

STATE AND CHALLENGES OF SERIALS MANAGEMENT FOR POSTGRADUATE RESEARCH IN UNIVERSITY LIBRARIES IN NORTH CENTRAL NIGERIA

By

Joy Asibi Idachaba, Ph.D

University Library
Joseph Sarwuan Tarka University, Makurdi

Hungwa Shidi, Ph.D

Department of Library and Information Science
Benue State University, Makurdi
shidi.john@yahoo.com, 08037229170

Olayinka Mary Adekoya (CLN)

Department of Library and Information Science,
Federal University Lokoja, Kogi State, Nigeria
adekolayinka10@gmail.com

Abstract

This study investigates the state and challenges of serials management for postgraduate research in university libraries in North Central Nigeria with the objective of finding out the state of serials management for postgraduate research, challenges of serials management and strategies to overcome the challenges of serial management for post graduate research in university libraries in North Central Nigeria. The study adopted descriptive research design. A population 4655 made up of 4646 registered postgraduate students and 9 serial librarians was used for the study while a sample size of 465 respondents was obtained using multi – stage sampling technique. Findings indicate that, serial section is not well stocked with assorted local and international journals and other serial materials, university institutional database has no or little open access journals both local and international for PG students' research work, Internet network is not adequately available to access online serials, serials titles are not easily accessed. Also from the point of view of the library staff, the study revealed that serials are not well selected using selection tools like ULRICH SerialsDirectory to encourage PG research, serial section is well stocked with assorted local and international journals and other serial materials to ease PG research among others. It was also found that challenges like inadequate staff to attend to postgraduate students, inability of some staff to satisfy user information needs, mutilation of some serials, inadequate quality and current serials and others are associated with serials management. It was recommended that, employment of more staff, training of available staff to improve their competency, replacement of mutilated serials, acquisition of quality and current (recent) serials, and others should be done to overcome the challenges of serials management in university libraries in North Central Nigeria.

Introduction

Universities are known as citadels of learning with the main aim of carrying out teaching, learning and research. They are established with the basic mandate of teaching, learning, research and community service. They also undertake undergraduate and graduate studies in various disciplines in order to advance teaching, learning and research (Microsoft Encarta, 2009). University libraries provide materials for instruction, term papers, projects

and supplementary reading (Ifidon, 2002) in order to help achieve its target. This, they do by providing information resources of various types to the university community and beyond. Such resources include: print (textbooks, reference materials, periodicals/serials, documents, theses/dissertations and others); non print (microform readers, audio materials, realia, models and others) and digital/electronic materials (CD-ROM, e-books/e-journals, the web, electronic mail, and others) Ozioko (2015). Among these, serials are about the most useful information resource for postgraduate and other researches due to the currency of their information content. The quality of research and publications output of any university largely depend on state of serials which in turn is a function of good serials management activities.

Serials, used interchangeably with periodicals in library (Ozioko and Amucheazi, 2008) are publication that appears in successive parts and whose appearance is intended to be indefinite. According to Anglo-American Cataloguing Rules, AACR2 (2002), serial material is a publication, in print and non-print format, issued in successive parts, usually having numerical or chronological designations and intended to be continued indefinitely. AACR2 also stated that, they are continuing resources issued in discrete parts usually bearing numbers that have no predetermined conclusion. Reitz (2005) posited that, serials is a publication in any medium issued under the same title in a succession of discrete parts usually numbered (ordated) and appearing at regular or irregular intervals with no predetermined conclusion. Ajala (2008) stated that periodical materials are those materials that are published successively and with the notion of being in circulation indefinitely. He uses serials as synonymous term to periodical publications. Ajala further stated that serial or periodical materials include journals, annuals, reports and society proceedings, transactions of society, yearbooks, and directories among others. Like any other resource, they need to be properly managed in order to meet the university mandate of teaching, learning, research and community service. Serials management according to Agbaje (2002) includes selection, order placement, delivery, processing, storage and retrieval of serials. It is the acquisition, processing, preservation and dissemination of serials resources to users as well as solving the problems encountered. The state of serials management refers to the condition in which serials are being selected, arranged, maintained, preserved and disseminated to users which in this case is postgraduate students.

Proper selection of serials using selection tools like ULRICH Serials Directory, suitable arrangement of serials for easy access by PG students using cadex, stocking of serial sections with assorted local and international journals, maintaining temperature in serials rooms at optimum levels for proper preservation and longevity, ensuring that institutional database has a lot of open access journals both local and international, ensuring that Internet network is adequately available for postgraduate researchers and other library users to access online serials are among the serial management practices that will likely encourage and boost postgraduate students research activities. If properly managed, management of serial publications shall be said to be in a good state and will therefore be of immense value to postgraduate students whose study is research based.

Despite the importance of serials to postgraduate research in universities, it has been observed through visits to some libraries in Universities in North Central Nigeria that, the management of serial publications and state of serials is in a sorry state, a situation that is capable of affecting postgraduate students' academic performance and their research. This study therefore intends to investigate the state and challenges of serials management for postgraduate research in university libraries in North Central Nigeria.

Literature Review

Serials, also known as periodicals is a publication that appears in successive parts and whose appearance is intended to be indefinite. According to Anglo-American Cataloguing Rules, AACR (2002), serial material is a publication, in printed form or not, issued in

successive parts, usually having numerical or chronological designations and intended to be continued indefinitely. AACR also stated that, they are continuing resources issued in discrete parts usually bearing numbers that have no predetermined conclusion. Similarly, Reitz (2005:648) defined serials as “a publication in any medium issued under the same title in a succession of discrete parts usually numbered (or dated) and appearing at regular or irregular intervals with no predetermined conclusion.” They include periodicals, newspapers, annuals, (report, yearbooks, directories and so on) journals, memoirs, proceedings, transactions of societies and monographic series. Feather and Sturges (2004) also listed serials to include periodicals, annuals, numbered monographic series and other categories of this description. Agbaje (2002) stated that various kinds of serials include journals, magazines, newspapers, news bulletins and reviews.

Serials are used interchangeably with periodicals in the library (University of Caribbean, 2017) which according to Feather and Sturges (2004) are publication appearing at regular and fixed intervals of time under a distinctive title, which the publishers intend should continue so to appear, without any anticipated cessation.

As explained above, a periodical is a distinctive title which is issued at regular intervals: weekly, monthly, and quarterly and yearly by a learned society, an academic research institution, a professional body, or a reputable publishing organisation (Fayose in Hameed and Osunrinade (2010). Serials are essential collections because they are the most up to date resources in the library and they are usually written by experts in the field and as such very reliable, authentic, precise and not cumbersome as textbooks. Agbaje (2002) stated that periodicals are type of serials organised around the concept of preordination which attempts to impart significantly on the passage of time by identifying and ordering information along chronological sequences. Serials are basic tools for teaching, learning and research in academics and it remains an important tool for dissemination of knowledge.

Serials are published at regular intervals for instance daily, weekly, monthly, bi-monthly, bi-annually, annually and so on. Moreover, they contain current information including research findings which makes it unique for postgraduate research. According to Badaru (2014), the successive nature of serial publication and the fact that, they are often written by experts in the field gives it the overall ability to provide current information. Such current information is imperative for postgraduate research compared to books whose contents are made available almost two years or more from the time of release of such information.

Serials are important among the library collections because they constitute the backbone of research collection in academic libraries (Chigbu, 2004). The author stated that, scholars, researchers and investigators of all kinds consider them essential because of their currency. According to Ezema and Attama (2002), serials supply up-to-date information, provide first hand and detailed information on various topics. Considering the importance of serials, it is imperative to ensure their effective provision and management as this is indispensable to effective research in general, and postgraduate research in particular.

To achieve the set goals of libraries, serial resources has to be effectively selected, acquired, processed and stored for easy accessibility and retrieval for research purposes. The success of every library programmes therefore, could easily be measured by its efforts to effectively manage relevant serials. How well serials are managed in the university library can be a pointer to the success of the library in meeting its objectives.

Serials management according to Agbaje (2002) include selection, order placement, delivery, processing, storage and retrieval of serials. It is the acquisition, processing, selection, preservation and dissemination of serials resources to users as well as solving the problems encountered. Ogueke (2003) stressed that a well-established serials management help users to locate information easily irrespective of the range or scope of such materials

within the collection, thus bringing easy access to current and up-to-date materials as well as back issues of available serial collections.

Proper serials management helps in ensuring the processes of efficiency and also arrangement for check-in and shelving of serials. Woodward in Akinbode (2011) asserted that the major concepts of serials management are check in/receipt, claiming, routing, binding, ordering and subscription renewal, financial control, management report, union lists, online user access and circulation of serials. If these concepts or elements of serials management are properly managed, research which is systematic and empirical investigation into existing but hidden elements in nature will be properly enhanced. Emaikwu (2015) defined research as the systematic and objective analysis and recording of observations that may lead to the development of generalizations, principles or theories resulting in the production and ultimate control of events. Emaikwu further affirmed that it is an investigation for determination of facts in order to know whether the facts should be retained as satisfactory status quo or needed some amendment. It is very important in an academic institution because it is the method of attempting to discover new knowledge as well as exploring relationship between ideas and events. Research is one of the cardinal objectives of every university and is emphasised in postgraduate work. In fact, postgraduate studies are pursued through taught courses and or research. Therefore, if serial resources are well arranged and effectively managed, postgraduate research will be enhanced, because users will make maximum use of the university libraries for their research work.

Postgraduate research is a mechanism by which graduate students learn how to undertake a systematic investigation founded upon the work built by peers in the field, and then to extend the current state of knowledge. Postgraduate research represents a formal area of study that is recognised by a university or institute of higher learning. It is a research carried out by students in various universities that are pursuing higher degrees like Ph.D, Masters and Postgraduate Diploma. Students that are admitted to study and undertake postgraduate research in tertiary leading to different certificates are called postgraduate students. They continue to study for an advanced degree after earning a bachelor's degree or other first degrees (Hornby, 2000).

For postgraduate students to carry out research effectively, serial resources must be well managed for optimal accessibility and utilization. Skills needed for postgraduate research include systematic and critical thinking as well as problem solving which contribute to knowledge that will both benefit the education industry and the community at large. The objective of postgraduate research according to Toncich (2014) is not necessarily to make a breakthrough invention or indeed, a major scientific discovery. It is rather a mechanism by which postgraduate students learn how to understand systematic investigation, founded upon the work built by peers in the field and then to extend the current state of knowledge. This objective can only be achieved with the proper management of serial resources.

University libraries in North Central Nigeria have spent a lot of resources in acquiring serial publications to enhance postgraduate research but it appears that the aims and objectives of these are not achieved because of lack of effective and proper management of serial resources. Effective serials management is likely to lead to easy accessibility and the use of the serials by postgraduate students and thus enhance better academic research. However, the researcher has observed a seemingly poor state of serials and challenges in the management of these resources (serials) in universities in North Central Nigeria which is likely to affect the quality of postgraduate research. It is against this background that this study seeks to find out the state and challenges of serials management for postgraduate research in university libraries in North Central Nigeria.

Akinbode and Nwalo (2016) examined serials management in university libraries in selected universities in South-West Nigeria with the aim of examining the collection,

organisation, maintenance and preservation of serials as well as provision of facilities, services and constraints to effective management, access to, and use of serials in the library. Descriptive survey design was used for the study and questionnaire was employed to collect data for the study. The entire population of serial librarians in the three selected university libraries totaling 100 was used for the study. Closed form types of questions were used and analysed using yes or no direct responses. The study shows that various types and forms of serials are subscribed to and are kept in the libraries, but not filling the missing gaps and updating the issues. The finding reveals that facilities and services are provided in serials sections of the libraries, but inadequate. Serials management in the libraries is okay but incomplete. The paper therefore recommends that the university authorities should provide adequate fund for the library to make available relevant, current and adequate serials, facilities and services so as to be able to meet the users' needs. The two studies relate in design as both used descriptive survey design; in instruments for data collection as both used questionnaire and the two studies were carried out in universities. They however differed in the area of studies as the previous study was done in South-West Nigeria while the present study is domicile in North-Central Nigeria. Also, while the previous study investigate management of serials generally, the present study examines management of serials with particular emphasis on postgraduate student users.

Aghadiuno, Agbo and Onyekweodiri (2015) studied availability and management challenges of serials and other continuing resources in two university libraries in North- Central zone of Nigeria. A descriptive survey design was used for the study with a population of 11 Serial Librarians. The instrument for data collection was structured questionnaire and observation checklist. Percentages, mean scores and frequency tables were used in analyzing the data. Findings revealed that all the listed serials were available, while some of continuing resources like newspaper, magazine, Transactions of societies and Monographic series were not available in many universities. It was also discovered from the findings that serials management in university libraries face challenges ranging from stealing of serial resources by users, mutilation of serials, disorganization of serials, improper weeding of serials by the library, delay in processing of new issues, delay in return of removed issues for repairs, illegal lending of serial resources to users among others. The study also shows that the strategies for enhancing management of serials and other continuing resources include but not limited to provision of signage in the libraries, employment of professional librarians, provision of adequate security gadget in library and provision of library infrastructures. Suggested solutions to challenges of serials management in academic libraries include the training of librarians to acquire more skills needed for management of databases, updating loose leaf and others. The two studies relate in area of study as both were done in North- Central Nigeria. They also investigated challenges of serials management in the universities studied. In addition, both studies used descriptive survey as the design of the study. They however differed in the population as the reviewed study used librarians while the present study targeted both librarians and postgraduate students.

Literature was reviewed from different information resources including books, journals and others from different parts of the world to support this study. Out of such literature were studies that were carried out on a similar area. Some of the studies were done in the same study area, others used the same design with the present study while others investigated state of serials and challenges of its management. However, within the scope of the researchers' literature search, no study was found on the state and challenges of serials management for postgraduate research in university libraries in North Central Nigeria. This has constituted a gap which this study is meant to fill.

Objectives of the Study

The purpose of this study is to investigate the state and challenges of serials management for postgraduate students research in Federal University libraries in North Central Nigeria. Specifically, the study will find out:

1. the state of serials management for postgraduate students research in Federal University libraries in North Central Nigeria
2. Identify the challenges associated with serials management for postgraduate students' research in the University Libraries in North Central Nigeria.
3. Determine the strategies for enhancing serials management for postgraduate students' research in University Libraries in North Central Nigeria.

Research Questions

The study shall be guided by the following research questions:

1. What is the state of serials management for postgraduate students' research in Federal University libraries in North Central Nigeria?
2. What are the challenges associated with serials management for postgraduate students' research in the Federal University Libraries in North Central Nigeria?
3. What are the strategies that could enhance effective serials management for postgraduate students' research in University Libraries in North Central Nigeria?

Methodology

This study adopted descriptive survey research design. The area of the study is North Central Nigeria covering Benue, Kogi, Kwara, Nassarawa, Niger, Plateau states, and Federal Capital Territory. University of Ilorin, Kwara State; University of Jos, Plateau State; Federal University of Agriculture Makurdi, Benue State; Federal University of Technology Minna, Niger State and University of Abuja, Federal Capital Territory (FCT).

The population of the study was made up of 4646 registered postgraduate students and 9 serial librarians making a total of 4655 respondents. The sample size of 465 were taken from postgraduate students while all the nine serial librarians in the five Federal Universities were used. A multi – stage sampling technique was used to work out a sample for the study. Stratified random sampling technique was used to select 5 universities whose PG programmes were over 5 years. At the second stage, a proportionate sampling technique was used. 10% of the population was taken to arrive at 465 postgraduate students. Aina (2002) postulated that, 10% of the population will give each person in the sampling frame an equal chance of being represented in the sample. Also, Borg and Gall cited in Emaikwu (2019) also suggested that, for a population of up to 5000, 10% should be used. The population under study (4650) is approximately 5000 thus the use of 10%. All the nine serial librarians in the five Federal Universities in North Central Nigeria will constitute the study population. This was because their number was not much. Two sets of self-developed questionnaire were used for the study, one for postgraduate students while the other was administered to serial librarians. Each of the questionnaire had two sections (A and B). Data collected was analysed using descriptive and inferential statistics. Descriptive statistics (frequency tables, percentages and standard deviation) were used to answer research questions Statistical Package for the Social Sciences (SPSS) was employed for the analysis.

Results

Research Question 1: What is the state of serials management for postgraduate students' research in Federal University libraries in North Central Nigeria?

Table 1: State of Serials Management for Postgraduate Students' Research in Federal University libraries in North Central Nigeria

N = 465

State of Serials Management	Mean	Std. Deviation
The serial section is well stocked with assorted local and international journals and other serial materials	2.13	1.20
The university institutional database has a lot of open access journals both local and international for PG students' research work	2.04	.56
The Internet network is adequately available to access online serials	2.09	.68
The serials titles are easily accessed using cadex	2.41	1.33
The temperature in serials rooms is good for optimum preservation and longevity	1.57	.99
Serial librarians are enough and always ready at our service	2.45	1.24

Table 1 shows that the mean rating scores of all the items are below 2.50. This implies that the serial section is not well stocked with assorted local and international journals and other serial materials, the university institutional database has no or little open access journals both local and international for PG students' research work, the Internet network is not adequately available to access online serials, the serials titles are not easily accessed, the temperature in serials rooms is not good for optimum preservation and longevity and that serial librarians are not enough and always ready at service. The implication is therefore that, the state of serials management is not good enough and needs improvement.

Table 2: Serial Librarians' Responses on State of Serials Management for Postgraduate Students' Research in Federal University libraries in North Central Nigeria

State of Serials Management	Mean	Std. Deviation
Serials are well selected using selection tools like ULRICH Serials Directory to encourage PG research	1.89	1.27
The serial section is well stocked with assorted local and international journals and other serial materials to ease PG research	2.56	1.24
The university institutional database has a lot of open access journals both local and international for PG students research work	1.78	1.09
The Internet network is adequately available to enable PG students have access online serials for their research	1.44	.73
The serials titles are well arranged for easy access by PG students using cadex to ease their research	1.33	.50

Air conditioners are provided in serial section to regulate temperature optimum preservation and longevity to sustain PG students' research	1.67	1.00
Serial librarians are enough and always ready to assist PG students access serials for their research	1.56	1.01

Table 2 shows that the mean rating scores of all the items are below 2.50, except item 5, which has its mean rating score above 2.50. This implies that the serials are not well selected using selection tools like ULRICH Serials Directory to encourage PG research, the serial section is well stocked with assorted local and international journals and other serial materials to ease PG research, the university institutional database has no or little open access journals both local and international for PG students research work, the Internet network is not adequately available to enable PG students access online serials for their research, the serials titles are not well arranged for easy access by PG students using cadex to ease their research, air conditioners are not provided in serial section to regulate temperature optimum preservation and longevity to sustain PG students' research and serial librarians are not enough and always ready to assist PG students access serials for their research.

Research Question 2: What are the challenges associated with serials management in the Federal University Libraries?

Table 3: Challenges Associated with Serials Management in the Federal University Libraries

N=465		
Challenges	Mean	Std. Deviation
Inadequate staff to attend to postgraduate students	3.16	1.21
Inability of some staff to satisfy my information needs	3.51	.95
Some of the serials are mutilated and no longer useful	3.42	.98
Inadequate quality and current serials	3.34	.81
Uncooperative attitude of some staff	3.59	.96
Outdated serial materials	3.00	1.25
Inadequate sitting space in the library	3.62	.65
Inadequate ICT facilities to access open access serials	3.41	.83
Poor Internet connection	3.26	.801
University database of serials is not made available to PG students	3.72	.68

Table 3 shows that the mean rating scores of all the items are above 2.50, which means that inadequate staff to attend to postgraduate students, inability of some staff to satisfy user information needs, some of the serials are mutilated and no longer useful, inadequate quality and current serials, uncooperative attitude of some staff, outdated serial materials, inadequate sitting space in the library, inadequate ICT facilities to access open access serials, poor Internet connection and unavailability of university database of serials to PG students are the challenges associated with serials management in the Federal University Libraries.

Table 4: Descriptive Statistics of Serial Librarians Responses on Challenges Associated with Serials Management in the Federal University Libraries

N=9

Challenges	Mean	Std. Deviation
Lack of or insufficient serials display equipment eg serial display racks	3.33	1.00
Lack of or insufficient serials processing facilities eg cardex	3.67	1.00
Insufficient funds to purchase/subscribe to current serials	3.89	.33
Challenge of classification and cataloguing of serials	3.56	.53
Poor reading behavior of some PG students	3.00	.71
Many PG students do not register with the library	3.56	.73
Many PG students do not even visit the library	2.67	.71
Erratic power supply from public source	2.89	.78

Table 4 shows that the mean rating scores of all the items are above 2.50. This implies that lack of or insufficient serials display equipment such as serial display racks, lack of or insufficient serials processing facilities such as cardex, insufficient funds to purchase and subscribe to current serials, challenge of classification and cataloguing of serials, poor reading behaviour of some PG students, many PG students do not register with the library, many PG students do not even visit the library and erratic power supply from public source are the challenges associated with serials management in the Federal University Libraries.

The implication of results obtained from the two tables is that, both PG students and serial librarians are constrained from accessing as well as disseminating serial information due to a number of challenges which are mentioned above. With such myriad of challenges, it is the responsibility of the libraries' management and that of the universities to make conscious efforts to address the issues if the state of serials management is to change drastically for better.

Research Question 3: What are the strategies that could enhance effective serials management in University Libraries in North Central Nigeria?

Table 5: Descriptive Statistics of PG Students' Responses on Strategies that Could Enhance Effective Serials Management in the Federal University Libraries

Strategies	Mean	Std. Deviation
Replacement of mutilated serials	3.71	.63
Quality and current (recent) serials should be acquired	3.72	.69
SERVICOM should be introduced to improve service quality	3.87	.34
Outdated serials should be moved to archives to give way to recent ones	3.76	.43
University libraries should explore TetFund to expand library buildings	3.27	1.09
ICT facilities like computers, printers etc should be provided	3.56	.85
Internet bandwidth should be improved and access password given to PG students	3.72	.56
University database of serials should be made accessible to PG students	3.85	.55

Table 5 shows that the mean rating scores of all the items are above 2.50. This implies that employment of more staff, training of available staff to improve their competency, replacement of mutilated serials, acquisition of quality and current (recent) serials, introduction of SERVICOM to improve service quality, archiving of outdated serials to give way to recent ones, university libraries should explore TetFund to expand library buildings, ICT facilities like computers, printers among others should be provided, internet bandwidth should be improved and access password given to PG students and university database of serials should be made accessible to PG students are the strategies that could enhance effective serials management in University Libraries in North Central Nigeria.

Table 6: Descriptive Statistics of Serial Librarians' Responses on Strategies that Could Enhance Effective Serials Management in the Federal University Libraries

Strategies	Mean	Std. Deviation
Preservation equipment eg display racks should be acquired	3.78	.67
Serials processing facilities (egcardex) should be acquired	2.67	1.32
Funds allocated to the library especially for serials subscription needs to be and management generally needs improvement	3.33	1.11
Workshops should be organized to improve cataloguing and classifying skills of serials titles	2.89	1.05
Lectures should be organized for PG students to encourage reading	3.33	1.00
Library registration should be made compulsory for PG students	3.78	.67
PG students should be encouraged to visit and use the library	3.44	1.013
Provision of alternative power supply eg generators and solar power	3.33	.50

Table 6 shows that the mean rating scores of all the items are above 2.50. This implies that preservation equipment such as display racks should be acquired, serials processing facilities such as cardex should be acquired, funds allocated to the library especially for serials subscription needs to be and management generally needs improvement, workshops should be organized to improve cataloguing and classifying skills of serials titles, lectures should be organized for PG students to encourage reading, library registration should be made compulsory for PG students, PG students should be encouraged to visit and use the library and provision of alternative power supply like generators and solar power would be strategies that could enhance effective serials management in University Libraries in North Central Nigeria.

Discussion of Findings

State of Serials Management for Postgraduate Students' Research

The findings from the study from students' point of view showed that serial section is not well stocked with assorted local and international journals and other serial materials, university institutional database has no or little open access journals both local and international for PG students' research work, Internet network is not adequately available to access online serials, serials titles are not easily accessed, temperature in serials rooms is not good for optimum preservation and longevity and that serial librarians are not enough and always ready at service. From the point of view of the library staff, the study revealed that serials are not well selected using selection tools like ULRICH Serials Directory to encourage

PG research, serial section is well stocked with assorted local and international journals and other serial materials to ease PG research, university institutional databases have no or little open access journals both local and international for PG students research work, the Internet network is not adequately available to enable PG students access online serials for their research, serials titles are not well arranged for easy access by PG students using cadex to ease their research, air conditioners are not provided in serial section to regulate temperature for optimum preservation and longevity to sustain PG students' research and serial librarians are not enough and always ready to assist PG students access serials for their research. This indicated that, the state of serial management for postgraduate students is not good enough. This study is in line with Akinbode and Nwalo (2016) that, the current titles and issues of serials must be well selected and when acquired or received in the library must be stamped and recorded in the appropriate places such as statistics files, kardex card, visible index and serials list.

Challenges Associated with Serials Management

The result obtained on the challenges associated with serials management revealed on the part of postgraduate students that, inadequate staff to attend to postgraduate students, inability of some staff to satisfy user information needs, mutilation of some serials and being no longer useful, inadequate quality and current serials, uncooperative attitude of some staff, outdated serial materials, inadequate sitting space in the library, inadequate ICT facilities to access open access serials, poor Internet connection and university database of serials is not made available to PG students are the challenges associated with serials management in the Federal University Libraries. It also shows on the part of serials librarians that, lack of or insufficient serials display equipment such as serial display racks, lack of or insufficient serials processing facilities such as cardex, insufficient funds to purchase and subscribe to current serials, challenge of classification and cataloguing of serials, poor reading behavior of some PG students, inability of many PG students to register with the library, many PG students do not even visit the library and erratic power supply from public source are the challenges associated with serials management in the Federal University Libraries. This is in line with Central Washington University (2017) that stated that many university libraries do not have funds available to acquire all the serials needed and this pose a problem to information services delivery. This also agrees with Annunobi, Nwakwuo and Ezejiofor (2010) who gave problem of serials management as those related to cost of serials, selection tools, nature of serials and subscription decision. This create problem to the librarians as they find it very hard to maintain subscription to all serials that their users want to use.

Strategies that Could Enhance Effective Serials Management

The result obtained on the strategies that could enhance effective serials management on the part of postgraduate students revealed that employment of more staff, training of available staff to improve their competency, replacement of mutilated serials, acquisition of quality and current (recent) serials, introduction of SERVICOM to improve service quality, archiving of outdated serials to give way to recent ones, exploring TetFund to expand library buildings, ICT facilities like computers, printers among others should be provided as some of the strategies. Also, internet bandwidth should be improved and access password given to PG students and university database of serials should be made accessible to PG students. It also showed that preservation of equipment such as display racks and cardex should be acquired, funds allocated to the library especially for serials subscription and management needs to be improved, workshops should be organized to improve cataloguing and classification skills for serials titles, lectures should be organized for PG students to encourage reading, library registration should be made compulsory for PG students, PG students should be encouraged

to visit and use the library and provision of alternative power supply like generators and solar power would be strategies that could enhance effective serials management in University Libraries in North Central Nigeria. This is in line with Donald (2010) who suggested that manpower development should be given an important place in university libraries to enhance effective discharge of duties in the libraries. Librarians should be user friendly and carry out their duties effectively; experienced librarians should be employed to carry out the task of indexing and abstracting.

Conclusion

The study examined the state of serials management for postgraduate research in federal university libraries in North Central Nigeria. The research revealed that, the state of serials management for postgraduate students' research in Federal University libraries in North Central Nigeria is poor and not in good shape. This implies that serial section is not well stocked with assorted local and international journals and other serial materials, university institutional database of the universities under study has no or little open access journals both local and international for PG students' research work, the Internet network is not adequately available to access online serials, the serials titles are not easily accessed, the temperature in serials rooms is not good for optimum preservation and longevity and that serial librarians are not enough and always ready at service. The research also shows that there are significant challenges associated with serials management in the Federal University Libraries.

It can therefore, be concluded that since the state of serials management for postgraduate staff is not good enough partially due to challenges associated with it, there is crucial need to employ strategies that could enhance effective serials management in University Libraries in North Central Nigeria so as to improve the general state of serials management for postgraduate students in university libraries in North Central Nigeria.

Recommendations

The following recommendations have been made based on the findings of the study:

Serial section should be well stocked with journals and other serial materials, open access journals and Internet network be made adequately available to access online serials and temperature in serials rooms should be made optimum for preservation and longevity of serial publications. Also, serials should be well selected using selection tools like ULRICH Serials Directory to encourage PG research, Internet network should be made adequately available to enable PG students access online serials for their research. This will improve the state of serials management which will also facilitate postgraduate research.

It was also recommended that adequate staff should be recruited to attend to postgraduate students and satisfy their information needs. Also, adequate quality and current serials should be made available and outdated serial materials should be weeded. Adequate ICT facilities, Internet connection and university database of serials should also be made available to enable PG students to access open access serials. Similarly, serials display equipment such as serial display racks, serials processing facilities such as cardex, funds to purchase and subscribe to current serials, should be made available.

Finally the study recommend employment of more staff, training of available staff to improve their competency, replacement of mutilated serials, introduction of SERVICOM to improve service quality, exploring TetFund to expand library buildings as some of the strategies to overcome challenges of serial management in university libraries in North Central Nigeria.

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