

Internet Based Services and Their Impact on Postgraduate Students Patronage of University Library

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Abstract: *The purpose of this study was to examine internet-based services and their impact on post-graduate students' patronage of University Library. Three research questions and three null hypotheses were formulated to guide the study. Related literatures were reviewed while the study adopted descriptive survey research design. The sample size of 174 post graduate students who are users of University of Uyo library was used while A researcher structured questionnaire titled "Internet-Based Services and their Impact on Post Graduate Students Patronage of University of Uyo Questionnaire" (IBSIPGSGQ) was used for the study. The questionnaire was subjected to face validity by by experts in LIS and Test and measurement for appropriateness of the instrument. Cronbach Alpha reliability coefficient was used to test the reliability of the instrument using 20 post graduate students from Akwa ibom state University which did not form a part of the sample. The reliability test gave a high coefficient of 0.76 which show that the instrument was reliable for the study. The data generated for this study were analyzed using mean and standard deviation to answer the research questions, while independent t-test statistical methods was used in testing the null hypotheses at 0.05 level of significant. The findings of the study revealed that there is significant influence of internet-based services such as information search service, data-based service, and web-based reference service on post graduate students' patronage of university of Uyo library. Based on the findings of the study, it was recommended among others that data-based service should be made availability in all higher institution libraries so as to assist the PG students in obtaining research information.*

Keywords: *Internet Based Services, Postgraduate Students, Patronage, University Library.*

Introduction

The conversion of the global world into a global village and then a drawing room is due to an amazing technology called internet. It has linked thousands of "Local Area Networks" (LANs) into "Global Area Network" (GAN), it is also known as World Wide Web (WWW). Thus, Internet is the blessing that has overcome the barriers of time and visits to libraries in persons. The use of internet affects every sphere of life and every occupation. The Internet was first launched in 1960s by the US department of defense and known as ARPANET which stand for

the Advanced Research Project Agency Network system or the Advanced Research Project Agency (ARPA) (Dipti and Dhara, 2015).

Dipti and Dhara (2015) had revealed different definition of internet in their work, they said, the term Internet was coined from the concept inter-networking that denotes interaction between networking of computers. The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide. It is an international network of networks that consists of millions of private, public, academic, business, and government packet switched networks, linked by a broad array of electronic, wireless, and optical networking technologies. The Internet is a tool that connects millions of computers together, allowing them to communicate with each other. Information is not "stored" on the Internet

Information search can be seen as a process, in which people undertake to locate or find specific information to meet an information need. Hence, this current era has acquired the name of 'Information Era' of which libraries and internet can contribute towards efficiency in information search service, keeping in track with the changing scenario users can easily search for their information needs via the library database. The library has started disseminating information on the internet by allowing users to search for their information needs through the available library database. Using the internet, libraries can provide a variety of services to their users, because the Internet has capability to store large amount of information and retrieve the same fast and easy. However, the internet cannot be a true alternative to libraries, rather it is a facility which can be used by libraries to increase their resources and services, hence the need for data-bases which is a combination of internet and libraries.

The term "database" is a stock of information stored electronically with the retrieval mechanism for easy and effective access. They are one of the most important advances of the last few decades in the field of data processing. They sprang up in response to rapid advances in scientific research and technological development in industrialized countries and the needs associated with these advances. Not only have they laid the basis for easy, rapid and efficient access to the vast store of information available, but also analyses the information. An important result of information, Communication and Technology (ICT) has been the development of databases covering specific areas of knowledge. Their development has made for easier access to relevant information on specific topic. These sources of information are classified into offline and online information resources. In recognition of the importance of electronic information for research libraries and information centers, they either enter to subscription with international organizations that produce such resources or solicit for support from the donor or funding agencies to acquire electronic information databases. Users of peer review online journals are required to register with the producing organization and use is controlled using password authentication. Database is an organized collection of information or data usually in computer readable form.

Postgraduate students are basically research students who are in the university to contribute to the body of knowledge existing in the country. Programmes ranging from post graduate diploma, master's and Ph.D. in different research interest areas abound in the universities. It is imperative to note that information search is very essential in postgraduate studies; more so is the ability of postgraduate students to effectively search and locate information on the internet. The use of ICT is very indispensable in education and research as it makes for quality outcome. No educational system can contribute its quota to national development if the quality of its research is poor; this is because education is a key to the development of any nation. Students who possessed basic internet skills such as evaluating information, unzipping of files, copying files, printing, starting existing programs, editing text, and so will enable them get the best out of the Internet. Users need to know how to perform decompression (Unzipping) of files (Usually large) sent over the internet in a compressed (zipped) state for quicker transmission. This means that, for a post graduate student to access adequate and reliable information from the internet the post graduate student must possess adequate internet skill that will enable them to judge or evaluate the information, copy, interpret the information retrieved and tailor it to the specific area of needs.

This being the case, it is important to determine whether postgraduate students have the necessary skills to retrieve the information they require for their studies. A lack of relevant skills has the capacity to affect the outcome of their studies.

Statement of the problem

Exchange of information, ideas, skills, values, can be done through many means or channels such as internet. Internet is known as a tool for storing, processing, transferring and retrieving of information. It has brought a great success into the education system world over as it seems to be one of the most efficient sources of information. Notwithstanding, the impact of internet depends much on how internet is used productively like in research and learning especially in higher institutions where research and learning is more technology oriented.

The library being an institution meant to meet the information needs of its users, need to ensure that internet based services are provided in order to impact positively on the research outcome of users. The quality of internet services has to be good in order to be able to render required online information service for utilization. There are speculations that the use of internet service in sourcing and disseminating research information can aid library patronage especially at post graduate level but most libraries still lack the services. Consequently, the study seeks to determine the influence of internet search on post graduate student patronage of university library.

Objectives of the Study

1. To determine the influence of information search service on post graduate students' patronage of university library.
2. To determine the influence of database service on post graduate students' patronage of university library.

Research Questions

1. How does information search service influence post graduate students' patronage of university library?
2. How does database service influence post graduate students' patronage of university library?

Hypotheses

The null hypotheses formulated for this study are;

1. There is no significant influence of information search service on PG students' patronage of university library.
2. There is no significant influence of database service on PG students' patronage of university library.

Literature review

Internet Based Library Services

With the new information age and its attendant opportunities and challenges, no institution/organization can still rely on only traditional printed information resources to perform effectively and efficiently in order to meet the needs of its patrons (Oyewumi, et al 2022). To the librarians, internet-based services are a significant development that provides tools for managing the avalanche of information generated by the modern society. Internet-based services emerged not too long but it has gained prominence in this 21st century, more specifically the World Wide Web which is one of its major services has completely revolutionized the way to communicate, studying, teaching, business, employment, education, healthcare and more. It has a major impact on the publishing and information delivery system in 21st century (Arora, 2012 cited by Nisha 2016). Similarly in case of libraries too, applications of internet and web technologies have changed the way the libraries operate and provide information services to users. Libraries are

playing a vital role for the promotion of education and research. With the application of this technology, it became possible to have access to various information sources and databases available in various parts of the globe (Nisha 2016). It is not affecting only the formats and resources of the information, but also how and where to provide library services (Bhagvan, 2019). Traditionally, the library services were static. To access the library users needed to go to the library physically during the library opening hours only. But in web era, library services have become dynamic. Now a days the users can access the library at anytime from anywhere. No need to go to the libraries physically and no time restrictions. With the advent of information technology and internet-based library services, contents are now available to users on their desktop. Digital Library Services, Web Library Services, Electronic Library Services are the terms used interchangeably for Internet Based Library Services.

According research, four generations have passed from traditional online services to today that assist users in searching the internet. The first generation of information retrieval tools was designed for use with bibliographic databases. The second generation of tools attempts to collect and index resources as an automation function. The third generation deals with World Wide Web Meta search engines. The fourth generation involves new ideas such as search agent technology currently being developed to search for information on the internet. Internet Based Library Services are mainly provided through the library portal which is a special kind of gateway to web-based library resources. It provides integrate access to the metadata of a library's multiple databases. It gathers a variety of useful information resources into a single webpage that allows users to customize their information resources by selecting and viewing information they find personally useful (Sangale 2015). Hence, World Wide Web is one of the services of the internet. Researchers have carried out various studies using information sources of libraries. In the present dispensation, information is needed even faster than ever. Since there are many other sources from which information is acquired other than libraries, it becomes necessary that the library should do everything possible to ensure that its relevance is felt among its clients who value its usefulness on the basis of available information sources found in it (Atsugh & Gwaza, 2022).

Irrespective of the quantity of the library's collections, it cannot hold everything the users need within its building, then Internet readily comes in to complement in its efforts to assemble information not found in the library building. Therefore, the use of Internet has greatly improved information dissemination. Interestingly, Internet service provision has become a critical factor for post graduate student's research activities especially in developing countries including Nigeria where the problem of limited access to current and reliable information resources has not been adequately addressed. According to the World Almanac and Book of Facts (2022), there is no aspect of the contemporary world that is more influenced by the Internet than the educational system. Supporting this, Nancy (2022) made reference to Shawna et al (2023) who observed that the Internet is a veritable tool for academic research work especially at higher education level.

Types of Internet-Based Services

Today, users may have access varieties of textual information resources. There are different kinds of internet-based resources and services for accessing information from libraries such as OPAC, Gateways, Portals, Subject Portals, Electronic Journals, Online Databases, Subject Directories and Search Engines. These resources overlap considerably in the type of information they cover, and sometimes it is difficult to distinguish between some of them. A library should have a good collection of these resources like selected Web links, subscription resources, and library materials in well-organized pages for serving better services to their users. Many libraries and organizations are providing digital library service through collaborative services. Atsugh & Chintha, (2023) also went further by outlining and explaining different types of internet-based library services, they are listed and explain below;

OPAC

Online Public Access Catalogues, form an important part of many digital library's collections. It allows users to search for the bibliographic records contained within a library's collections. Now

days, some OPAC also provide access to electronic resources and databases, in addition to the traditional bibliographic records.

Gateways

A gateway is defined as a facility that allows easier access to network -based resources in a given subject area. Gateways provide a simple search facility and a much-enhanced service through a resource database and indexes, which can be searched through a web -based interface. Information provided by gateways is catalogued by hand. Gateways cover a wide range of subjects, through some areas, such as music and religious studies, currently lack subject gateways. Some well-known gateways are as follows:

1. Internet Public Library (IPL),
2. Bulletin Board for Libraries (BUBL),
3. National Information Services and Systems (NISS),

Portals

In the library community, portals may be defined as an amalgamation of services to the users where the amalgamation is achieved through seamless integration of existing services by using binding agents such as customization and authentication services, search protocols such as Z39.50, loan protocols such as ISO10161, and e-commerce. The result is a personalized service which allows the individual to access the rich content of both print-based and electronic systems. Portals are either commercial or free web facilities that offer information services to a specific audience. The facilities include web search, communication, email, news etc. There are three kinds of portals; Consumer (or horizontal), Vertical and Enterprise.

- Consumer portals are aimed at consumer audiences and offer free email, games, chat etc. Examples are Yahoo!, MSN and AOL.
- Vertical portals, target a specified audience, such as a particular industry, and offer many of the consumer portal features. Example includes Vertical Net.
- Enterprise portals on the other hand are similar to consumer portals, but they are offered only to corporations or similar organizations. Examples include Epicentric and Corporate Yahoo! These portals can be best understood as electronic pathfinders for users, pulling together in one place in a web site selected links to subjects or interest-oriented resources located on the WWW.

Subject Portals

Web Search Engines had been developed initially by computer scientists, by borrowing techniques from information retrieval search such as best match searching and relevance ranking. Information professional are increasing bringing their skills to help organize the growing wealth of Internet resources. A good example of their influence is the development of subject-specific web search engines known as subject portals, where evaluation of material covered is a major concern. Two prime UK subject portals are SOSIG Social Science Information Gateway, covering social science resources and OMNI Organizing medical networked information covering medical resources.

Subject Portals Web Address

- ADAM: Art, Design, Architect and Media <http://www.adam.ac.uk>
- EEVL: Engineering Information <http://www.eevl.ac.uk>
- ELDIS: Electronic Development And <http://nt1.ids.ac.uk/eldis>
- Environment Information System
- History <http://ihr.sas.ac.uk>

- OMNI: Organizing Medical Networked Information <http://www.omni.ac.uk>
- SciCentral: Science Resources <http://www.sciencetral.com/index.html>
- SOSIG: Social Science Information Gateway <http://www.sosig.ac.u>

The aim of the subject portal is to list and review the most important sites on the web relevant to that subject. The sites are usually constantly peer-reviewed to ensure that the site is relevant and up to date. New sites are appearing all the time. Relying on a subject portal site to find everything users require may mean that they miss an important site that has recently appeared and has not yet been reviewed by the producers of the particular subject portal. A subject portal is a one stop shop for information on the topic it covers. Users don't have to carry out extensive Internet searches in order to find the information require. They can simply go to the required subject portal site. Subject portals save users having to have long lists of bookmarks (saved addresses of WebPages), which are often, cumbersome and time consuming to arrange and keep up to date. However, if users do prefer to use bookmarks, they can arrange them in an order to suit the way they work and not have an order forced on them by the subject portal.

Electronic Journals

Electronic journals form a large part of the collection of a library for providing web-based services. Today many journals are available electronically - some are full text and some contain only bibliographic information with abstract. Major advantage of electronic journals is that they are constantly updated and easy to access but disadvantage is that breaching of copyright law is very easy. They are available as bitmaps, PostScript, PDF, ASCII, SGML and HTML. Library services may be delivering to users on CD Rom, through email or through web. Some international societies and associations have developed their own digital libraries through which users can get access to all their publications. Services are available to the members of society or associations through subscription. Some of popular ones are;

ACM Digital Library <http://portal.acm.org/portal.cfm>

EBSCO databases <http://search.epnet.com/>

Elesvier's Science Direct <http://www.sciencedirect.com/>

Emerald full text <http://iris.emeraldinsight.com/>

IEL Online <http://www.ieee.org/>

OCLC <http://www.oclc.org>

Springer Verlage link <http://www.springerlink.com/>

List of Digital Libraries Providing Full Text on Line Journals

Online Databases

These are large collections of machine-readable data that are maintained by commercial agencies and are accessed through communication lines. Many libraries subscribe to them for easy access and use of current information. The disadvantage is that only bibliographic data is presented and not full text. The information cannot be accessed when the system is down for any reason. Examples Hinary, EBSCO host, EiCompendex, SciFinder Scholar, Web of Science, Current Contents, Nexis Uni, Law pavilion, Electronic Law companion, Agora etc.

Search Engines

Search Engines are huge databases of web page files that have been assembled automatically by machines where the subject directories are human-compiled and maintained. Search engine indexes every page of a website and subject directories linked only homepages. Search Engine is the popular term for an information retrieval (IR) system. A search engine is computer software that searches a collection of electronic materials to retrieve citations, documents, or information that matches or answers a user's query. The retrieved materials may be text documents, facts that

have been extracted from text, images, or sounds. A query is a question phrased so that it can be interpreted properly by search engine. Depending on the type of software, it may be a collection of commands, a statement in either full or partial sentences, one or more keywords, or in the case of non-text searching, an image or sequence of sounds to be matched.

Subject Directories

Subject directories differ from search engines in that search engines are populated by robots that finds and index sites whereas humans making editorial decisions that populate subject directories. Subject directories are basically index home pages of sites and can be classified as general, academic, commercial or portal. Among the well-known subject directories are the Argus Clearinghouse (www.clearinghouse.net) and Yahoo (www.yahoo.com). Strengths include relevance, effectiveness and relative high quality of content. Weaknesses are that they lack depth in their coverage of the subjects.

Importance of Internet-Based Library Services

The Internet has a role to play in libraries, which is the hub of research activities in universities. Internet resources have significant impact on library services. It can be consulted and used like any other reference tool, it is more dynamic and far reaching than any other resource used in a library setting. It provides a medium of communication that has extended the potential of undergraduate students' Interaction beyond the physical library to users. Nancy (2022) observed that Internet contributed significantly to the ease of research through downloading materials. It is believed that researchers and students are having the challenges of inadequate and out of date materials. The only way to resolve these challenges is through the use of Internet resources that are comprehensive and current information, (Kamba, 2020).

Furthermore, Importance of internet-based library services to library is not a small one, Internet has become a part of library environment today. It has added a great value to the library and information services. According to Bruce (2021), with the expansion of internet a new class of electronic document has emerged, it was at once promising and attractive for its obvious advantage of speed and transmissibility and profoundly elusive and confounding to the library community because of its intangibility and malleability. Within the last ten years, the Internet has become global and ubiquitous. It reaches in hundreds of countries of all continents and is featured daily in the business sections of all major newspapers (Davender 2019). Internet is playing an important role in transforming the library system and the way in which we view the library resources and the library services. With the help of web-based library services in developed countries, users are attended round the clock.

Internet provides links to various library sites, specializing in almost every topic and they can be accessed directly from any part of the world. As the libraries are going web based more and more libraries are becoming accessible via libraries' web pages. With an internet connection, a post graduate student can browse through the documents in computers of US National libraries or elsewhere in the globe. The Net therefore, provides instant access to billions of information sources which include books, reports, journals, video films, sound recording and wide variety of other sources. The library and information professionals have a vital role to play in organizing the information and bridging the information gap. Internet has created some of the following new and different service operations as stated by Davender (2019) to include;

1. By designing clearly organized, easily accessible and well published library web sites librarians can extend the traditional librarianship to the use of information technology and seize a leadership role in both fields.
2. The libraries can initiate Bulletin Board Service which gives complete information regarding services, products, and various events organized by them.
3. Ready reference service can be provided with greater speed and in much shorter time.

4. Books and journals can be ordered online; technical processing of the documents too can be done without much effort.
5. E-mail services can be used for delivering information to the users and communicating with the fellow information professionals.
6. Electronic selective dissemination of information (E-SDI) services can be used for delivering information to the users.
7. Access to various databases and OPAC of other libraries located in remote areas can be provided.

Concept of Library Patronage

Knowledge is the pedestal on which a nation's social cohesion and economic development depends. No library achieves greatness if its patrons who are its greatest assets have no access to quality education through the provision of library resources and services (Aina, 2022 cited by Oyewumi, & Adegun 2022). Ogunmodede and Emeahara (2020) are of the opinion that the library patron is very important in the practice of librarianship because the library process revolves around them. Moreover, according to Rampel (2023) cited by Francisca and Goodluck (2023), the goal of any library (whether public, special, academic or school library), is to enable the user have access to the available resources and maximize its usage. The means of accomplishing high level of patronage of the library by users' is through the provision of efficient and effective library service. However, the best impact of the library resources and services are felt when the array of expertise could only be of benefit to the patrons through the adequacy and relevance of the librarian to accomplish a mission. Invariably, what is needed to handle the avalanche of information coming into the library as librarians is to maximize resources in order to serve the library patrons effectively (Madireng, 2023).

Therefore, in a bid to encourage high patronage of the library among postgraduate students, librarians should not relent in their efforts to promote the library and rebuild its image in the society. In addition, they should make the information accessible for patrons in order for the library to thrive and also enable patrons generate gainful ideas in this digital world. The effective and efficiency of library services would to a large extent represent what the patrons perceive of the whole library service. The processed information is usually distributed to end-users (patron) in different ways. Sometimes the information gets to the patron directly, but in most cases a number of intermediaries such as the librarian have to be involved before it gets to the patron. The user is therefore very critical to the services of a library. Hence, the user of a library must be constantly asked to access the services and resources provided as this will help to improve upon its services (Ogunmodede and Emeahara, 2020). This would also increase the frequency of library patronage by users, while the information professionals on the other hand have to provide added value to the information created to make it accessible to its numerous patrons. Bearing in mind that the environment in which libraries operate is open to rapid changes which could affect almost every facet of modern life.

Internet Search and PG Students' Patronage of University Library

The emergence of the internet allows millions of users to access various types and formats of digital information regardless of their physical locations. Information search is never an easy task in the digital age thus; information problems require different information search strategies. The new digital environment not only forces people to apply more than one type of information search strategy, but also requires people to change from one information search strategy to another in the information search process in order to filter information. (Avdic, & Eklund, 2020).

This applies to postgraduate students in universities who should have the relevant skills to carry out technological searches. However, current information retrieval systems, such as Web search engines (e.g., Google), online databases (e.g., Ebsco Host), Online Public Access Catalogues and digital libraries are designed mainly to support query formulation and limited browsing. The digital age brings changes to internet-based services, users, information and the environments in

which users interact with systems. That also poses challenges for users to effectively use internet-based services to accomplish their tasks and goals as they should possess information searching skills (Rafiqur, 2021). Postgraduate students need to acquire search skills to enable the fill their information gap also to acquire competencies to conduct research in their own professional fields. (Rosli, 2020) among others identified the knowledge and skills that students should acquire before conducting and writing their research.

Database Services and PG Students Patronage of University Library

Library service on the internet requires many of the same qualities as traditional references: accuracy, promptness, courtesy, an understanding of the information need. It provides users with the convenience of accessing information in their own time, saving them traveling cost and time and new options for answering reference questions. The provision of these services is not constrained by the traditional opening hours but can be offered on a 24-hour, seven-days-a-week basis known as 24/7. And while there may be a disadvantage in not having a face-to face encounter, there are many advantages to this new medium and the greatest advantage is that many more users can be helped by using electronic library services (Blummer et al 2020). Here are different types of database services in the library as stated by Blummer;

- i. E-book: is the many formats competing for prime time, including AdobePDF, Microsoft Reader, eReader, Mobipocket Reader, EPUB, Kindle and iPad
- ii. E- journal: e-journal is very important part of every library collection. E-journals are one application of information technology.
- iii. E- Magazine: An E-Magazine is very important part of every library collection. E-Magazines are one application of information technology.
- iv. E- Newspaper: These are the reference sources which provide bibliographic information about journal including abstracts of the articles
- v. Index and Abstracting Database service: Today are either free or with charges. E-databases is an organized collection of information of a particular subject or multidisciplinary subject areas, information within e-databases can be searched and retrieved electronically.
- vi. Full Text Database service: These are many Dictionaries, Almanacs, and Encyclopedias, which are available on internet in electronic format.
- vii. E-Thesis: These databases are contained with PhD thesis and Dissertation published through e-format
- viii. Reference database: These databases contain the numerical data useful for the mass community.

The selection of E-Resources should be done according to the need and demand of users. As a librarian, one should consider the following steps at the time of selection;

1. know the needs of users.
2. know content and scope of Database service.
3. examine quality of the e-resources and search facility among them.
4. maintain cost effectiveness.
5. check either subscription based or web based at the time of purchasing.
6. check the license copy.
7. evaluate educational support and training.
8. check the compatibility and technical support (Blummer, 2020).

Libraries are extending services beyond the physical walls of a building, by providing materials accessible by electronic means and by proving the assistance to librarians in navigating and analyzing very large amounts of information with a variety of digital tools.

Research Methodology

The study adopted descriptive survey research design, while the area of study is the university of Uyo library. The population cum sample size of the study was 174 registered PG students of the University of Uyo library while a researcher structured questionnaire titled “Internet-Based Services and their Impact on Post Graduate Students Patronage of University of Uyo Questionnaire” (IBSIPGSGQ) was used for the study. The questionnaire was subjected to face validity by experts from the department of library and information science and Test and measurement in the university of uyo to ascertain the appropriateness of the instrument while Cronbach Alpha reliability coefficient was used to test the reliability of the instrument, using 20 post graduate students from Akwa Ibom state University which did not form a part of the actual research sample. The reliability test gave a high coefficient of 0.76 which show that the instrument is reliable to carry out the study. The researcher administered copies of the questionnaire to the respondents by himself and some time was given to the respondents to enable them have enough time to read, understand the question and give the best answers. Information regarding the nature and purpose of the study was provided to assist the respondents in responding to the items in the questionnaire. The entire questionnaires were retrieved and Data collected were analyzed using t-test to analyze the hypotheses while Mean and standard deviation were used to answer the research question at 0.05 level of significant.

Results and Discussion of Findings

Answering the Research Questions

Research Questions I: How does information search service influence post graduate students’ patronage of library?

Table 1: Mean and Standard Deviation analysis of the influence of information search service on post graduate students’ patronage of library.

| Groups | N | \bar{X} | SD | Mean Difference |
|---|-----|-----------|-------|-----------------|
| Students who agreed that information search service influence patronage of library | 101 | 100.50 | 21.69 | 27.00 |
| Students who disagreed that information search service influence patronage of library | 73 | 73.50 | 21.96 | |

In Table 1, the mean and standard deviation for students who agreed that information search service influence patronage of library are 100.50 and 21.69 respectively, while that of those who disagreed are 73.50 and 21.96 respectively. Since the Mean Difference between the two groups is 27.00 in favour of those who agreed that information search service influence patronage of library. This therefore means that information search service influences post graduate students’ patronage of university library.

Research Questions II: How data-based service influences post graduate students’ patronage of library?

Table II: Mean and Standard Deviation analysis of the influence of data-based service on post graduate students' patronage of library

| Groups | N | \bar{X} | SD | Mean Difference |
|---|-----|-----------|-------|-----------------|
| Students who agreed that data-based service influence patronage of library | 145 | 145.00 | 24.92 | 116.00 |
| Students who disagreed that data-based service influence patronage of library | 29 | 29.00 | 25.51 | |

In Table II, the mean and standard deviation for students who agreed that data-based service influence patronage of library is 145.00 and 24.92 respectively, while that of those who disagreed are 29.00 and 25.51 respectively. Since the mean difference between the two groups is 116.00 in favour of those who agreed that data-based service influence patronage of library. This therefore means that data-based service influences post graduate students' patronage of university library.

Testing the Null Hypotheses

Hypotheses 1: There is no significant influence of information search service on post graduate students' patronage of university library.

Table III: t-test analysis of the influence of information search service on post graduate students' patronage of university library

| Groups | N | \bar{X} | SD | df | t-table | t-Cal | Decision |
|---|-----|-----------|-------|-----|---------|-------|-----------------------------|
| Students who agreed that information search service influence patronage of library | 101 | 100.50 | 21.69 | 173 | 1.98 | 2.14 | H ₀₁ Rejected |
| Students who disagreed that information search service influence patronage of library | 73 | 73.50 | 21.96 | | | | |

In table IV, the analysis of hypothesis 1 revealed that the calculated value (t-Cal) of 2.14 is greater than the table value (t-table) of 1.98 at 173 degree of freedom and at 0.05 level of significant. Thus, the null hypothesis 1 was rejected. This therefore implies that there is significant influence of information search service on post graduate students' patronage of university of Uyo library.

Hypotheses II: There is no significant influence of data-based service on post graduate students' patronage of university library.

Table IV: t-test analysis of the influence of data-based service on post graduate students' patronage of university library

| Groups | N | \bar{X} | SD | df | t-table | t-Cal | Decision |
|---|-----|-----------|-------|-----|---------|-------|-----------------------------|
| Students who agreed that data-based service influence patronage of library | 145 | 145.00 | 24.92 | 173 | 1.98 | 7.27 | H ₀₂ Rejected |
| Students who disagreed that data-based service influence patronage of library | 29 | 29.00 | 25.51 | | | | |

In table V, the analysis of hypothesis II revealed that the calculated value (t-Cal) of 7.27 is greater than the table value (t-table) of 1.98 at 173 degree of freedom and at 0.05 level of significant. Thus, the null hypothesis II was rejected. This therefore implies that there is significant influence of data-based service on post graduate students' patronage of university library.

Findings

Based on the result of data analysis for this study, the following findings were made: There is significant influence of information search service on post graduate students' patronage of university library. Similarly, data-based service has significant influence on post graduate students' patronage of university library. In the same vein, there is significant influence of Web-based reference service on post graduate students' patronage of university library.

Discussion of Findings

Influence of Information Search Service on Post Graduate Students' Patronage of University Library

The result of data analysis shown in tables 1 and 4 which answered the research question 1 and tested the null hypothesis 1 respectively revealed that there is significant influence of information search service on post graduate students' patronage of university library. This finding is in-line with Martins (2023) who noted in the research carried out of web based library services that when a library user knows how to search the databases for information it would be easier for the user to access information materials and be able to carry out the research in mind. This further buttress the fact that there exists a great influence of information search service on PG students' utilization of university library.

Influence of data-based Service on Post Graduate Students' Patronage of University Library

The result of data analysis shown in tables 1 and 4 which answered the research question 1 and tested the null hypothesis 1 respectively revealed that there is significant influence of data-based service on post graduate students' patronage of university of Uyo library. This finding is corresponded with that of Nancy (2022) who carried out a study on the undergraduate students use and impact of internet resources for research project in universities in north – central Nigeria. The result of the study showed that the data-based in university libraries and information Centers are suitable to influence students' patronage of library. In the same vein, Shawna (2023) carried

out a study on the “Graduate Student Needs in Relation to Library Research Skills” The result indicated that learning to critically evaluate the information retrieved. He recommended that library orientation/workshop/class be offered as a requirement at the beginning of every graduate program.

Conclusions

Based on the findings of the study, the following conclusions were made:

- There is significant influence of information search service on post graduate students’ patronage of university library.
- Similarly, data-based service has significant influence on post graduate students’ patronage of university library.
- The first finding revealed that there is significant influence of information search service on post graduate students’ patronage of university library. The educational implication is that government and educational stake-holders will now see the need of providing information search service in the school’s library. It was also revealed that data-based service has significant influence on post graduate students’ patronage of university library. This is now serving as a pointer for educational stake-holders on the need to make data-base available to students.

Recommendations

1. Data-based service should be made availability in all higher institution libraries so as to assist the PG students in obtaining research information.
2. The management of the University of Uyo should ensure that the library is well computerized with adequate facilities that can promote the students’ interest in the use of the library resources.
3. Automated library is highly needed for effective utilization.

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