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Use of Library Resources and Services as Correlates of Research Activities among Postgraduate Students in Southwest Federal Universities, Nigeria

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Abstract

Library resources and services are essential in postgraduate studies to conduct a successful research, demonstrate academic scholarship and gain recognition for creative thinking. However, observations and frequent requests for assistance from library personnel by postgraduate students reveal low use of library resources. Hence, this study evaluated the use of library resources and services as correlates of research activities among postgraduate students in southwest Federal Universities, Nigeria. A survey research design was adopted for the study. Multi-stage sampling procedure was used to select 378 respondents for the study. Data were collected with the use of a structured questionnaire and focus group discussion on library resources and services supporting postgraduate research, frequency of using library resources and services on research and constraints to the use of library resources and services. Frequency counts, percentages, mean, standard deviation was used to analyse the data. Results reveal that textbooks $(\bar{x} = 2.96)$, World Wide Web $(\bar{x} = 2.80)$ and e-books $(\bar{x} = 2.76)$ were the major resources used by the respondents while journal $(\bar{x} = 3.12)$, books $(\bar{x} = 3.61)$ and e-books $(\bar{x} = 3.35)$ were frequently used. Also, reference $(\bar{x} = 2.85)$ and Wi-Fi services $(\bar{x} = 2.75)$ were common library services used by the postgraduate students while Wi-Fi services $(\bar{x} = 3.17)$, referral services $(\bar{x} = 3.16)$ and user education $(\bar{x} = 3.10)$ were frequently used library services. Insufficient internet access points $(\bar{x} = 2.93)$, power outage $(\bar{x} = 2.87)$, and obsolete books $(\bar{x} = 2.85)$ were the major constraints' of use of library resources. The study concluded that the use of library resources and services is crucial in postgraduate studies in order to achieve their academic objectives. The study, therefore recommended that provision and preservation of library resources should be given more attention in the universities, while library services should be improved upon for better service delivery.

Keyword: Library Resources, Library Services, Research Activities, Postgraduate Students

Introduction

Research is a crucial activity in universities and is central to postgraduate training. Research activities form the basis for the realisation of national development goals. Generally, quality of education is critical in providing the needed foundation for the knowledge economy for any country. Research credibility and capability are among the standards by which libraries gain acceptance as reputable members of the global intellectual community. Such research includes the ones carried out by postgraduate students. Hence, postgraduate research constitutes a vital component of library effort and contributes significantly to the institution's research profile. Postgraduate students' researches are form of apprenticeship taken under the supervision of lecturers. Research enables postgraduate students to systematically investigate society's challenges and proffer solutions to them. It is through research that postgraduate students can contribute to knowledge.

Postgraduate students are expected to use library resources for effective research activities. Learning, teaching and research could be effectively achieved if library resources are appropriately utilised by the students, and thus, library resources are of no value to the students until they have been utilised. The libraries are meant to serve the undergraduates, postgraduates, lecturers and other members of the university community. The quality of a university is measured largely by the quality of its library because of its unique role in the university system. Research exposes postgraduate students and lecturers to the availability of current information resources for research activities.

The library serves as the store house of intellectual knowledge of the society and manages them in a manner that postgraduate students can have access to them. Postgraduate students need access to different type and formats of library resources, including textbooks, journals, indexes, abstracts,

newspapers, magazines, reports, CD-ROM databases, internet, email, video tapes/cassettes, diskettes, computers and microforms. Also, electronic resources such as functional computers, photocopying machines, microforms, microform readers, fax machines, internet, local area network, radio messages, telephone and lighting. These resources available in the university libraries must be capable of supporting research activities of postgraduate students. Library needs to provide postgraduate students with important library resources such as online journals, user friendly Online Public Access Catalogue (OPAC), well organised and easy to use.

The ability of postgraduate students to use computer to search for information largely depend on user's knowledge of the search system (Ankrah and Atuase 2018). Also, the ability to locate, identify, retrieve and manage information effectively can be a transferable skill useful for lifelong learning in human endeavours. It is therefore necessary for postgraduate students to acquire computer skills which are aspects of information literacy skills that enable them to access and make effective use of electronic information resources from various sources for research activities.

Access to electronic resources enhances research activities, improves efficient delivery of information economically to all users; encourages cooperative efforts in research resources, computing, and communication networks; strengthens communication and partnership between and among postgraduate students and take leadership role in the generation and dissemination of knowledge (Anyim 2018). The influence of electronic library on research according to Trivedi (2010) includes provision of access to multiple services of information to users wherever they are and whenever they need them.

Furthermore, ease of accessibility of library resources creates an enabling environment for the utilisation of library resources. It is assumed that if library resources are accessible to the postgraduate students in the libraries, it would be used for effective research activities. The main goal of the library is for users to gain access to its abundant wealth of resources. Library sources are efficient if they provide relevant, useful and accurate information that can help postgraduate students solve their research challenges. Accessibility of library resources means the ease of locating and retrieving a piece of information from the storage medium (Nwachukwu, Abdulsalami , and Salami, 2014).

The role of the library therefore is to make available organised materials that will enable the university to achieve its set objectives. Library resources availability, accessibility and use are crucial factors in knowledge acquisition, learning and research of postgraduate students. Every library regardless of its size is expected to have adequate resources to meet the reading, learning and research needs of its community. In addition, accessibility determines the level at which an information output in any format is retrieved. Therefore, library resources should be received and retrieved to meet the need of postgraduate students and researchers.

Postgraduate students have access to more online materials and are confident in accessing online resources making libraries not to be seen as the primary information provider to scholars any longer (Bonn and Furlough, 2015). Library need to keep the connection with postgraduate students, researchers and further develop the functions and remain viable and competitive in this new information age so that postgraduate students and researchers can effectively learn and apply the full capabilities of resources offered, while at the same time recognise that libraries provide quality research resources for post graduate students (Rasul and Singh, 2010).

Library services are rendered to meet the information needs of users in the library. Libraries are repository of knowledge where services like internet service, current awareness service, selective dissemination of information, reprographic service, bindery services, indexing and abstracting service, word processing and circulation of library information resources are rendered to users. For library to provide effective information services to enhance teaching, learning and research, it must endeavour to have adequate information resources. These information resources are the resources that libraries acquire, catalogue, stock, and make available to their users, as well as use to provide various other services (Adeoye and Popoola, 2011).

However, library renders numerous services to users, addressing their diverse needs, characteristics, and interest (Unegbu 2017). Several library services have been identified as aiming at facilitating the research activities of postgraduate students, the most commonly provided services include inter-library loan, indexing and abstracting service, current awareness, micro text, library tour, library instructions, book selection for the general library collection, theses, dissertation, lending services, reservation, advisory services, literature searches, photocopying, document delivery and circulation services are some of the most vital services rendered by libraries in Nigeria to the users. These services are being rendered to the teeming population of users which constitute postgraduate students, lecturers and other potential users at large which are outside the academic environment such as the immediate community's members where the library is situated. The library renders these services by way of providing information resources that can cater for the needs of postgraduate students and lecturers (Unegbu 2017).

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Library services in the modern world is focusing more on the area of digital, virtual or libraries without borders all of which have transformed libraries and led to transition and transformation

in the library environment. Libraries have been rendering short-range and long-range reference services from the documentary sources in their collection in order to meet information need of users. Also, users' needs are not only met through the in-house documentary collection, and may be met by referring them to the resources of other libraries. This is called referral service. Referral service, therefore, directs or refers the user to a source of information, which may be a document, an individual or even an organisation. It is a process of linking a user with a need with a service or person which is likely to meet the need of the enquirer. It seems difficult to refer to another more appropriate source, such as a specialised library, a librarian, or any other expert. It is incumbent on the referring library/librarian to possess detailed knowledge of the resources with a reasonable chance of success (Abubakar, 2011).

Statement of the problem

Library resources and services are provided to support students' research activities. Thus they are expected to use the library as their main source of information to support such activities. However, observations and frequent requests for assistance from library personnel by postgraduate students reveal that they are not using library resources. In addition, during presentation of their research papers, majority of them are unable to provide adequate literature in support of their research works. It was assumed that postgraduate students could be experiencing some challenges in using library resources and services which are available.

Moreover, to conduct a successful research, there is the need for effective use of library resources and services available in university libraries. But it is worrisome to find postgraduate students not tapping into these opportunities perhaps, due to ignorance of the fact that qualities of research activities are functions of the use of library resources and services.

The fact that postgraduate students rarely visit the library makes it difficult to assess whether the library is meeting their information needs or not. Presently, the situation of postgraduate students in Southwest Federal Universities, Nigeria, as regards the use of library resources and services for research activities has not been copiously reported in the literature; particularly from the current area of study and this constitute a gap in knowledge which this research had attempted to fill.

Research questions

The study provided answers to the under listed research questions:

1. What are the library resources available to support postgraduate students' research activities in Southwest Federal Universities, Nigeria?

2. What are the library services available to support postgraduate students' research activities in Southwest Federal Universities, Nigeria?

3. What is the frequency of use of library resources and services by postgraduate students in Southwest Federal Universities, Nigeria?

Literature Review

The philosophy of library is based on the idea of provision of relevant materials as library resources for users. To this end, librarians continue to struggle to collect and organise printed and other forms of recorded knowledge in order to satisfy both present and future users (Ola, 2019). Library as an entity improves the quality of life and reveals the country's rich scientific and cultural heritage in multiple forms. It also acts as an intellectual catalyst for the growth of the society and to acquire information and education as well as recreation (Kumar and Singh, 2009).

Ogbebor (2011) postulated library as an organised collection of published and unpublished books and audiovisual materials with the aid of services of postgraduate students that are able to provide and discuss such material as required, to meet the informative research, educational and recreational needs of its users". Moreover, Adeoye and Popoola (2011) added that library resources can be in both printed and electronic formats including textbooks, journals, indexes, abstracts, newspapers, magazines, reports, CD-ROM databases, internet, email, video tapes/cassettes, diskettes, computers and microforms. In addition, electronic resources as: functional computers, photocopying machines, microforms, microform readers, fax machines, internet, local area network, radio messages, telephone and lighting for library users must be measured periodically by librarians to ensure that the resources and services of their libraries as a way of ensuring that they are meeting the set objectives of the library (Ezeala and Yusuff, 2011). Based on the above explanation, library resources can be divided into two categories i.e., traditional printed material or resources and non-printed or electronic resources (Jamil, Tariq, and Jamil, 2013).

Haliso and Popoola, (2009) enumerated library resources as those information bearing materials that are in both printed and electronic formats, such as textbooks, journals, indexes, abstracts, newspapers and magazines, reports, CD-ROM databases, the Internet/E-mail, video tapes/cassettes, diskettes magnetic disk, computers, micro forms and so on. These information materials are the raw materials that libraries acquire, catalogue, stock, and make available to their users. Okiki (2013) submitted that a good library should be well equipped with books and periodicals in all subjects to advance study and research. The duty of library is to collect, organise and disseminate information to postgraduate students, and support the generation of new knowledge. It appears there are several key library resources that postgraduate students

value most if the findings by Gabbay and Shoham (2017) are to be taken seriously. They include: institutional library as convenient location for their research activities, a place to browse current issues of printed publications, a place to undertake quiet individual study and as an ideal place for accessing modern IT equipment and digital resources. The study concluded that many postgraduate student and researchers do not understand the role of the library in their research activities. The study therefore recommends that the library needs to do something to promote and establish itself within the institution so that everybody is aware of its value.

Library resources available in the universities library, archives, records offices, documentation centers, and data centers) must be capable of supporting research activities (Okiki, 2013). The redirection from print to electronic information means that both academic staff and students in a university system must use these resources for better quality, efficient, and effective research activities (Onye, 2016). Hart and Kleinveldt (2011) conducted a study at Cape Peninsula University of Technology (CPUT) in Cape Town. The aim of the study was to find out the perception of the researchers towards the library in their research, what they expect and how their research expectations are met. The study started with an in-depth interview with the Manager of the Research Information Support Centre (RISC) followed by a questionnaire survey e-mailed to 602 academic staff who doubled as researchers. Findings of the study suggest that, academic libraries need to provide postgraduate students other important library resources such as online journals, user friendly Online Public Access Catalogue (OPAC), well organised and easy access to library materials. Perhaps there is need for academic libraries to understand the resources that facilitate the research activities of postgraduate students, on-going updates on new information resources, maintaining research repositories and provision of database training sessions.

Adeoye and Popoola (2011) noted that, the availability, accessibility and use of library resources in their study, explained how learners must have access to library resources and services. These resources might be in tangible (i.e., printed resources) and intangible (i.e., electronic resources) format. They express that librarians are responsible for providing the right resources and services to the right person at the right time. In addition, the use of library resources and services, that the more use of resources and services that require the least effort to use. Users may encounter five possible types of inaccessibility problems i.e., conceptual, linguistic, critical, bibliographic, and physical.

Library resources are materials that users consult in making decisions and also for problem-solving. These sources could be primary or secondary sources. Ojedokun (2007) noted that primary sources are un-interpreted, first hand materials such as records and raw data. In other words, library sources are sources that users make use of from time to time in order to meet their information needs. These library resources could also refer to audiovisual materials, such as Audio CD and CDROM for data storage which do not depend solely on reading to get their meanings but they convey relevant information.

Libraries are service oriented organisations established for the provision of relevant information resources and quality services to meet their user's information needs. Users are described as the reason for the existence of the library. Meeting the information needs of users requires the provision of the actual information resources and services that will satisfy the needs of users (Ikolo, 2015). Idiegbeyan-Ose and Esse (2013) stated several factors that can influence user's satisfaction; these factors include responsiveness, competence and assurances, tangibles and resources.

Abubakar (2017) defined library services provision in the context of task performance as competencies with which employees execute their assigned tasks that leads to the realisation and fulfillment of organization's goals. Library services provision consists of the observable behaviours that people do in their jobs that are relevant to the goals of the organisation (Cook Hunter and Hunter (1984) asserted that library services provision is of great interest to organisations because of the importance of high productivity in the workplace.

Kumar (2012) found out that when quality of services rendered by the university libraries is moderately good, users will be satisfied with various aspects of service quality. Bogale (2010) added that inadequate type of information sources and services; lack of qualified (trained library staff) both in quantity and quality and shortage of budget was the main problems facing university libraries in provision of information resources and services to their target users. Gunasekera (2010) noted that the growing emphasis on usability studies and libraries trying to respond to user needs by becoming a more user centered organisation forces an organisation to listen carefully to its users. Creaser (2006) explained that one aim of user surveys must be to improve the services provided to users. High overall satisfaction levels are good for publicity, and may persuade institutional management that all is well with the library, but they should not lead to complacency within the service.

Moreover, the most commonly provided services include lending, reservation, advisory services, literature searches and photocopying (Health link worldwide, 2003). Circulation services are one of the most vital services rendered by academic libraries in Nigeria to the users. These services are being provided for the teeming population of users which constitute students, staff and other potential users at large which are outside the academic environment such as the immediate

communities' members where the library is situated. The academic library provides these services by way of providing information resources that can cater for the needs.

Library services and use had a direct impact on research productivity in a university setup. This was noted by Onuoha, Ikonne and Madukoma (2013) when they investigated the impact of library use on research productivity at Babcock University, Nigeria. Using a survey research method with self-designed questionnaires the study revealed that all the postgraduate students who participated in this study indicated having used the library. It suggested that provision of printed resources was ranked as the most important library service for postgraduate students, followed by Internet and electronic journals. Furthermore, the respondents indicated their appreciation for the assistance of library staff. Despite the provision of Internet services by the university, the respondents lamented the instability of the Internet services and therefore recommended a more stable Internet service in the library. In addition respondents also recommended the provision of current materials in the library and provision of research consultancy.

Duy and Larivière (2014) submitted that, academic library services include document delivery, inter-library loan transactions, the number of persons served in presentations, the number of presentations, public document service, current periodical, micro text and newspapers, library tour, library instructions, book selection for the general library collection and Processing of theses dissertation. The major objective of the academic libraries is to serve users for meeting their best academic commitments. They are the channel for academics to impart educate through means of teaching, learning and research (Chinasa Iroeze, Chima-James, Agim Nneka and Opara 2018). Academic library services in the modern world is focusing more on the area of digital,

virtual or libraries without borders all of which have transformed academic libraries and led to transition and transformation in the academic library environment (Abubakar, 2011).

Libraries have been providing short-range and long-range reference services from the documentary sources in their collection in order to meet information requirement of their users. In addition, users' needs are not met through the in-house documentary collection, and may be met by referring them to the resources of other libraries. This is called referral service. Referral service, therefore, directs or refers the user to a source of information, which may be a document, an individual or even an organization. It is a process of linking a user with a need with a service or person which is likely to meet the need of the enquirer. It seems difficult to refer to another more appropriate source, such as a specialized library, a librarian, or any other expert. It is incumbent on the referring library/librarian to posse's detailed knowledge of the resources with a reasonable chance of success.

Current awareness is crucial in libraries across the globe; library orientation remains the most popular method of imparting user education. Library orientation is mostly targeted at the freshly admitted students in academic institutions so that they could be familiarized with the layout of the library building, information system and its services, location of various information sources, and other library tools used in obtaining information. For this purpose, some libraries prepare printed leaflets giving outline of library collections, brief summary of classification scheme, arrangement of library catalogue, various types of library services offered, rules and regulations (Busayo 2013).

All aspects of library services may seem important to librarians in their quest to support research, the case may not be the same with users, especially postgraduate students. Similarly, the importance of serials (print or non-print) to postgraduate research as they maintain that serials form the bedrock of postgraduate research (Anunobi, 2010). In the opinion of Luzius and Webb (2002), the physical library serves to provide access to technology, instruction to library use, a place to study among other things. Such considerations are no doubt important to postgraduate students. Tella, Onotabi and Attima (2009) revealed that students were satisfied with the library collections and services but not with electronic resources due to lack internet services. The improvement of library services depends on satisfaction level of users with the relevant collections, user centric library services and library staffs' supportive attitude (Bhatti and Hanif, 2013). .

However, the provision of these resources and services is not enough and cannot promote the intended institutional goals if the library is underutilised. Chiemeke, Longe, Umar and Shaib (2007) believe that users approach the library with needs which they hope to satisfy. According to the authors, the users utilise library resources for difference purpose. The purpose also informs the choice of resources to be consulted.

Popoola and Haliso (2009) defined library information resources as those information bearing materials in both printed and electronic formats, such as textbooks, journals, indexes, abstracts, newspapers and magazines, reports, CD-ROM, Internet/E-mail, video tapes/cassettes, diskettes, magnetic disk, computers, micro forms and databases, among others. These library materials are the resources that libraries acquire, catalogue, stock, and make available to their users, as well as use to provide various other services.

The need for library resources availability and accessibility in academic libraries has long been recognized. Information resources availability, accessibility and use are crucial factors in knowledge acquisition, learning and research. Indeed, every academic library regardless of size is expected to have adequate information resources available for its community for reading, learning and research. Aina (2014) stated that accessibility determines the speed at which an information output in any format is obtained. Therefore, resources should be received and retrieved to meet the desired need. Academic libraries support universities in discharging their responsibilities by acquiring all the relevant information resources necessary for sustaining the teaching, learning, research and the academic service functions of their universities.

Research is the most important component of postgraduate studies (Smith, 2006). Research enables postgraduate students to systematically investigate society's challenges and proffer solutions to them. It is through research that postgraduate students can contribute to knowledge.

In a study conducted by Igun and Adogbeji (2007) among the postgraduate students, majority of the students claimed that their main purpose of using academic library is to update their knowledge and skills. It is therefore essential to know the needs and desire of the users in order to satisfy them. More so, literature has revealed that information availability does not mean accessibility and utilization; therefore, academic libraries have to market their resources and services to attract users.

Generally, several factors seem to contribute to the research activities such as motivation, available of internet, gender, conducive-environment, unbiased scholarly activities, improved funding, well- equipped library and portable learning resources. Research output can be obtained

when the point of reference (controlled or uncontrolled database) containing the outputs are classified into subjects of which the performance or trend can be quantified and can be taken as the scholarly focus of the concerned institution.

Furthermore, Obi and Agbu (2002) found that graduates of Nigerian universities rated supervised practical work and quality of academic advice received as very poor. Poor quality of research work is an indication of insufficiency in students' research skills. This insufficiency has often been traced to the quality of research training the students receive (Agu and Odimegwu, 2014). It is common to find postgraduate students who have abandoned the programme alleging frustration and victimization among other reasons (Duze, 2010). A range of new services targeting the research output of the academic libraries are emerging to support researchers. Many of these research outputs are initiated by and/or promoted by library staff that, in many cases have the technical skills and expertise to make research output available globally using the Internet. These services take libraries beyond providing access to published scholarly information to becoming the publishers of the information.

Moreover, Eiriemiokhale and Ibeun (2017) submitted that, resources may be available in the library and even identified bibliographically as relevant to students' subject of interest; however, the students may not be able to locate or lay hands on the resources identified through bibliographies. In addition, availability of information does not necessarily imply its accessibility, because the sources may be available but access to it is prevented in the library for one reason or the other (Eiriemiokhale and Ibeun, 2017). One area that academic libraries could create access and meet postgraduate students' resources research needs is by the provision of knowledge and learning commons (Forrest, 2006). A knowledge commons is a virtual

environment created within a library furnished with computers with a variety of databases and gadgets for learners and researchers to do self- study (Stevens, 2006).

However, academic libraries in Nigeria have websites, primarily to show case their resources and research profiles (Akintunde, 2006). Most of the academic libraries are connected to the internet, thereby facilitating postgraduate students to interact with their colleagues around the world. The students could also use quality electronic information resources through the internet to facilitate their research. For instance, Jagboro (2003), in her study on internet use at Obafemi Awolowo University, Ile-Ife (OAU) Nigeria, submitted that internet access for retrieving e-resources was provided to students in the library. Similarly, Sanni and Idiodi (2004) reported that at the University of Benin, Nigeria access to e-resources for students and staff can be accessed from cybercafé available in the computer centre and the university library, and that the library's collection can be accessed through the online public access catalogue (OPAC). Egberongbe (2011) informed that there are e-resources in the University of Lagos library and that students in the study were familiar with e-resources and could access maximum relevant materials from e-journals for research purposes.

Agboola and Bamigboye (2011) in their study reported the influence of use of library resources either in print or electronic form in each of the three universities they examined. Their findings showed that 49% respondents in University of Ibadan used library very often. 32%, often, 11% occasionally used library while 8% used the resources in the library. At UNAAB, 40% indicated very often, 34% often, 19% occasionally while 7% indicated never. In OOU, 23% indicated very often, 21% often, 34% occasionally while 22% never. Oluwatobi, Ehiogbae, Aluko-Arowolo and Onasote (2014) study revealed that most frequently used library materials is online database and

this is followed by Dictionaries, books, encyclopedia which are used daily while the least use materials is CD-ROM database. Okiy (2000) study indicated that respondents used books more than other materials.

Saiti and Pokopiadou (2008) investigated choice of information source by postgraduate students for expanding their knowledge or completing their studies at University of Athens, Greece. A survey using questionnaires with 211 education postgraduate students was conducted. The choice to be made was between information technology, Internet and home institution libraries. When the respondents were asked to choose between library and Internet as their primary information source, the vast majority of respondents mentioned Internet (77.3%) followed by the library (22.7%).

Library resources and services are critical to postgraduate research activities. Postgraduate students form a significant group of researchers in universities. The use of library resources and services is thus indispensable to the postgraduate students in order to achieve their academic objective. However, resources of a library can impact its use by postgraduate students. Literature has revealed that information availability does not mean utilization therefore; university libraries are to market their resources and service to attract users (Popoola, 2001). Utilisation of resources and service of the postgraduate students, few of the postgraduate students visit the library occasionally and it was further notice that books, newspapers and periodicals are the most used by them.

Ibenne (2010) found that, libraries are channels of delivering information. The rigid nature of the traditional role in providing information services to its respective users have been revolutionized by the advancement in information communication technologies. This in one way or the other

has made postgraduate research much more flexible and a lot more rewarding. Universities are to generate new knowledge and also encourage transferred and adopted of this new innovation. Since this requires an atmosphere of research, libraries are left with no options or choice than to provide access to relevant information resources and services by applying this to enable quick access, integrate and repackage information for the end user that will capacitate and enrich higher educational institutions means of conducting research.

The main tasks of a library resources and services include collection, storage and distribution of reading materials, keeping in view, the user requirements. Out of these three, the collection occupies the most vital position. The efficiency of a library is determined by the quantity and quality of its collection. Library collection is expected, therefore, to enhance the efficiency of the library in providing resources and services with a view to satisfying its user needs (Mallaiah, Kumbar and Patil, 2008).

Arthur (2013) submitted that, university libraries play a significant role in supporting research. University libraries do not just store books and journals and offer space for student learning, but they also provide systematically digitized information. University libraries, as they become more and more digitized, will play an important role in offering a greater support service for young professors and PhD students which will help in the development of their academic careers. In addition, Singh (2007) showed that research is taking on increasing importance in universities and colleges. Universities are making larger allocations for research and the rank of university is based on their research activities. In order to satisfy the stakeholders of academic libraries, the role of academic libraries in facilitating research have to be re- examined. In this regard, academic libraries could provide more effective services and supports to users.

Moreover, Webb (2007) noted that the effective academic library is gateways to academic knowledge through their own collection and by facilitating access to material. In line with its main purpose, providing effective library services could support the research activities of researchers. Haglund (2008) highlighted that university libraries are dedicated to what they perceive as the needs of students and researchers at the university. Otherwise, they could not effectively assist the research activities, nor could they contribute to the university's research. More also, literature has indicated that academic libraries play a significant role on facilitating research, the overall support of academic libraries for research was not strategic. Instead of developing an extensive research collection, the libraries relied heavily on inter-library loans to support research (Rasul and Singh 2011).

Furthermore, Simmonds (2001) established that the use of academic libraries is influenced most by users' perceived familiarity with the library and its resources. Those who are familiar with the library are more likely to use academic libraries. To encourage the greater usage of libraries, librarians need to educate users on how to use library resources not only in the confines of the library building, but even when they access the resources remotely. According to Rowley (2004) librarians can promote the research culture among researchers. Currently, libraries are undergoing continual changes and development as library managers, information professionals, and knowledge workers need to manage and understand these changes to respond to the dynamic environments. Researchers could benefit from these changes.

In Nigeria, postgraduate students are facing some challenges which are common in third world countries as noted in the literature. A study was conducted by Kashimana and Ternenge (2019) who set out to investigate postgraduate students' use of the University of Botswana

Library. The literature reveals some of the common problems that postgraduate students face as they seek information in the academic libraries. It includes the following: inadequate collection of resources, particularly insufficient journal subscriptions (Kashimana and Ternenge 2019) lack of expertise, overload and time pressure, perceived unfriendly staff, lack of incentives on the part of postgraduate students by university administrators (Holligan, Wilson and Humes, 2011), lack of current and up-to-date books and journals, lack of recent versions of the journal, shortage of trained librarians and ineffective Inter-library loan system (Rhoe, Obohand and Shelton, 2010) and poor infrastructure (especially electricity). From the reviewed studies, it is clear that the major challenges that postgraduate students face in their research activities include: unfriendly staff, poor internet facilities, lack of proper working lifts, noisy readings spaces, out-dated journals and insufficient journal subscription

The Use of library resources and services in Nigeria has not been without some challenges. Tahir, Mahmood and Shafique (2008) identified some of the challenges to include but not limited to the following: poor library organisation, lack of user skills, poor funding of libraries, lack of current information resources, lack of adequate/relevant materials, poor IT infrastructure, un-conducive reading environment, poor power supply, lack of technical support, lack of user education, Lack of stable power supply makes the library un-conducive for users to utilize the resources, and it also affects resources which require certain level of temperature to function effectively. Other challenges affecting effective utilization of library resources as identified by Ugah (2007) and Olayide and Yusuf (2009) are lack of awareness on the availability of certain library resources and services, bibliographic obstacles and in-adequate user education.

On the challenges hindering the effective utilization of library information resources Uzogbu, Ezukwuoke and Chingbu (2012) reported in their study that factors such as unavailability of resources ranked highest with 42%, power failure followed with 27% while disorganized materials ranked third with 17%, while those who claimed that there was no problem were 11% of the respondents. Mamo and Amidu (2016) found that lack of current information resources and improper shelving of information resources is the major factors hindering the effective use of library resources. Olajide and Otunla (2015) findings show that the major challenge faced by respondents is lack of time. The study of Barfi, Afful-Arthur and Agyupong (2018) indicated that noninvolvement of lecturers in book selection, few up-to-date materials, and users not informed of new arrivals, poor library instruction, unavailability of automatic generator to power sockets and inadequate library staff are factors that actually hinder or impede the use of library materials by lecturers.

Mirtz (2010) and Ojedokun (2000) both quoted in Bhatti and Jumani (2012), identified the problems faced by the libraries and the users such as inadequate funding, inadequate staffing, insufficient communication between various departments and librarians, lack of information literacy skills, inadequate copies of library materials for users, and lack of enabling infrastructure including IT infrastructure, insufficient information resources, lack of adequate awareness of library resources and services, insufficient OPAC and Internet terminals, outdated materials, mutilated books and long service queues, missing books, unreliable photocopying services and unfriendly security personnel.

Buhari, (2016) noted inadequacy of facilities for use by users, research library inability to stay connected to the internet, poor computer communication systems and poor bandwidth leading to

poor utilization of these resources were some of the constraints to library information resources and services utilization. From the reviewed literatures, it is observed that many challenges were been confronted by postgraduate students in the course of their research activities which include: lack of current and up-to-date books and journals, poor infrastructure (electricity), lack of recent versions of the journal, lack of ineffective Inter-library loan system (Rhoe, Oboh and Shelton, 2010), shortage of trained librarians, lack of expertise, overload and time pressure, unfriendly staff, poor internet facilities, noisy readings spaces, out-dated journals and other information resources, Lack of Braille and large print for people with visual impairment, lack of proper working lifts and ramps for wheel chair bound researchers and inadequate collection of resources, particularly insufficient journal subscriptions; (Byrne, 2011).

Research Methodology

This study adopted a survey research design that involved the collection of data using self-constructed, self-administered questionnaire. The population of the study comprised 34,131 postgraduate students in Southwest Federal Universities, Nigeria. A multi-stage sampling technique was used to select respondents for the study. The researcher included all postgraduate students. The first stage in the sampling technique was a purposive selection of Southwest Federal Universities, Nigeria. The second stage was the use of Krejcie and Morgan table to determine the sample size, under confidence 95% and margin of error 0.05%. Sample size is 378 of 34,131 population. The final stage was a simple random sampling technique to select postgraduate students in the homogeneous faculties in the federal universities in Southwest, Nigeria.

Data Analysis

Table 1: Demographic information

Frequency distribution of respondents by gender

Gender	Frequency	Percentage (%)
Male	175	48.5
Female	186	51.5
Total	**361**	**100**

Frequency distribution of respondents by marital status

Marital status	Frequency	Percentage (%)
Single	230	67.7
Married	131	36.3
Total	**361**	**100**

Table 1: shows the demographic information of the respondents of the study, namely gender and marital status. The table reveals that 175 (48.5%) of the respondents are males and 186(51.5%) are females among the respondents of this study. The table also shows that 230 (67.7%) of the respondents are singles and 131 (36.3%) are married. The results on demographic information of the postgraduate students examined shows that, there were more female than their male counterparts. In addition, the marital status shows that a higher percentage of the respondents are singles.

Research question one: Available library resources that support postgraduate students' research activities in Southwest Federal Universities, Nigeria.

Table 2: Library resources available to support postgraduate students' research activities

S/N	Library resources	A	NA	NS	$\bar{x}$	S.D
1	Books	352 (97.5%)	4 (1.1%)	5 (1.4%)	2.96	0.25
2	World Wide Web	320 (88.6%)	10 (2.8%)	31 (8.6%)	2.80	0.57
3	E-Books (Electronic Resources)	309 (85.6%)	17 (4.7%)	35 (9.7%)	2.76	0.61

		A	NA	NS		
4	Periodicals (Journals, Newspapers, Reports and Magazines)	308 (85.3%)	19 (5.3%)	34 (9.4%)	2.76	0.61
5	Search engines	302 (83.7%)	19 (5.3%)	40 (11.1%)	2.73	0.64
6	Government Publications	293 (81.2%)	24 (6.6%)	44 (12.2%)	2.69	0.67
7	Online Catalog	292 (80.9%)	19 (5.3%)	50 (13.9%)	2.67	0.70
8	Indexes	289 (80.1%)	22 (6.1%)	50 (13.9%)	2.66	0.70
9	Online indexes	277 (76.7%)	28 (7.8%)	56 (15.5%)	2.61	0.74
10	Electronic Databases (Hinari, Agora, Ebschost, Science direct	276 (76.5%)	28 (7.8%)	57 (15.8%)	2.61	0.74
11	Computers files	273 (75.6%)	28 (7.8%)	60 (16.6%)	2.59	0.75
12	Reserve Books and Videos	250 (69.3%)	30 (8.3%)	81 (22.4%)	2.47	0.83
13	CD-ROMs	234 (64.8%)	45 (12.5%)	82 (22.7%)	2.42	0.83
14	Microform.	110 (30.5%)	52 (14.4%)	199 (55.1%)	1.75	0.89
15	Brain Fuse	94 (26.0%)	61 (16.9%)	206 (57.1%)	1.69	0.85
	Weighted Mean = 2.55					

Key: A= Available   NA= Not Available   NS= Not Sure

In order to identify the library resources that support postgraduate students' research activities in the federal universities in Southwest, Nigeria, respondents were asked to indicate the level of agreement or disagreement with 15 items on library resources. The result presented in Table 6 showed that a three point Likert scale classified into available, not available and not sure were used to elicit information from the respondents. Textbooks (=2.96) was ranked highest by the mean score as the major library resources available to support postgraduate students' research activities and was followed by World Wide Web (=2.80) and E-Books (Electronic Resources) (=2.76). Brain Fuse (=1.69) was the least item indicated by the respondents.

Research question two: Available library services that support postgraduate students' research activities in the Southwest Federal Universities, Nigeria.

Table 3: Library services available to support postgraduate students' research activities

S/N	Library services	A	NA	NS	$\bar{x}$	S.D
1	Literature search	329 (91.1%)	11 (3.0%)	21 (5.8%)	2.85	0.49
2	Reference services	333 (92.2%)	3 (0.8%)	25 (6.9%)	2.85	0.51
3	WIFI services	300 (83.1%)	31 (8.6%)	30 (8.3%)	2.75	0.59
4	Online research services	294 (81.4%)	19 (5.3%)	48 (13.3%)	2.68	0.69
5	Lending services	293 (81.2%)	14 (3.9%)	54 (15.0%)	2.66	0.72
6	Reservation service	280 (77.6%)	20 (5.5%)	61 (16.9%)	2.61	0.76
7	User Education	283 (78.4%)	13 (3.6%)	65 (18.0%)	2.60	0.77
8	Referral services	276 (76.5%)	18 (5.0%)	67 (18.6%)	2.58	0.79
9	Multimedia service	274 (75.9%)	21 (5.8%)	66 (18.3%)	2.58	0.78
10	Indexing and abstracting services	272 (75.3%)	24 (6.6%)	65 (18.0%)	2.57	0.77
11	Bindery	257 (71.2%)	32 (8.9%)	72 (19.9%)	2.51	0.80
12	Current awareness	253 (70.1%)	27 (7.5%)	81 (22.4%)	2.48	0.83
13	Exhibition and displays	250 (69.3%)	28 (7.8%)	83 (23.0%)	2.46	0.84
14	Electronic document delivery	239 (66.2%)	35 (9.7%)	87 (24.1%)	2.42	0.85
15	Selective Dissemination of Information	232 (64.3%)	30 (8.3%)	99 (27.4%)	2.37	0.88
16	Reprographic services	233 (64.5%)	30 (8.3%)	98 (27.1%)	2.37	0.88
17	CD/DVD-based search service	224 (62.0%)	39 (10.8%)	98 (27.1%)	2.35	0.87
18	Inter-library loan	214 (59.3%)	40 (11.1%)	107 (29.6%)	2.30	0.89
19	Translation services	194 (53.7%)	41 (11.4%)	126 (34.9%)	2.19	0.92
	Weighted Mean = 2.54					

Key: A= Available   NA= Not Available   NS= Not Sure

In order to determine the library services that support postgraduate students' research activities in the federal universities in Southwest, Nigeria, the respondents were asked to indicate the level of availability of 19 different library services. The result is presented on Table 7. The findings from the respondents revealed that, literature search (=2.85) was ranked highest as the main library services available to support postgraduate students' research activities, this was followed by reference services (=2.85) and WIFI services (=2.75). The least service indicated was Translation services (=2.19).

Research question four (a): Frequency of the use of library resources by postgraduate students in Southwest Federal Universities, Nigeria.
Table 4: Frequency of the use of library resources by postgraduate students

S/N	Frequency of use of library resources	VGF	GF	LF	VLF	$\overline{x}$	S.D
1	Journals	248	96	11	6	3.62	0.63
		68.7%	26.6%	3.0%	1.7%		
2	Books	242	101	13	5	3.61	0.62
		67.0%	28.0%	3.6%	1.4%		
3	Dictionaries	180	144	25	12	3.36	0.75
		49.9%	39.9%	6.9%	3.3%		
4	E-books	187	126	34	14	3.35	0.80
		51.8%	34.9%	9.4%	3.9%		
5	Encyclopedia	143	146	54	18	3.15	0.85
		39.6%	40.4%	15.0%	5.0%		
6	Electronic Databases (Hinari, Agora, Ebschost, Science direct	155	123	56	27	3.12	0.93
		42.9%	34.1%	15.5%	7.5%		
7	Reserve Books and Videos	125	145	68	23	3.03	0.88
		34.6%	40.2%	18.8%	6.4%		
8	Government Publications	132	127	64	38	2.98	0.98
		36.6%	35.2%	17.7%	10.5%		
9	Brain Fuse	61	88	104	108	2.28	1.06
		16.9%	24.4%	28.8%	29.9%		
10	Microform.	61	85	102	113	2.26	1.07
		16.9%	23.5%	28.3%	31.3%		
	Weighted Mean = 3.07						

Key: VGF= Very Great Frequency GF= Great Frequency LF= Less Frequency VLF= Very Less Frequency

In order to determine the frequency of use of library resources by postgraduate students in federal university in Southwest, Nigeria, the respondents were asked to indicate the degree of

agreement or disagreement with the ten (10) items on the frequency of use of library resources.

Table 10 revealed that journals 3.62) was ranked highest by the mean score rating and was followed in succession by Books 3.61) and E-Books 3.35) while Brain Fuse 2.28) was the least item indicated by the respondents.

Research question four (b): Frequency of the use of library services by postgraduate students in Southwest Federal Universities, Nigeria.
Table 5: Frequency of the use of library services by postgraduate students

S/N	Frequency of use of library services	VGF	GF	LF	VLF	$\bar{x}$	S.D
1	WIFI services	172	116	37	36	3.17	0.97
		47.6%	32.1%	10.2%	10.0%		
2	Referral services	144	149	48	20	3.16	0.85
		39.9%	41.3%	13.3%	5.5%		
3	User Education	131	155	55	20	3.10	0.85
		36.3%	42.9%	15.2%	5.5%		
4	Reprographic services	152	108	68	33	3.05	0.98
		42.1%	29.9%	18.8%	9.1%		
5	Lending services	132	127	78	24	3.02	0.92
		36.6%	35.2%	21.6%	6.6%		
6	Indexes and abstract	139	119	70	33	3.01	0.97
		38.5%	33.0%	19.4%	9.1%		
7	Current awareness	119	143	74	25	2.99	0.90
		33.0%	39.6%	20.5%	6.9%		
8	Selective Dissemination of Information	108	149	70	34	2.92	0.93
		29.9%	41.3%	19.4%	9.4%		
9	Exhibition and displays	116	132	82	31	2.92	0.94
		32.1%	36.6%	22.7%	8.6%		
10	Inter-library loan	97	123	104	37	2.78	0.95
		26.9%	34.1%	28.8%	10.2%		
	Weighted Mean = 3.01						

Key: VGF= Very Great Frequency GE= Great Frequency LE= Less Frequency VLE= Very Less Frequency

In order to determine the frequency of use of library services by postgraduate students in Southwest Federal University, Nigeria, the respondents were asked to indicate the degree of agreement or disagreement with the ten (10) items on the frequency of use of library services. The result presented in Table 11 shows that WIFI services 3.17) ranked highest by the mean

score rating and was followed in succession by referral services 3.16) and User Education 3.10). Inter-library loan 2.78) was the least item indicated by the respondents.

Discussion of findings

These findings agreed with Haliso and Popoola (2009) who asserted that library resources that are both in printed and electronic formats are mostly available as textbooks, journals, indexes, abstracts, newspapers and magazines, reports, CD-ROM databases, the Internet/E-mail, video tapes/cassettes, diskettes magnetic disk, computers, micro forms among others. In addition, Okiki (2013) affirmed that library resources such as textbooks, journals and e-books that are available in the university libraries, archives, records offices, documentation centers, and data centers are meant to support research activities.

This finding corroborates that of Anyira and Idubor (2020) who asserted that services provided by the libraries boost self-development, organisational developments as well as national development, library services of all kinds are catalysts for learning. Library services provision is of great interest to universities because of the importance of high quality of their productivities. This study also agrees with Adeniran (2011) who argued that providing quality services in academic libraries is now a major issue among academic librarians; they see the library more in terms of the provision of and access to service quality than as just a physical place. Technology and automation have also changed the way people perceived libraries.

This finding corroborate that of Arowolo and Onasote (2014) who found that most frequently used library materials are online database and this is followed by dictionaries, books, encyclopedia which are used daily while the least use materials is CD-ROM database.

This finding is corroborated by that of Mohindra and Kumar (2015) who found that library environment and library services significantly predict the user's satisfaction. The level of quality

of different attributes, i.e., library environment, collection, staff, and services were significantly different across academic discipline of respondents. However, Sohail et al. (2012) also asserted that guidance in the use of library resources and services which is the same as user education program was necessary to help students to meet their information needs.

Conclusion

The study concluded based on the findings that library provides resources and services that enhanced the research activities of postgraduate students. The use of library resources and services is thus indispensable to the postgraduate students in order to achieve their academic objective and the major challenges that postgraduate students face in their research activities include: poor internet facilities, lack of proper working lifts, out-dated journals and insufficient journal subscription. The use of library resources and services significantly and independently predict research activities of postgraduate students.

Recommendations

Based on the findings, the following recommendations are made:

1. Library should create awareness about their current available resources in the institutions. Also libraries should endeavour to let the university community be aware of whatever electronic data base such as Hinari, Esbcohost, Sciencedirect and Research 4 life that are available in their institutions, so that it can be effectively utilised by the students and University community.

2. The University management should make internet services available for 24 hours to students and they should not be restricted from making use of their personal laptops and other facilities in all section of the library.

3. The library should organise a periodic seminar for newly admitted postgraduate students on the effective use of available library resources and services for research activities.

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