easy and fast retrieval of information;
2. ***Credibility:*** Upadhyay and Deepmala (2018) stated that in online databases, recorded contents of information are reviewed by subject experts and publishers to maintain credibility and authenticity of the resources. The contents of database are finely evaluated in terms of their accuracy and credibility.
3. ***Usability:*** The well-defined organization of information contents and search capabilities of online databases allow users to search and retrieve results more efficiently and effectively (Upadhyay and Deepmala, 2018)
4. ***Conversational:*** Searches in online databases are conducted as a two-way communication between the searcher and the system, in which each get a chance to communicate with each other. Therefore, online databases are referred to as interactive or conversational (Iroaganachi and Izuagbe, 2018).
5. ***Expert System:*** Online databases are characterized as expert systems that provide information on specialized areas of knowledge, e.g. a nuclear database gathers specific information on nuclear sciences from experts or specialized associations and provides particulars of the nuclear sciences (Iroaganachi and Izuagbe, 2018).
6. ***Controlled Vocabulary:*** To support searching, online databases usually have their own controlled vocabulary. Controlled vocabulary is largely used for information presentation and retrieval, though the keyword searching is also supported by almost all the online systems (Ogwuche and Nwokedi, 2020).
7. ***Permanence:*** Published documents, such as journals, reviews and books, etc. in online databases do not change frequently. These information documents remain in databases for a long time in the form of archives to again retrieve the information (Iroaganachi and Izuagbe, 2018).
8. ***Up-to-Date:*** All the online databases comprise current information on its concerned areas. Online database

providers or publishers are regularly updating their contents by adding new information to provide current and copyrighted scholarly materials (Wong et al, 2018).

9. ***Real-time:*** Real time in online database operations implies that the remote terminals respond quickly to the user's search processes. Remote terminals receive data, search the information, and return the results more frequently to be utilized by the users in ongoing activities (Iroaganachi and Izuagbe, 2018).
10. ***Time-sharing:*** On-line time-sharing implies the sharing of machine processing time among a number of terminals. It means that the processing time of the computer is equally shared amongst independent activities. By time sharing many users can search the information simultaneously either from the same place or variant locations (Wong et al, 2018).

Types of Online Databases

According to Hase and Jadhav (2021), online databases are categorized under two major division: reference databases and source databases. Reference databases direct seekers towards the source of information, while source databases include actual information itself.

However, Anasi and Raza (2018), claimed that based on content, scope and the information incorporated, online databases can be grouped as follows:

1. On the Basis of Information Incorporated
2. On the Basis of Scope of Data
3. On the Basis of Contents
4. On the Basis of Providers

On the Basis of Information Incorporated

Based on the information included in online databases, they can further be grouped into the following four types:

a. Full-text Online Databases
b. Reference Databases
c. Numeric Databases
d. Multimedia Databases

Full-text Online Databases: Emmanuel and Anaechobi (2021), inserted that a full-text database is a compilation of documents or other information in the form of database in which complete text of each referenced document is available for online viewing, printing, or downloading. In addition to, text documents, images are often included as graphs, maps, photos, and diagrams. Full text online databases comprise full text information of the publications that are basically either print or online in origin. It includes large files of text such as all the paragraphs of a journal article or all the chapters from a book along with abstract or citations of the text files incorporated in them. According to Adam (2017), full text online databases are now being used as effective and important sources of periodical literature that are not usually available in local collection of libraries. Examples: JSTOR, Emerald insight and Wiley Online Library etc.

Reference Databases: Singh and Mukherjee (2018), stated that the references databases include terms, descriptive of content on which retrieval is based and some databases also provide abstract to give brief description of original documents and in these databases the retrieval of information is mostly based on the words appeared in abstract. The retrieved data helps users to identify where an original source can then be found. The reference databases provide bibliographic descriptions to published literature. It provides abstract, references or citations to documents. These databases are divided into two main categories as can been seen below.

Bibliographic Databases: Nwokedi and Panle (2020), claimed that bibliographic database is one of the most important forms of reference databases and are widely used as reference tools to provide citations or references, abstracts and index to published literature. Online bibliographic databases provide quick information about publications, which may or may not be available in library's own collection. These are the excellent means to access information, rather than merely an item of information in the collection of any library. Bibliographic databases contain elements of bibliographic description used to describe books, journals, documents, and other publications or portions. Oguche and Nwokedi (2020) stated that these databases are typically online bibliographic files, are the online equivalent of print abstracts and indexing services and mostly used for bibliographic verification of literature. Examples: LISA, Indian Citation Index, Scopus and Web of Science etc.

Referral databases: Referral databases direct users towards the particulars of actual source of information i.e. name of a person or institution. It offers references to information, such as names, address, and specialization of persons, institutions, information systems, and so forth. Examples: Ulrich's Periodicals Directory and Electronic Yellow Pages.

Numeric Databases: A numeric database is a computer-readable collection of data that are primarily numeric in nature. These are also known as the fact sources and non-bibliographic databases and are mostly used for supporting business or financial research. These databases include organized numerical data along with brief textual description and provide access in the form of statistics, demographic and financial reports, stock market quotations, chemical and physical properties, and chemical nomenclature and graphic structures, etc.

Multimedia Databases: A multimedia database is a collection of related multimedia data objects of different types. A multimedia database contains various data types such as images, sound recordings, video recordings, signals, graphics together with text data etc. Multimedia databases host different types of media file, such as .txt for documents, .jpg used for images, .swf deals with videos, .mp3 use for generating audio files etc. These databases involve the activities related to acquisition, generation, storage; processing and transmission of multimedia data over networks .The databases primarily provide access to art prints, animations, photos, audio clips, videos and others multimedia contents.

On the Basis of Scope of Data

1. ***General interest Databases:*** Such types of databases provide a broad range of information on different subject and disciplines. General interest databases comprise of information that is more general in nature, like current news and opinion, social and political affairs, cultural, educational, health and on public issues. Example: Academic Search Complete (EBSCO) and Encyclopaedia Britannica.
2. ***Discipline Specific Databases:*** Discipline-based databases are somewhat more specific than general interest databases. These provide information on several related areas. If information is not found in general interest databases then it is better to search in such types of databases. Examples: SocINDEX and PAIS (Public Affairs Information Service).
3. ***Subject Specific Databases:*** These databases are well suited for in-depth research and study on a particular topic. These databases provide information from professional publications and scholarly journals.

The subject specific databases are devoted to only one subject. Searches in subject specific databases are more comprehensive in nature to provide access to more scholarly articles. Example: Historical abstracts and PsycINFO.

On the Basis of Contents

Larson (2017), inserted that online databases can be organized according to the type of documents they possessed.

1. ***Article Database:*** An article database allows a person to search across thousands of various journals and magazines to locate an article on any specified subject. Articles databases mostly provide full text of articles, but sometimes they also provide abstracts of articles. Some online databases only present citations instead of full text article or an abstract that helps to locate the original article. Example: Google Scholar and Annual Reviews.
2. ***Theses/Dissertation Database:*** Theses/dissertations databases are developed to maximize the visibility and availability of research output and to provide opportunities for further research. Such databases enable searching for dissertations and theses through a single access point, which presents an extensive and authentic collection of millions of research works in full-text. These databases are the record of doctoral theses or dissertations awarded by Higher Education institutions. Example: ProQuest Dissertations and Theses and EThOS-Electronic Theses Online Service.
3. ***Citation Database:*** Citation databases are index of citations of published literature. It enables to locate bibliographic citations for journal articles and track articles in a specific subject. It allows users to track which current documents cite which previous documents. Many citation databases include index of journal articles along with its abstracts. By searching with keywords that might appear in an article, users can retrieve citations of an article such as Scopus and Web of science.
4. ***Audio/video Database:*** An Audio video database is a collection of Audio Video materials such as digital audio and video data and Audio video activities. A good example is Audiovisual Database of Spoken American English and Academic Video Online.
5. ***Online Catalogue Databases:*** An online catalogue database is a bibliographic database that describes the books, periodicals, and electronic resources, etc. that are available in the library. Online catalogues are those online databases that enable searchers to search for documents by author, title, subject heading, keyword, call number, or government documents number available in a particular library. Examples: IndCAT and WorldCat.
6. ***Dictionary Databases:*** In dictionary databases, likewise of directory catalogue each recorded entities represent something. The purpose of dictionary databases is to provide a measure of control in the use of bibliographic databases. Examples: Oxford English Dictionary and Chemical substance Dictionary.
7. ***Directory Databases:*** Directory databases offer the information of published directories or serve a purpose similar to that of published directories without having published equivalents. These are not full-text

databases although they may represent the complete text of a publication in machine-readable form; nor are they numeric in nature. Examples: Electronic Yellow Pages and Encyclopedia of Associations.

8. ***Indexing & Abstracting Databases:*** These databases provide brief summary of publications along with descriptors as access points to documents. Such databases provide clues to the relevance and location of the publication. Example: SocINDEX and Educational Research Abstracts Online (ERA).

On the Basis of Providers

Nwokedi and Panle(2020), submitted that online databases can be classified based on their providers or producers:

1. ***Publisher /Commercial Databases:*** Publisher databases are produced by online commercial service provider that sell their data to the clients and deliver information through the telecommunication networks. These databases are commercial electronic information services that people access through the Web or internet. Anyone can download electronically copy of the information contents from the Internet anywhere in the world through database's home page. To access such types of databases, searchers need to have an authorization number and password provided by the publishers (Chattopadhyay and Halder, 2022). Examples are Oxford University Press and Taylor & Francis.

2. ***Institutional Databases:*** These types of online databases are developed by the professional associations or institutions to increase the knowledge of their concerned areas among the people. These associations mainly work for promoting research and developments in their working areas in the broadest manner (Chattopadhyay and Halder, 2022). They develop different types of information sources to increase dissemination of knowledge related to their concerned areas, including books, journals, reports, and databases etc. The online databases produced by them are mainly subjected specific in nature. Example: PsycInfo (American Psychological Association) and EconLit (American Economic Association).

2. ***Aggregator Databases:*** These are defined as the service providers that make available contents, licensed by several publishers and is offered in packages at a single price to libraries. These offer extensive depth and breadth of contents of information along with effective features and functionalities. Examples: Pro-Quest and EBSCOHOST (Chattopadhyayand Halder, 2022)

Having critically examined online databases, its characteristics and types, it becomes important for us to examine how to search for information in the online databases.

Search Strategies and Methods for Accessing Information from Online Databases

Ganapathi (2014) described search strategies as combination of different methods used for searching documents and can be identified by types of search methods used and dimensions related to searches such as purpose, type of resources to be searched, methods for searching.

According to Upadhyay, Ashok and Deepmala (2018), "a search strategy is a plan for the whole search, while a tactic is a move made to further a search." Search strategies are the demonstration of patterns used in search processes and for searching the information.

Database searching allows users to search information from an organized collection of records. Users can search through by using different moves and tactics to get efficient results. Ugwu and Orsu (2017), inserted that in online databases, search strategies can be handled in two ways searching and browsing. These are the main strategies employed by users while communicating with online databases. Browsing needs more interactions with online databases than logic based search strategies use in searching.

Search Methods

Afolabi (1992) described search methods as methods that assist users in constructing their queries. It includes two types of searches: basic and advanced searches. All online systems possess these two search methods, which further provide different retrieval techniques, such as Keyword search, Boolean operators, truncation, phrase searching, proximity search and so on for more effective and efficient information retrieval.

Basic or Simple search

Singh and Mukherjee (2018) stated that basic search is a commonly used search method in database searching. It is also referred to as keyword searching, as keywords are important words that are used as index to the information in a database. In basic or keyword searching, online database searches the whole document to locate words and phrases defined by the users. Thus, it is useful, when user do not know the exact title or author name and want to link terms from different parts of a record, such as title, abstract, author etc.

Advanced search

Singh and Mukherjee (2018), also documented that advanced search provides the following search options to users:

Boolean operators: Jotwoni (2014), in his submission stated that in online database searching, boolean operators are used to narrow or broaden the search. The most useful logical connectors include, AND, OR, NOT. Among which AND is used to narrow the search, OR to broaden the scope of search, whereas NOT is use to eliminate unwanted terms from these arch. Boolean operators are considered as a common technique for advanced searching. For example: Online AND Database, Academic database OR Library database, Electronic database NOT CD-ROM.

Combined search: According to Ganapathi (2014), and Kaur and Verma (2009), combined search method provides the opportunity to combine two or more boolean operators in the same search statement. Combined search allows users to search databases by adding different logical operators at the end of each search string.

Phrase searching: Phrase search retrieves exact words in the same order mentioned by a searcher (Kaur and Verma, 2009). This feature produces that a result, in which exact phrase is retrieved within a document or any specified field (title, abstract etc.) of documents. It retrieves documents with exact terms adjacent to each other within the same document. Each database provider allows phrase searching as exact word search by using different command, for examples; the symbols (“ ” , {}) are used for “Online databases” to retrieve all the words in a phrase in an exact order.

Field specific searches: Chattopadhyay and Halder (2022), submitted that field specific searches facilitate users to limit their search terms to a specific field(s)of documents including author, title, abstracts, subjects and volume, etc. Thus it allows users to search within specified fields of recorded documents.

Limiters: While searching databases, users are provided the facility to limit their searches by using different types of elements (Reese Bomhold, 2013). Limiters constrain a users’ query within a specified requirement

by imposing limit using specific elements, i.e., date, type, etc. Almost all the online databases have limiters to control the results by using specified parameters; this retrieval feature is helpful in eliminating records that are outside the scope of defined limits. Users can narrow their searches limiting; by date, language, title of article, author(s) of article, subject and limit to a particular journal.

Truncation and wildcard: Devi (2019), said that truncation and wildcard search techniques are used to retrieve variations of a word. In truncation user can enter a base word (prefix) to retrieve all the words beginning with that base term. Generally, these techniques are used to truncate or shorten a word to retrieve singular, plural and its variant spellings. The symbols (*, $,?) are used to represent truncation in some online databases, while in others these are used to represent wildcard searching. Examples for searching variants of the word politics: poli* (policy, politics, political, politically, etc.)

Proximity search: A proximity search is used for fixing the distance between two words in the same sentence or paragraph of a document (Chattopadhyayand Halder, 2022). It sets search terms that occur in the same order as defined by the searcher. Commands used for proximity search include; ADJ, WITH and/or WITHIN and NEAR. For example, the statement STRUCTURE (WITH7) DATABASE indicates that the word STRUCTURE must not be separated from the word DATABASE by more than seven intervening words.

Stemming (related terms): according to Bomhold (2013), stemming technique allows searching of all the related variants of a term. It uses the base words of the search term as the stem to retrieve all the related terms as its stem variations. This retrieval feature is presented by many of the online databases but their implementation and interpretation may differ from one another, such as in EI Village and Ovid dollar sign ($) is required before the search terms, whereas the databases, ACM Digital Library and Emerald automatically stemmed the search terms.

Term Boosting: Chattopadhyayand Halder(2022), inserted that online database provides there evince level of matching descriptions based on the terms found. The higher the boost factor, the more relevant the term will be. Term boosting is the ability used to assign higher weight age to specific words in a query. It provides facility to users to control the significance of a description by boosting its term. A symbol of caret, "^", is used at the end of the term to boost its relevance in retrieved contents. For example: electronic database^4 journal. This reflects that the term electronic database is four times more relevant in a description than journal.

Expert search: Devi (2019) submitted that expert searching implies the application of a range of advanced search skills and knowledge to get more specific information. It allows users to perform more complex and complicated searches in multiple sources simultaneously, which include all sources or journals, books or reference works, etc. With expert search users can enable to prioritize their search terms to access the most appropriate item of information. The online databases ScienceDirect and MEDLINE are providing this option for searching.

Citation Locators/ Trackers Citation: Reese (2013) explained that Locators enable users to locate any article by entering its details from an article reference or citation. It searches throughout the different fields of a citation including author name, article title, journal title, volume/issue information, year, etc. In case, if an exact match to the citation is not found, then it will retrieve closely matched articles or information. Some of the online databases provide the citation locator or tracker to find, check, and track citations. Citation tracker/locator of citations to users to provide an overview of how many times a chosen document has been cited in other

works and the number of documents that cited it.

Browsing Strategy

Ansari and Raza(2018) described browsing as a process of seeking/searching of information by skimming and scanning of contents mainly in leisure. Browsing is a technique of information retrieval where the initial attempt of searching is usually undefined. While, browsing users do not need to define specific terms as required in the searching, so, it requires less intellect than searching. Irrespective of searching, browsing can be done without any training and practice. Browsing can be done by using different components of a document, the common browsing options are:

'Browse by title of journals', allows users to browse alphabetical list of journals available in that particular online database.

'Browse by keywords', facilitates users to browse different types of collections (journals, books, reviews and reports etc.) available in online databases by using keywords. 'Browse by subjects', feature allows users to browse contents by subjects. However, all the online databases are providing this retrieval capability, but differ in implementation of the components used for browsing.

Other Features Built into the Databases for Easy Searching

Ganapathi (2014), stated that online databases also offer some more retrieval features other than basic, which he discussed as follow:

Links: This feature helps users in getting full-text items or articles available in other databases or e-journals of the same publisher.

Report Online databases generate: Electronic holding reports of an institution. It provides a list of content subscribed by the institution.

Login/Register: Allow personalization of contents and features of online databases by creating personal account. By this facility users can customized their usage by save searches, subscribe different types of alerts (table of content alerts, favourite topic or journals alerts etc.) through e-mail and create a list of favourite journals, books and topic. Users can also do purchasing of any item of database through their account.

Modify Search: It allows users to modify or change search strategy to get better result. It is done by adding or removing the elements of content for which search is conducted.

Export Data: Users can generate bibliographic data of the article by using different citation manager formats including End Note, CSV, BibTex and TSV.

News and Updates: Provide information regarding the new launches and acquisitions made by database providers.

Jotwoni (2014), concluded that most online databases have these features enumerated, as a means of making the accessing of information from its database very easy for users.

Influence of Online Databases ON Academic Activities

Ansari and Raza (2018) in their study examine the researcher's perception towards the usage of JSTOR database. The findings revealed that users of library are obtaining significant benefit from this database for their research works and other academic tasks. Article title was the most common searching techniques under simple search strategy used by the researchers. Study revealed that the 78% of the respondents do not use JSTOR, because they don't know JSTOR database and 10% prefer other database. It is also found that all the respondents were satisfied with the service of JSTOR. It was recommended that library should organizing literacy programs and orientation programs for new researchers so

that they can maximize the use of JSTOR database.

Iroaganchi and Izuagbe (2018) in their study examined the role of online databases in faculty research output of six universities. Study revealed that JSTOR ProQest, EBSCO host are frequently used databases. Various hindrances faced by Faculty members such as study power supply, information literacy skills. The study recommended that adequate funding for university libraries, provision of supportive means of power generation and increased user education will maximize the exploitation of subscribed databases.

Aina (2014), opined that electronic resources are in trend than authentic print resources. It also revealed from the study that the most of the respondents use electronic databases for research activity and teaching various obstacles encountered while accessing electronic resources such as slow internet connectivity and lack of skill.

Nwokedi, Samuel and Jonathan (2016), in their research titled "Online Journals and Databases Usage Patterns among Medical Doctors in Jos University Teaching Hospital (JUTH), Nigeria" discovered among others that most of the doctors admitted using the free online journals and databases for teaching research and patient care; and preferred HINARI database as their most used and useful online journals and databases; Nevertheless, many of the doctors were averagely satisfied; and claimed that frequent electricity power failure; and slow internet connectivity were their major constraints to the effective use of the online journals and databases in JUTH. It was therefore, recommended among others that the JUTH Management in association with the University Library should acquire generators to check the frequent electricity power failure and increase their internet bandwidth for easy access by the doctors.

Choy (2011), stated that researchers mostly depend on primary information sources and for that they are using online databases for proper information, they also mentioned that the online databases are more dynamic than offline databases which saves time, money, space and effort. Various online databases are available in the market for different subjects. They only need is that selection of online databases according to users and organization demand.

Emergence of Online Databases and Possible Implications for Librarians

According to Nwokedi and Panel (2020), databases are excellent tools for in-depth study, providing a range of consistent and scholarly literature from well-known online database producers or publishers. Due to the immense benefits of online databases as a source of information to many researchers and scholars, it has become imperative that librarians, that by their profession are information managers should be well equipped with adequate knowledge on the online databases, especially as regards the following aspects:

1. ***Ability to identify various vendors or agents/representatives of the various online databases.*** In most cases the contact addresses of the vendors are gotten through organized conferences, seminars or workshops. At times one can get the vendors address through professional colleagues, friends or through the net.
2. ***Ability to subscribe to various online databases***: as information managers it is important for the librarians to know how to acquire online databases. In this situation, the librarians should be able to engage the vendors and negotiate on the terms of agreement on the use of the online databases and a favorable price.

3. ***Ability to identify the best database for each programme:*** most academic databases are specialized. Hence it becomes imperative that the librarians should be able to identify best databases for each of their programmes. To achieve that, the librarians need to be familiar with the curriculum of their programmes.
4. ***Ability to assess the legal terms on the use of the online databases.*** This is very important when acquiring a database. This is because it will enable you to know your rights on the use of the database. For instance some vendors may ban you from sharing your password with anybody or limit the number of downloads you can perform in a day or ban you from downloading a full article from their database or ban you from using their database for commercial purposes. So the librarian need to study the legal terms associated with the database carefully before acquiring the database.
5. ***Ability to assess the ease of use of the online databases: the*** librarian should be able to check if the use of the database is simple or complex and whether it requires tedious training of users or not. This assessment is very crucial because the easy to use databases usually encourage users to often patronize the database. Hence, the librarian should bear in mind that ease of use in most cases is directly proportional to patronage of online databases.
6. ***Training of the staff and library patrons on awareness and use of the online database:*** this is very important because proper sensitization of staff and students, on the online database could improve the patronage of the online database. So, there is the need for the librarian to often conduct sensitization of users, whenever a new online database is acquired. More importantly, is how to gain access into the online database and how to use it effectively for their desired purpose.
7. ***Ability to get a feedback on the usage patterns of the online database:*** acquisition of online database is a very good idea for academic institutions but the librarian must have a means of monitoring and assessing the use of the database. This can be done through periodic analyses of use. This task will provide a form of a feedback mechanism to the librarian. Through this, the librarian will know whether there is the need to continue to subscribe to the online database or to continue sensitization of the users. Through this method, the librarian will know the impact of the database on the academic activities of the lecturers in the institution.

Way Forward

Based on the fact that the librarians are information providers and managers in academic institutions and other organizations, the following suggestions were made on the way forward:

1. Librarians should attend more conferences, workshops, seminars and meetings that are centered on acquisition and management of online databases. In this regards, the librarian should be able to make sacrifices by paying from his/her pocket to register and attend such conferences/workshops, if need be, since most institutions, today in

developing countries are complaining of inadequate funds.

2. Librarians should update their computer skills. This will enable them to have a better appreciation of the online databases and other electronic resources. It will also enable the librarian to have personal access to the online databases.
3. Librarians should adopt self development through reading and searching the internet. This implies that the librarian should develop itself by reading text books, journals and searching the internet for internet resources that are centered on online databases. Through self reading, the librarian may also acquire some relevant skills on the management of online databases.
4. Joining associations and groups that are focused on discussing and addressing issues concerning online databases management and use by scholars. Examples include Nigeria Library Association (NLA): Information Technology section and Academic Libraries section.
5. Discussing with colleagues that are experienced on the acquisition and management of online databases.
6. Through the vendors, vendor's representative or vendor's websites the librarians can also gain useful knowledge on the acquisition and management of various online databases.
7. Librarians can also update their knowledge on online databases by enrolling for short courses on online databases management.
8. Due to the fact that most of the scholarly publications are currently online in the forms of databases,

Institutional priorities should shift towards supporting innovative approaches to online information access and services for effective information service delivery. To this end, there is the urgent need for institutions to sponsor the training of the librarians, who are the institution's information managers, through organized workshops, conferences, seminars and discussions that are centered on effects of online databases on academic activities on campus.

Conclusion

Having carefully examined the online databases, its impact on academic activities, and implications to librarians, it becomes imperative that librarians that are saddled with the responsibilities of managing information resources in academic institutions must embark on professional development to equip them-selves with the necessary skills on online databases and also keep them-selves updated on emerging trends on online databases, if they are to still remain relevant in this digital era. Additionally, institutional priorities should shift towards supporting innovative approaches to online information access and services for effective information service delivery. To achieve this, there is the urgent need for academic institutions to continue to update their librarian's knowledge and skills on the online databases, through sponsored/organized conferences, workshops, and seminars.

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