

AWARENESS AND USE OF INSTITUTIONAL REPOSITORIES AMONG
ACADEMIC STAFF IN THE FEDERAL UNIVERSITIES OF NORTH CENTRAL
NIGERIA

BY

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BEING A DISSERTATION SUBMITTED TO THE DEPARTMENT OF LIBRARY
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DECLARATION

I hereby declare that this work is carried out by my own research effort, under the Supervisor of Dr. M .Kamba of the Department of Library and Information Science, Faculty of Education in partial fulfillment for the award of Master Degree in Library and information Science. I solemnly declare that no part of this work has been submitted elsewhere. The works of other researcher and authors has been acknowledged and are referred to accordingly.

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CERTIFICATION

This is to certify that the research work for this thesis and the subsequent preparation of this thesis by Bukky Victoria Himmikaye (SPS/10/MLS/00003) was carried out under the supervision.

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APPROVAL PAGE

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DEDICATION

This thesis is dedicated to God Almighty the all knowing, who gives knowledge to whosoever He likes; I count on His mercy in all my future endeavors.

I also dedicate this work to my loving parent Chief & Chief (Mrs.) J.O Hinmikaiye.

Whom through them I came to this world.

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ABSTRACT

This study had examined the awareness and use of institutional repositories among academic staff of federal universities in North central, Nigeria. The population for the study consisted of 210 academic staff randomly selected from the federal University in north Central Nigeria. The data collected from the field was analyzed using descriptive and inferential statistics. Quantitative research methodology, using survey design was adopted for the study. Questionnaire was the only instrument used to collect the relevant data for the study. The findings of the study revealed that majority of the respondents were not aware of the availability of institutional repositories. It was discovered among others that, there was low utilization of Institutional repository sdue to lack of awareness and the major challenges associated with the use of Institutional repository were lack of funding, lack of ICT facilities, lack of skills and training. Finally, the study recommends the provision of funds by government and international donor agencies as one of the strategies to be adopted in order to overcome the obstacles in the use of institutional repositories among academic staff in the federal universities in north central Nigeria. Also the study recommends that all academic staff in these federal universities should improve their computer literacy and massive awareness campaign on Institutional Repository should be provided. The study concludes that the awareness and use of institutional repository in the selected federal universities in Nigeria requires much attention and financial assistance from the government and from the universities.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Development in Information and Communication Technology (ICT) has resulted in the emergence of institutional repository (IR). Institutional repository is a digital archive for preservation and dissemination of institutional research outputs. According to Harnad (2009), the growth of open access institutional repositories has been very remarkable in many developed countries. However, academic and research institutions in many developing countries like Nigeria are still battling to overcome many challenging issues in an attempt to make their research outputs openly accessible through the Internet technologies like institutional repositories. This is a relatively recent innovation among universities worldwide, with a view of providing free access to the outputs of university staff conference presentation, theses, and teaching resources.

According to Akintunde (2010) the development of Institutional repository has four main objectives as follows:

1. To create global visibility for an institutions scholarly research.
2. To collect content in a single location.
3. To provide open access to institutional research output by self-archiving.
4. Store and preserve other institutional digital assets, including unpublished or otherwise easily lost (“grey”) literature (e.g. theses and Technical reports).

From the above objectives, Institutional repositories can therefore be referred to as digital initiative of what was previously referred to as university archives, a manual collection of hardcopies of texts of all works emanating from a particular institution

(Harnad, 2009). It is a growing concept that Institutions and nations all over the world are embracing and translating it to an interactive global research collections of an institution.

Today, research has shown that students, Academic staff and institutions are increasingly recognizing the need to store their intellectual output in the form of journal publication, research reports, thesis/dissertation, personal collections, and to make them available for other users to access and use within and outside their institutions. In view of their need, Institutions globally have started to develop repositories of their own intellectual output as a digital archive for the purpose of disseminating the resources to the members of their community.

It is in line with this, that Ezema (2010) as cited by Uzuegbu (2011) stated that most journals published in Africa are neither indexed nor abstracted in international abstracting and indexing agencies. Similarly, research outputs in form of theses and dissertations are completed and buried in individual universities that are only aware of the existence of their resources. As a result of this development, Moahi (2009) as cited by Uzuegbu (2011) stated that the greatest challenge in applying knowledge for development in Africa is that, the knowledge is not being generated but rather most research generated in the universities and research centers are scattered all over the

Continent and are not made available. In retrospect, majority of the resources are kept in remote places where they are generated and destroyed by dust.

It is represented by the university of Jos see <http://maps.repositGVory66.org/>. The University of Jos is the only Nigeria institution listed in the directory of open access register (DOAR) with over 1500 repositories (Akintunde, 2010). However, other universities in Nigeria have continued to develop their institutional repositories though are not made available online. In Nigeria, the development of institutional

repositories could be traced back to 1999. As reported by Akintunde, (2010) that the University of Jos launched its institution repository <http://dspace.unijos.edu.ng> in June 2009 as an open access.

This was a realization of three years dream. Between 2006 and 2009, there was a very high demand by both library staff and patrons to promote access to the university's resources. Automation in the library had started in the early 80s (Jos – Carnegie project, 2006), and it soon became obvious that it was a journey that had a beginning, but no end. From 2006, the library benefited from the university-wide capacity building intervention by the Carnegie Corporation of New York to develop human resources and automate, with the ultimate objective of making librarians and the library respond adequately to the dynamics of emerging information and communication technology (ICT). There was a global increase in the use of the internet as a platform to offer library services. Institutional and library resources were increasingly displayed and accessed in real-time on-line over the internet. It became attractive to librarians and clients alike as the most appropriate medium to offer library services.

It is against this background that this research will seek to investigate the awareness and use of Institutional repository among academic staff in the federal universities of north central Nigeria.

1.2 Statement of the Problem

Institutional repositories are of current usage, many researchers and academic staff are neither familiar nor have assimilated the new culture in their scholarly publishing, nor tend to have known the advantages derivable from them. Institutional repositories make possible wide dissemination of research outputs by means of the internet. Institutional repositories (IRS) can be seen as infrastructures through which

universities and colleges seek to safeguard and share digital content created by academic staff of a particular institution.

Institutional repository therefore, offers academic libraries (as well as its parent organization) many benefits and opportunities. Indeed, the advent of institutional repositories is a hallmark in the field of librarianship which needs to be pointed out glaringly to academic faculties, researchers as well as undergraduate students, the importance and the uses of such repositories. According to Akintunde, (2012) as of August 2010, a total of 84 countries with 1,612 IRS have been located by repository maps and as visible globally, Nigeria is one of the countries listed.

A study by Gideon (2008) shows that over 40% of researchers in Nigeria strongly agrees that lack of knowledge or awareness of institutional repository is an obstacle to the development and use of institutional repository in their institution.

Academic staff needs to store and retain their intellectual assets. They also need to make their work available and visible to others within and outside the institution, while managing their digital rights and maintaining the integrity of their work. To this regards, little or no research is available to the best of the knowledge of the researcher that shows the type of resources stored and retain by the academic staff of Federal Universities on the institutional repository. In spite all these, observation has shown that some of the academic staff do not understand the benefit of Institutional repository. The goal of this study therefore is to add to the collective understanding of how institutional repositories are contributing to scholarly practices in higher institution and to find out the awareness of academic staff and the factors that hinder the development and use of institutional repositories in Nigeria Federal Universities.

Despite the wide acceptance of institutional repositories for enhancing scholarship, coupled with the considerable efforts that institutions are dedicating towards developing and implementing IRS, evidences have shown that most institutional repositories remain empty and ineffective or underutilized. For instance, Ware's (2004) survey of 45 repositories, revealed that the mean number of records added fell dramatically after a couple of month following their launch. The aim of this study is to find out the extent academic staff in the federal universities understudy have appreciated the new culture of using institutional repository in their scholarly publishing To address this, the researcher puts forward the following questions.

1.3 Research Questions

The following are the research questions:

1. Are institutional repositories available in the Federal Universities in North Central Zone of Nigeria?
2. To what extent are the academic staff in the Federal Universities under study aware of the institutional repositories in the universities in North Central Zone of Nigeria?
3. To what extent do academic staff under study have access to Institutional repositories?
4. What are the purposes for which academic staffs under study use the available institutional repositories?
5. What are the benefits derived by the academic staff under study on the use of institutional repositories?
6. What are the reasons responsible for the level of adoption of Institutional repositories by the Academic staff of the under study in terms of:

- a. Relative advantage
 - b. Compatability
 - c. Complexity
 - d. Tribility
7. What are the challenges associated with the use of institutional repositories by Academic staff under study.

1.4 Objectives of the study

The overall objective of this study is to investigate the awareness and use of institutional repositories among academic staff in the federal Universities of North Central Nigeria.

1. To find out if institutional repositories are available in the Federal University in North Central Zone of Nigeria?
2. To determine the extent academic staffs in the Federal universities under study are aware of the institutional repositories?
3. To find out the extent academic staff under study have access to institutional repositories?
4. To investigate the purpose for which academic staff under study use the institutional repositories available?
5. To find out the benefits derived by the academic staff under study on the use of institutional repositories?
6. To find out the reasons responsible for the Institutional repository adoption by academic staff understudy in terms of :
 - a. Relative advantage
 - b. Compatibility

c. Complexity

d. Triability

7. To investigate the challenges associated with the development and use of Institutional repository by academic staff understudy.

1.5 Research Hypothesis

1. There is no statistically significant relationship between availability of Institutional repository and the level of their utilization by the academic staff understudy.
2. There is no statistically significant relationship between accessibility and utilization of institutional repositories.

1.6 Significance of the Study

The result of this study would be of significance benefits to the academic staff for hosting institutional repositories in academic libraries. The presence of institutional repository will hopefully make their research output to be visible globally and will also be useful in storing and preserving other institutional digital assets. In this information and digital age, there is need for libraries especially academic libraries to keep abreast with the latest development in the field of information and communication technologies, as this will go a long way in making them to remain relevant to their parent institutions.

This study is significant also in many other areas which include exposition to the academic staff and other users the benefits of using institutional repositories to both the academic staff and other users. It is also hoped that the study will portray the advantages of up loading research works or projects of students and faculty members

onto the institutional repository, improvement in role of the library in harnessing the intellectual output of the university staff.

Lastly, the study has revealed possible obstacles / challenges faced by the library understudy and have suggested possible solutions for overcoming the challenges through research recommendations. Institutional repository resources will enable tertiary institutions under investigation to have access to digital information which will enhance information dissemination for research and development. Lastly, the fact that the study did not only identify some of the challenges or rather obstacles hindering effective delivery of institutional repository as an important service of the academic libraries, but also provided solution to the challenges; it has assisted the libraries significantly in addressing one of their nagging problem. It is hoped that this study will serve as contribution to the existing knowledge.

1.7 Scope and Limitation of the Study

There are six (6) Federal Universities in the North Central States of Nigeria, but the scope of this study covers only 3 federal universities. The two newly established Universities were sampled out because the academic staff were recently employed and so cannot categorically comment on the university repository while Federal University of Agriculture, Makurdi was sample out because there was no existing of institutional repository.

The limitation of the study was in the low response rate of the respondents. Some of the respondents did not show much interest in filling of the questionnaire despite persuasions by the researcher.

1.8 Definition of Research Terms

1. **Institutional repositories:** Refers to an online locus for collecting, preserving and disseminating in digital\form the intellectual output of an institution, particularly a research institution.
2. **Academic staff:** In the context of this research work, academic staff refers to teaching staff in tertiary institutions like university.
3. **Awareness:** Knowing or conscious about institutional repositories.
4. **Accessibility:** Means how people have access to use the institutional repositories.
5. **Utilization:** Refers to the maximum use of institutional repositories.
6. **Diffusion of Innovation:** This is usually referred to as (DOI) theory. “The process in which an innovation is communicated through certain channels over time among members of a social System”.
7. **Federal Universities:** Refers institutions own and manage by the federal government.

CHAPTER TWO

2.0 REVIEW OF RELATED LITERATURE

2.1 Introduction

This section deals with the review of related literature pertinent to the topic of the research. Institutional repository is a current development that has attracted the attention of researchers, scholars in the field of librarianship and this has led to the series of publications in journals, research reports, thesis /dissertation. It is in the light of this that the review will be made in order to find area of harmony, concurrency and disagreement in relation to the area of research, thereby highlighting gaps to which the present research will be based on. Therefore, the review of this study is discussed under the following sub- headings:

- 2.2 Historical development of institutional repositories in Nigeria
- 2.3 The purpose and importance of Institutional Repositories
- 2.4 Awareness on the use of institutional repositories
- 2.5 Accessibility and Utilization of Institutional Repositories by Academic Staff
- 2.6 Challenges Associated with the Development and Use of Institutional Repositories in Nigeria.
- 2.7 Theoretical and conceptual framework
- 2.8 Summary of the reviews and gaps established based on the literature review

2.2 Historical Development of Institutional Repositories in Nigeria

The first development of the idea of a repository of scholarly publications was traced by Jones (2005) to the early 1990's and articles discussing changes in scholarly communication from Gardner and Harnad (2005) These were the first indications of

unhappiness with traditional methods of academic publishing. The emerging technologies of file transfer protocol, gopher and the World Wide Web were used to increase availability of scholarly materials by lowering the barriers to distribution. The tradition of informal circulation of research articles in some disciplines was initially duplicated via the new technologies. Early discussion of the issues affecting scholarly communication involves mainly academics. Moves toward an institutionally focused repository came later, and was heavily influenced by librarians and their associates. The first published proposal for an institutionally focused repository was made by Okorson and O'Donnell (1995), writing for the Association of Research Libraries.

The development of stable open source software with which to implement institutional repositories is seen as pivotal to the rapid increase in their deployment (Jones 2006). The earliest examples of such programmes are sprints, released in 2001 and D-Space, released in 2002. These built on the foundations set by electronic thesis software, such as ETD –db, available from 1999. One further development that encouraged the deployment of software was the development of the Open Archives Initiative protocol for Metadata Harvesting (OAI – PMH). This recognized a standard level of metadata required for digital repositories and enabled the automation of record –sharing between institutional repositories and secondary services (e.g. search engines, harvesters) to give institutional repositories a wider audience (Wares, 2004).

In summary, of the pre-cursive factors that led to the development of institutional repositories, Jones (2006) lists the following elements:

1. E-thesis archives
2. Departmental e-print archives
3. Faculty practice of e-prints on personal web pages

4. Subject repositories
5. Need from institutions for preservation/ presentation of research output
6. Open Access aims
7. Distributed document servers
8. The Journals Crisis.

This illustrates that due to their origins; institutional repositories have many different factors driving their original and continued development. Groups associated with repositories, such as librarians, authors and archivists may have conflicting objectives. This suggests that the ultimate success of institutional repositories will depend on the ability of users and managers to understand their differing objectives and synthesize solutions to satisfy their aims.

According to Akintunde (2010), an institutional repositories immediately makes an institution and authors who deposit their work(s) visible because the repositories usually follows some international standards and redefined internet protocols with search engines'. The content is in most cases, open and access is unrestricted. However, there are different categories of works that researchers and authors can deposit. They include pure researches –self funded or other funded, researches leading to the award of degrees and diplomas, pre- prints and reprints of peer –reviewed articles. They also include lectures, full length technical papers as well as presentations in all formats.

The development of Institutional repository has been discussed by Crow (2002), Pinfield, Gardner and MacColl (2002), Shearer (2003) and Gibbons (2004), among others. Pinfield et al. (2002) outline the necessary stages to implement an e-print repository. Shearer (2003).identifies steps to develop a repository using E-Print. Gibbons (2004) discusses development issues in repositories, including content

acquisition and faculty participation. However, none of the literature includes comparative studies of Institutional repository development. In line with this, the researcher decided to probe into comparative studies of Institutional repository development within the institutions under review, with a view to ensuring that there is free flow of information between these institution, for effective management of Institutional repository resources for research and development.

Christian (2008) examines that the development of the Internet technology has brought enormous opportunity to communicate research results instantaneously to people irrespective of distance. The open access movement is the world wide effort to provide free on line access to scientific and scholarly research literature, especially peer reviewed Journal articles and their preprints.

According to Peter (2002),the history of the open access movement can be traced back to the 1960s, but the movement gathered momentum in the 1990s with the growth of modern information and communication technology especially the internet and the ability to copy and distribute electronic data at little or no cost.

An appraisal of the idea of institutional repository from the view of Jones (2006) reveals that, IRs has moved from the traditional method of record keeping in the library to modern method. The emerging trend in information communication technology has revolutionized the development of Institutional repository. The idea of information technology has bridge the gap between the traditional ways and the modern approach. A study by Stanger and McGregor (2006) revealed that an institutional repository could have a positive impact on the visibility and accessibility to an institution's intellectual output. Their study was based on the school of Business of the University of Otago in New Zealand. The school was the first to develop a publicly accessible institutional repository which went into operation in mid-

November 2005. By the end of January 2006 there was a record 9000 download from 60 different countries. Over two months later, number downloads doubled and included visits from eighty countries. The statistics further showed a total of 18,744 download from 80 distinct countries since the repository went live. Growth had been consistent over the entire period. The most popular paper (an information Science discussion paper) had 451 downloads from 23 countries after twelve weeks in the repository. The top ten downloaded papers included two discussion papers, two working papers, two technical reports, and four dissertations (one of which was manually scanned from the original hard copy). Of these, only the discussion papers were previously available online, so the advent of the repository has had a clear impact on the availability of research within the School of Business.

Crow (2002) has argued that institutional repositories provide a compelling response to two strategic issues facing academic institutions. First, it expands access to research, reasserts control over scholarship by the academy, increase competition and reduces the monopoly power of journals, and brings economic relief and heightened relevance to the institutions and libraries that support them.

Secondly, it serves as a tangible indicator of a university's quality and to demonstrate the scientific, societal, and economic relevance of its research activities, thus increasing the institution's visibility, status, and public value. (Crow2002). Additionally, institutional repository could also be seen from two complementary perspectives. First as a natural extension of academic institution's responsibility as generators of primary research seeking to preserve and leverage their constituents' intellectual assets; and secondly as one potentially major component in the evolving structure of scholarly communication.

The development of institutional Repository in Nigeria can be traced back to 1991 when e-print service arXiv was developed by Los Alamos physicist Paul Ginsparg. It eventually led to the Open Archive Initiative in which it enables institutional repositories to operate together. In 2001 E-prints was developed, while 2002 Dspace and HP and in that same year FEDORA (Flexible Extensible Digital Object Repository Architecture) was developed. This software is used as platform to deploy institutional repository. They are the programmes that provide structured data-entry points for digital resources leading to semantic relationships. Semantic relationships are further enhanced by the introduction of metadata, i.e. data about data, which increases the direct *findability* of resources, rather than mere accessibility. Findability of resources is used to denote the aggregation of relevant materials in their order of importance, with synonyms, and with options for different media or format, such as texts, sound, motion, graphics, or any combinations of these. Erinle, (2001)

In Nigeria, the idea of an IR is a current phenomenon, especially in tertiary institutions that have seen it as a necessity for making available their institutional resources, thereby increasing their visibility and better performance in the ongoing web ranking of world universities. In the last three years, Nigerian universities have, more or less, competed among themselves to have higher ranking in the webometrics ranking of world universities. This has been a healthy competition because more and more of the institutions have been devising creative means of increasing their digital contents in the public domain, resulting in more Nigerian content on the Internet, and particularly, more openness and sharability of institutional resources.

However, quality of the content, organizational structure of the content, management, and other such issues may need to be addressed in a policy document in order to have a virile and sustainable open access platform. According to Shiloba,

(2005). Several Nigerian institutions that have been posting digital contents on the web do not appear to follow any standards and use diverse output platforms. Whereas some attempt to use open source software such as E-prints and dspace, others simply post into their institutional web content management systems that are not necessarily open source. It is imperative therefore, to look into digitization efforts in Nigeria. This is done by briefly describing the path of the University of Jos in both initiatives and digitization.

The University of Jos library, in June 2009 became the first institution in Nigeria to establish an Institutional Repository (IR) (Akintunde, 2010), and the second in West Africa after the University of Science & Technology, Ghana. The library uses dspace, open source self-archiving software. This was not the university's first experience in the use of open source solutions. The university uses *Moodle* (www.unijos.edu.ng/moodle) to deliver electronic learning. The website of the university is managed using *Drupal*, an open source content management system. In 2003, the University of Jos, along with seven other universities in Africa, was one of the founding members of African Virtual Open Initiatives & Resources (AVOIR) which was a novel network for capacity building in network engineering developing free and open source software to facilitate electronic learning.

2.3. Purpose and importance of institutional repositories

The concept of IRS as defined by Bailey (2006) is a means of collecting and providing access to diverse, locally produced digital materials. Similarly, Donovan and Watson (2008) describe the Institutional repository as a means of collecting the intellectual digital outputs of an organization. An Institutional repository is a resource or system that facilitates the capture, storage, preservation and dissemination of the intellectual output of an institution in electronic form. Such output varies from

institution to institution; some will capture theses and dissertations, whilst others will capture published papers, unpublished pre-prints, working papers, conference presentations, data sets, teaching materials and other similar materials (Rosenblum, 2008). Whatever output is captured into an IR, will be described using standard of metadata format and protocols, the tags that describe the output and enable recognition and retrieval of the output on the world wide web the goal of implementing an Institutional repository is mainly to have an intellectual output of an institution in a central source; some Institutional repositories will extend content beyond published materials to include others that may not necessarily be published, such as conference presentations, working papers, technical reports and similar material; in short, grey literature that would otherwise be lost to organizations. IRs also provides access to others who may have an interest in the output, and they promote the visibility of an organization on the Internet.

In more general terms, Clifford (2010), sees institutional repositories as a set of services that a university offers to the community for the management and dissemination of digital materials created by the institution and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-term preservation where appropriate, as well as organization, access and distribution.

Though, repositories are generally built to provide open access to institution's research output, the purposes of establishing each repository varies between institutions. The purpose of developing and use of repositories differentiates them from one another. It is possible for a single institution to have more than one repository, with each taking care of a definite task. But irrespective of the type of any repository, its content is limited to publications that have the institution as its source.

Campbell-Meier (2008) opines that repository can be developed at an organizational or institutional level, at a discipline specific or subject level in a collection developed across institutions or by a particular department or school within a larger organization. Building an institutional repository demands lots of technicalities and studies. Usually, institutions undertake most of the pre-required steps and also get committed financially and materially. The process of developing an institutional repository is preceded with a feasibility study of the environment and primary users plus the intended content contributors to the repository. The environment should be prepared and the people should be well enlightened on the expected benefits of the repository before the real development is done. The scholars and researchers within the institution should be ready to surrender their publications for inclusion onto the institutional repository. Also, the institution should be ready to make necessary software and hardware available for the development of the repository. Policies guiding the affairs of the repository must be well spelled out along with well-defined responsibilities of both the users and repository manager(s).

According to Fati, (2010) the following are the importance of institutional repository:

Centralization: Institutional Repositories help to provide a unified, central database of institutions intellectual outputs, most especially the universities.

Preservation: Institutional repositories help to minimize the risk of losing important intellectual materials through natural disasters or others. implies that institutional repositories (IR) provide a reliable digital storage of institutions scholarship.

Accessibility: IR provides long – term free access to scholarly materials online. It minimizes (to the barest minimum) restriction to costly scholarly materials and helps to globalize institutions intellectual qualities.

Institutional repositories, by capturing, preserving, and disseminating a university's collective intellectual capital, serve as meaningful indicators of an institution's academic quality. The principal author benefits of online open access to their research pertain to enhanced professional visibility. This visibility and awareness is driven by both broader dissemination and increased use. No library can afford a subscription to every possible journal –regardless literature inaccessible to many researchers. The open Archives Initiative (OAI) metadata harvesting protocol creates the potential for a global network of cross-searchable research information. By design, networked open access repositories lower access barriers and offer the widest possible dissemination of a scholar's work Odufuwa, (2006).

Furthermore, departmental overlay bulletins and journals can increase the visibility and status of an entire academic department, in addition to the status of its constituent faculty. Research has demonstrated that, with appropriate indexing and search mechanisms in place, open access online articles have appreciably higher citation rates than traditionally published articles. This type of visibility and awareness borders well for both the individual author's host institution (<http://www.dlib.org/dlib/july02/johnson/11johnson.html>)

2.4 Awareness on the use of institutional repositories

One of the greatest challenges facing a repository manager is developing awareness of an institutional repository within an academic community. Despite the difficulties there is evidence that where only a limited application and effort in advocacy has been taken, institutions have a comparatively lower level of adoption(Johnson 2009).

Awareness is needed not just in the academic community but sometimes also within the institution administration. Pinfield (2002) argues that the repository can

raise the profile of the institution, manage research assessment and offer long term cost savings. SHERPA (2005) recommends taking advantage of competitiveness between institutions, not just as a technique to motivate academics but also suggests “lobbying of senior administrative members for comparable resources; so as to ensure that each institution was not seen to be lagging behind” (Johnson 2008).

Hedlund (2008) opined that more sensitization and awareness programs should be organized to enlighten the general public on the concept of open access to correct the observed non-use of institutional repositories despite having lots of benefits when effectively developed and put to use.

Many universities have tried a broad range of awareness techniques. For example, Drake (2004) ran a formal launch event, produced press releases in the University newspaper, published glossy brochures and posters, and ran a feature advertisement on the Library web page. In addition, they approached academics directly, by emailing all Heads of School to request invitation to School staff meetings to talk about the repository and answer any questions/concerns, providing regular ends-on e-print depositing workshops and identifying and contacting individual e-searchers with prolific publication output (Callan 2006).

The Universities of Edinburgh and Nottingham have also used a number of different awareness methods, including setting up a project web site, producing a briefing paper which is useful for presenting to committees, distributing literature. Similarly, Sing University use magazines, including the Library user newsletter. They too have contacted academic staff directly by presenting at departmental meetings and university committees and organizing special advocacy events for university staff (Pinfield, 2002).

Developing promotional materials has been a popular advocacy method for spreading the repository message. For example Bradford University has created a conference poster and portable pop up banner as well as “the repository flyer and an additional A5 glossy guide for contributors are used in print format to distribute at academic schools by liaison subject librarians” (Nieminen 2009).

Archive, curator of the largest collection of digital data in the social sciences and humanities in the UK, has taken a similar approach (Zuccala 2008). Unfortunately as described below, these techniques are not necessarily successful.

Another suggestion is to “use milestone events, such as the 2,000 submission, as both celebration and minor additions to the institutional news cycle” (Johnson, 2008.) As one example, stated that Southern Cross University sends congratulatory emails to Researchers with high download counts.

According to Akintade (2010), there was a general acceptance of the Institutional repository as well as readiness to learn more about the Institutional repository and especially, interest in the process of submission of publication/research works for self-archiving. It was agreed that, since most of the lecturers were just getting to learn about the Institutional repository, those that would not be able to self – archive their work immediately could submit them to the Desk officer for Institutional repository for uploading. Follow-up demonstrations would also be done in order to give more opportunities for lecturers to properly understand the workings of IR and to fully involved in taking full advantage of the facilities offered through the services- including archiving, searching, and internet browsing through Google scholar, etc.

A study by Gideon (2008) shows that over 40% of researchers in Nigeria strongly agree that lack of knowledge or awareness of open access institutional repositories is an obstacle to the development and use of institutional repositories in

their institution. This is in addition to over 25% who agree (as opposed to strongly agree) to the same.

Lack of knowledge or awareness of open access institutional repository is not peculiar to the respondents at the University of Lagos. In fact this is the situation in most developing country institutions. A researcher earlier carried out by Papin—Rameharan and Dawe (2006) at the University of West Indies in Trinidad and Tobago shows that just 8% of the academic staff members of the institution's faculty of engineering were aware of digital repositories. None of the respondents in the survey has ever deposited a research paper in any institutional repositories.

The study also shows that only 2 (3%) of the respondents were very familiar with the concept of open access institutional repository. 15 (22.7%) know very little about the concept and a great majority of the respondents precisely 49 representing 74. 3% are completely unfamiliar or know nothing about open access institutional repository.

From the work of Rameharan and Dawe (2006) at the University of West Indies in Trinidad and tobacco which shows that, 8% of the academic staff of the institution from faculty of Engineering were aware of digital repository, there is possibility that if this survey is extended to other African Universities, most of academic staff in other Universities in the continent may have the same problem.

2.5 Access and Use of Institutional Repositories by Academic Staff

It should be noted that institutional repository is one out of many technological innovations that enhance the access, storage utilizations and management of digital collections. The uniqueness of institutional repository is found in it usage, content composition and limited boundaries. Librarians and libraries around the world are championing the cause of institutional repository to maintain their role as information

professionals and units respectively. In 2008, the President of Nigerian Library Association (Ms. Victoria Okojie) implores Nigerian libraries to take advantage of Open Access movement to develop institutional repositories. Xia and Opperman (2009) also affirm that large-sized academic libraries were the early adopters of institutional repositories when the concept came to limelight. The users of institutional repository are as wide as the Internet users. Usage of every developed institutional repository is not limited to those with direct affiliations to the institution that owns the repository; it can be used by all and sundry. The linkage of institutional repository to the Internet and the provision of index to the content of repositories by search engines make the contents of every repository an open directory to all the Internet users that use the internet in search of scholarly material(s). People with Internet access can stumble on a publication located in any institutional repository whose access is open to the public. Based on this, every user of the Internet is a potential user of any institutional repository. A report of a survey conducted by Carr (2011) reveals that 64% of the users of the institutional repository of Southampton University are those that were linked to the repository via the internet search engines while the remaining 36% are those users with direct affiliate to the repository of Southampton University. Much like every other component of institutional repositories, the content is very essential and it determines the usefulness and effectiveness of every repository. It is expected that a successful repository must balance between development, management and usage. The content of institutional repository includes the traditional form of scholarly publications in form of journal articles and technical reports. Curricula, teaching and learning materials of institutions form parts of repository contents. Also, project work done by people within a defined setting forms part of the content composition of institutional repositories. Different

people use repository differently but irrespective of who is using what, repositories are generally used as a scholarly communication media where scholarly publications are kept, used and regenerated. Institutional repositories provide an avenue for knowledge sharing, knowledge creation and knowledge cradling. Institutional repository is much of a linkage that breaks through walls to enhance access to knowledge materials with minimal requirement(s). Though, institutional repository can be used by virtually anybody with required tools and skills, it is usually used by academic staff, students and researchers that have flair for research. The development and use of institutional repository will be of great benefit to researchers, institutions and the community at large. The open access nature of repositories helps in institutional image building. Directly or not, repositories increase the prestige and visibility of institutions by simply publicizing it “contributions to knowledge”. For individuals, repositories provide a central archive of scholarly publications that can be accessed and used easily with minimal restriction. Institutional repository is indeed an initiative of open access that is aim at increasing continuity and efficiency in research if it is well developed, managed and used by necessary authorities. Despite the numerous benefits of developing and using institutional repository as pointed out by previous studies on institutional repository, it is pathetic to observe that only three (3) out of more than 90 Universities in Nigeria have established an operational institutional repository. The work of Westell (2006) and Kingsley (2008) argued that the development and use of institutional repositories has been slow despite its numerous benefits. Alemayehu (2010) proclaims that researchers’ contribution to institutional repositories has been a threat for the effective implementation of repository projects in many circumstances.

Suber (2002) was of the opinion that open access to scientific articles means online access without charge to readers or libraries. This will imply dispensing with the financial, technical and legal barriers that are designed to unit access to scientific research articles to paying customers. One of the most frequently cited definitions of open access has been that proffered by the Budapest open access initiative (BOAI) which defined the concept of open access in relation to journal literature as:

Free availability on the public internet, permitting any user to read, download, copy, distribute, print, Search, or link to the full texts of these articles, crawl them for indexing, pass them as data to software, or use, them for any other lawful purpose, without financial, Legal or technical barriers other than those inseparable from gaining access to the interest itself. The only Constraint on reproduction and distribution, and the only role for copyright in this domain, should be to give Authors control over the integrity of their work and the right to be properly acknowledged and cited.

In the recent times, there has been a proliferation in writings as well as advocacy in support of access to research outputs. This call for open access has been further echoed by advances in information and communication technology which has made access.

This call or open access has been further echoed by advances in information and communication technology which has made access information much easier than we have ever witnessed.

According to Akintade (2010), collections in IRs are organized into areas that would most likely be accessible by clients. Therefore different institutions organize their collections depending on their perceived understanding of need of their clients. The collections in the University of Jos Institutional repository for example are

organized into 'communities' of faculties and special areas. Thus, we have works of individual staff within the collections of their academic departments under their corresponding faculties, while University lectures stand as a separate collection. The lectures include convocation lectures, distinguished annual lectures, inaugural lectures and postgraduate open lectures. Journal publications of the respective department and faculties are placed accordingly, in their respective units. However, it is expected that feedback from the use of the Institutional repository and the need of clients will continue to guide the organization of the collections since the Institutional repository is essentially, client-centered.

The importance of studying institutional repository users is highlighted by Schmitz (2008), who notes that "understanding use [is] a pathway to sustainability". Through research into how institutional repositories are used and who uses them, they can be developed to provide a better utilized and more responsive service.

There is an emphasis on authors as depositors in the research literature regarding institutional repository users Schmitz, (2008) McKay, (2007). This probably reflects that when they are first deployed institutional repositories need to recruit relevant content to provide their services Thomas and MacDonald, (2007). However, depositors are not the only users of institutional repositories, and academics use repositories as both depositors and researchers. Rowlands (2004 and 2005) offers some insight into authors' attitudes to institutional repositories in their dual role as depositors and users.

Authors give conflicting views on certain aspects of scholarly publishing, particularly in relation to their satisfaction with their access to journals and their dissatisfaction with the cost and proliferation of journals. Authors like McKay and Schmitz report using their own website to host their output than those using a

repository. Differences seem to be mainly a product of the age of the author, with younger academics being more likely to be aware of and have positive views of open access and repositories. The most insightful discussion of repository users beyond authors is by McKay (2007), who addresses the usability of institutional repositories by three distinct user groups; Authors, Information Seekers and Data Maintainers. Of the three, McKay (2007) suggests Information Seekers (or end users/researchers) are most neglected in the literature, and if institutional repositories are to fully realise their potential then this must be addressed. In addition, McKay (2007) highlights the importance of search engines to institutional repositories; end users must be aware of the institutional repository's services in order to make use of them, and the most effective way of increasing visibility is via search engine indexing. Both McKay and Schmitz highlight the importance of knowing the status of repository in order to evaluate other aspects of the success of the repository, and that there may be users of repositories that administrators are currently aware

2.6 Challenges Associated with the Development and Use of Institutional Repositories in Nigeria

Development in information and communication technology has resulted in the emergence of open access institutional repository which is a digital archive for the preservation and dissemination of institutional research outputs. Institutional repositories make possible wide dissemination of research outputs by the means of the internet. The growth of open access institutional repositories has been very remarkable in many developed countries. However, academic and research institutions in many developing countries like Nigeria are still battling to overcome many challenging issues in attempt to make their research outputs openly accessible to users. Some of the issues identified in this which adversely militate against the

development and use of institutional repository in the country according to Christian (2008) are:

1. Most of the academic and research institutions in Nigeria are funded government.
2. These institutions continue to grapple with percentage decline in budgetary allocation.
3. Considering the fact that development of institutional repository in this part of the world is a capital intensive project, funding constitutes another major obstacle to the development of institutional repository in the country's institutions.
4. The low level of awareness of open access institutional repository in Nigeria is directly linked to issue of inadequate advocacy for open access in Nigeria. One of the best ways to promote the development of open access institutional repository in developing countries is through advocacy. Effective advocacy presupposes that the advocates or stakeholders are very familiar with the concept.
5. According to Gideon (2008), he highlighted some of the problems likely to be encountered in the course of developing an Institutional repository in Nigerian universities. The very first problem is the development of open access institutional repositories requires past and reliable internet connection as well as deployment of adequate information and communication technology infrastructure. The major point of internet access to students and staff at Nigeria universities is through internet cafes. A Study of internet usage in Nigeria universities by Jagboro (2003),

shows that 45.5 percent of the respondents access the internet through Internet cafes.

According to Jennifer (2011), with the growth in the Internet usage in Nigeria, the speed and reliability of the internet connections still possess a great deal of challenge to most of the institutions in Nigeria. Low internet bandwidth availability in the sub-Saharan African region posts an obstacle to the deployment of institutional repository. It has been observed that institutional repositories require reliable and fast internet connection since the common mode of availability of materials are in the form of PDF file. The high cost of internet bandwidth in developing countries makes it much difficult for academic institutions in the region to afford adequate bandwidth to host digital repositories.

The problem was well described by Mike (2006) as Bandwidth is the life-blood of the world's knowledge economy, but it is scarcest where it is most needed in the developing nations of Africa which require low cost communications to accelerate their socio-economic development. Few schools libraries, universities and research centers on the continent have any Internet access for those that can afford it, their costs are usually thousands of times higher than those of their counterparts in the developed world, and even Africa's most well-endowed centers of excellence have less bandwidth than a home broad band user in North America or Europe, and it must be shared amongst hundreds or even thousands of users. Another infrastructural problem as highlighted by Gideon (2008) and associated with internet connectivity in Nigerian academic institutions is the problem of electricity power supply. An institutional repository should be openly accessible 24 hours a day. This implies a sustained and regular electricity supply to power ICT facilities. Electricity supply is a major problem in developing countries like Nigeria.

Fatunde (2008) has observed that poor electricity supply is a major impediment to the operation and growth of information and communication technology in Nigerian universities. According to him only a trickle of daily electricity production dribbles erratically into the country's 93 institutions , Rendering ICT systems dysfunctions universities resort to diesel propelled generators, but they are expensive and environmentally unfriendly.

Nigeria produces about 2,500 megawatts a day of electricity; ten times less than its daily need. The extent to which this problem affects ICT projects in the Nigerian educational sector is self-evident. For example, in 2001 the National University commission (NUC) in Nigeria commenced development of virtual library project. The need for the project was to create a central digital repository that will assist the Nigerian university system in terms of acquisition of electronic resources to supplement the resources available in the individual university libraries. In order to deal with the problems of constant shortage of electricity power supply, the server for the project had to be located in far away United Kingdom thus resulting in much lighter cost of operation.

Lack of funding is another major problem experienced by developing countries institutions in their effort to establish digital repositories. As has been stunted above, the state of ICT infrastructure in academic and research institutions in developing countries like Nigeria is so low to sustain the development of institutional repositories. Hence a viable digital repository project will first require serial upgrading of the state of ICT facilities in many academic and research institutions in Nigeria. Having identified Institutional repository, The researcher intends to look at level of development and use in federal universities in Nigeria (north central).

2.7 Theoretical Frameworks

In this research diffusion of innovations theory will be used to model academic staff awareness and use of institutional repositories. DOI theory provides well-developed concepts and a large body of empirical results applicable to the study.

Diffusion of Innovations Theory

An institutional repository is a relatively new innovation as an information resource. The adoption of innovations is the focus of the Diffusion of Innovations (DOI) theory developed by Everett Rogers. Rogers' Diffusion of Innovations was first published in 1962 and the 5th edition was published in 2003. DOI Theory has been used by early adopters of institutional repositories to support the advocacy for and population of institutional repositories Jones et al. (2006)

Several key concepts from DOI theory are employed in this research and require explanation. According to Rogers (2003) "an innovation is an idea, practice, or object perceived as new by an individual or other unit of adoption" The concept of diffusion is defined as "the process in which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas". Several parts of the DOI theory have been used to provide a theoretical framework for the research design. DOI theory identifies five key attributes of an innovation that affect its rate of adoption - and it also concludes that certain persons labeled as change agents can positively affect an innovation's rate of adoption through their promotional efforts. People cannot realize they have a use for an innovation until they become aware of the new development and the benefit it provides (2003). This research is based on the assumption that academic staff are in a prime position to act as change agents in support of the adoption of IRs as a new information source. A change agent is "an

individual who influences clients' innovation-decisions in a direction deemed desirable by a change agency" (p.27). The change agencies in this research are the academic staff that are depositing in Institutional repositories as a new way of preserving and disseminating information about their institutional research.

The people within the academic community, including the librarians, postgraduate and undergraduate students make up the social system in which the IRs are innovation in the process of being diffused.

The first key attribute of an innovation is relative advantage, defined as "the degree to which an innovation is perceived as better than the idea it supersedes" (Rogers 2003).

Thus, the greater the perceived relative advantage of an innovation, the more quickly it will be adopted. It speaks on factors that may make adopting a practice advantageous over alternatives, including doing things.

Compatibility is "the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters". In other words, when an innovation is perceived as being compatible with the existing ways of, and reasons for, doing things, it will be adopted more quickly than one that is perceived as being incompatible. It concerns itself with a host of factors relating to the degree to which the practice is compatible to current objectives and philosophies of the program participant. Compatibility factors can be something as simple as not having the right resources.

Complexity is defined as "the degree to which an innovation is perceived to be difficult to understand and use". Thus when an innovation is perceived as being difficult to understand and hard to use, it will be adopted more slowly than any that are easy to understand and simple to use.

Trialability is “the degree to which an innovation may be experimented with on a limited basis”.

When potential adopters can try an innovation bit by bit, they will be able to see how it works and will adopt it more quickly than those innovations that cannot similarly be tested in small bits. It deals with the potential to experiment with the practice on a smaller, less intensive scale. The expectation is that if an owner can implement the new practice on a trial basis he or she can possibly even modify the potential practice further to meet their specific needs.

The final attribute, observability, is “the degree to which the results of an innovation are visible to others”. If a potential adopter can see the positive outcomes when an innovation is adopted by someone else, he or she will be more likely to adopt it himself or herself. The potential adopter has had the opportunities to see the practice implemented or see the results of the implemented practice.

According to Afolayan (2011), the rate of adoption is the relative speed with which members of a social system adopt an innovation. It is usually measured by the length of the time required for a certain percentage of the members of a social system to adopt an Innovation (Rogers 2003). DOI theory has relevance in this present age and will not likely lose its relevance thousand years to come. This is because new innovation/ ideas are daily occurrence and off course will continually be diffused so that people can adopt them. Take for example, the issue of GSM, it was viewed with skepticism at its introduction. The media was the first to swing into action; most print media wrote a lot of features on how it will be like when telecommunications start operation. Innovators and early adopters quickly grasp the opportunity when the operation started. They in turn encourage the opinion leaders and change agents who

saw to it that the innovation reaches the early and late adopters and finally before all and sundry adopted the innovation.

Strength and Weakness of Diffusion and Innovation Theory

The strength of a theory shows the positive value of the theory. DOI theory has the following strengths:

The ability of Rogers to review thousands of studies is a plus to the theory, Rogers successfully integrates a vast amount of empirical research, no wonder; the theory is still relevant in the present day situation.

DOI represents important advancement over earlier limited effects theory. It drew from existing empirical generalizations and synthesized them into coherent, insightful perspective. It was consistent with most findings from effects surveys and persuasion experiments and above all, it is very practical.

It laid foundation for numerous promotional communication and marketing theories and campaigns they support even till date.

The theory also provides practical guide for information campaigns in the United States and other places. The United States Agency for international Development (UNSAID) used its strategy to speed agricultural innovations in the third world.

Despite the explained strength of this theory, the weaknesses go a long way in reducing the power of the theory: one of such is that DOI theory is linear and sources dominated because it sees communication process from the point of view of elite who has decided to diffuse information or an innovation. This theory also underestimates the power of media. They mainly create awareness of the new innovations. It assigns a very central role to different types of people critical to the diffusion process. The theory simply says that the media influence everyone else. Rogers failed to realize

that the media can also be used to provide a basis for group discussions led by change agents.

The summary of the gap established from the theory is that despite the weakness of the theory in term of underestimating the power of media by mainly creating awareness of the new innovations, the strength go a long way in increasing the power of the theory, this is because Rogers successfully integrates vast amount of empirical research that is still relevant in today situation. Above all the theory is very practical. Staton and Liew (2011) used DOI to model student’s awareness and use of open access resources in their own research and found out that awareness of open access and institutional repositories is fairly low, even in research focused community of doctoral students. It also indicated that a greater percentage of the respondents used open access research services. Like Google scholar, so it is likely that they access open access materials from journals and repositories without realizing it.

2.7.1 Conceptual Framework

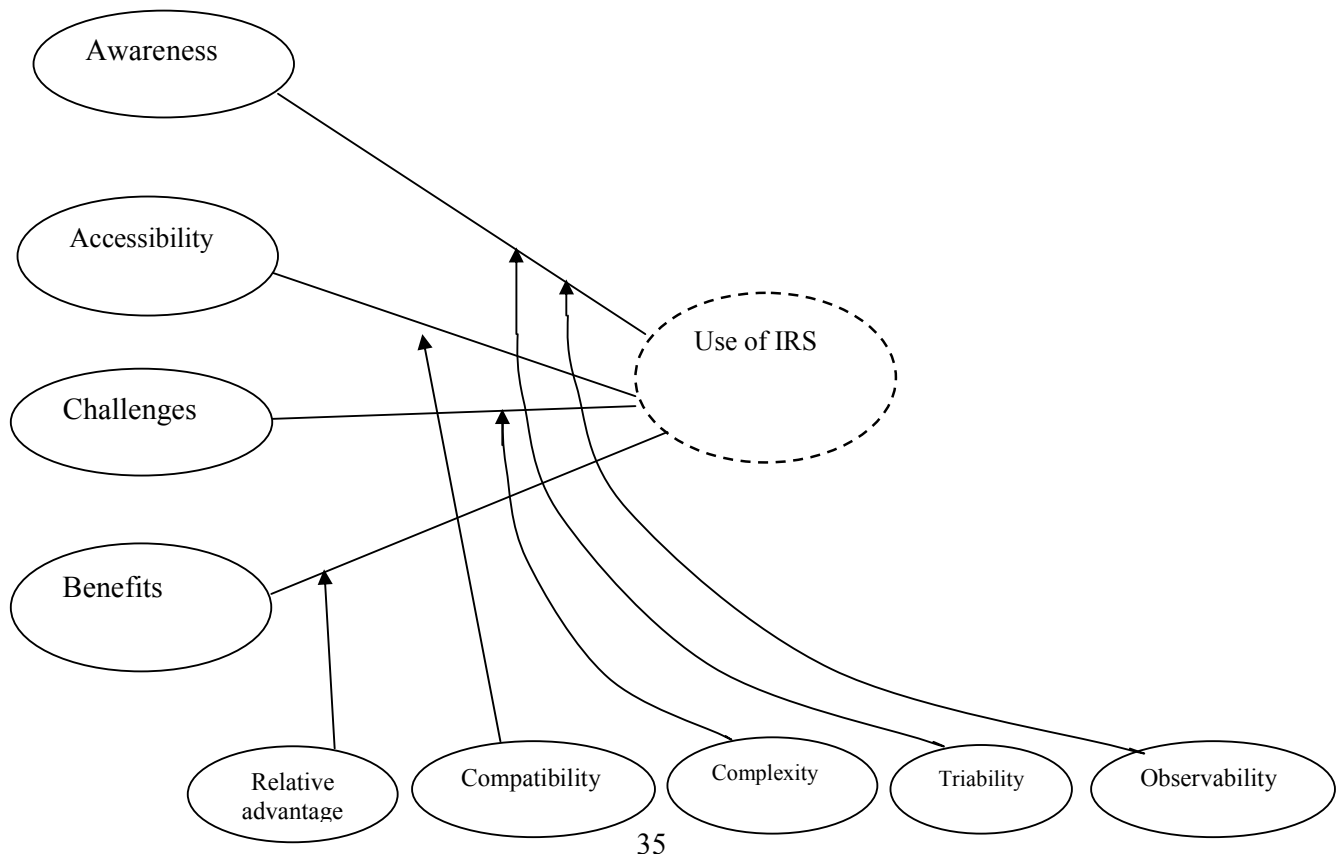


Fig 2. 1: Designed by the Researcher

The use of institutional repositories serves as a contributing factor in the development of scholarly collaboration among the academic staff in the federal university north central Nigeria. Institutional repository serves a platform for academic discourse and knowledge sharing.

The first key attribute of an innovation is relative advantages, defined as “the degree to which an innovation is perceived as better than the idea it supersedes’

Thus, the greater the perceived relative advantage of an innovation, the more quickly it will be adopted. This attribute is used in conjunction with benefit which is one of the variables of this research. When people perceived an innovation as better than the idea it supersedes they tend to adopt it quickly, therefore when academic staff perceived (IRS) as better than the traditional publishing, they tend to adopt it easily.

The second key attribute is compatibility is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters”. In other words, when an innovation is perceived as compatible with the existing ways of, and reasons for, doing things, it will be adopted more quickly than one that is perceived as being incompatible. The second key attribute which is compatibility is used in conjunction with accessibility. When the (adopter) academic staffs perceive the practice of Institutional repositories has been compatible with the objective of the institution, they tend to access it more quickly, as “the degree to which an innovation is perceived to be difficult to use.

The third key attribute is Complexity which is defined as the degree to which an innovation is perceived to be difficult to understand and use”. Thus when an

innovation is perceived as being easy to understand and to use, it will be adopted more quickly than any that are difficult to understand and to use.

When potential adopters can try an innovation bit by bit, they will be able to see how it works and will adopt it more quickly than those innovations that cannot similarly be tested in small bits. Complexity which was adopted from DOI theory is used in conjunction with challenges, this is because when an innovation (institutional repositories) is perceived as difficult to understand and adopter (academic staff) will not adopt it easily. But when innovations Institutional repositories is less complex, it will be adopted by academic staff easily and simple to use.

The fourth attribute which is Trialability is the degree to which an innovation may be experimented with on a limited basis. Trialability is used in conjunction with awareness, this is because when potential adopters (academic staff) try an innovation (IRs) bit by bit, they will be able to see how it works and others will be aware of the existence of Institutional repositories.

The final attribute, Observability is the degree to which the result of an innovation are visible to others. Observability is used in conjunction with the concepts of awareness, this is because if a potential adopter (academic staff) can see positive outcomes when an innovation (Institutional repositories) is adopted by someone else, academic staff are more likely to adopt it because awareness has taken place. The continuous exposure to institutional repositories as related to the new idea/innovation would go a long way in convincing an individual (academic staff) to confirm and adopt the innovation. This is in line with the variable of the theoretical framework which serves as a guiding principle for the research. These five attributes were modified from Rogers' five theory used in this research.

2.8 Summary of the Review and Gaps Established Based on the Literature Review

This section summarizes the points that have been discussed in the review of the related literature on the topic of the research. The review started with the historical development of institutional repositories and the review found out that the ultimate success of institutional repositories will depend on the ability of users and managers to understand their differing objectives.

More so, the significance and importance of institutional repositories were examined and explained and it is discovered that institutional repository is a source or system that facilitates the capture, storage, preservation and dissemination of the intellectual output of an institute in electronic form. Also Fati, (2010) expatiate on centralization, preservation, accessibility as the importance of institutional repositories.

The review also examined the awareness of user toward the development and use of institutional repositories. Lack of awareness of open access institutional repositories among researchers and academics in the country's academic and research institutions.

Inadequate information and communication technology infrastructure. A major problem in this area is the high cost of internet bandwidth in the region. This cost results from the use of satellite infrastructure for internet connection as opposed to much efficient and cheaper fiber optic infrastructure. There is also the problem of inadequate and epileptic electricity supply to power ICT facilities in academic institutions.

The review equally discussed the accessibility and utilization of Institutional repositories by academic staff, the user of institutional repositories are as wide as the

internet users. Usage of every developed institutional repository is not limited to those with direct affiliations to the institution that owns the repository; it can be used by all and sundry.

Finally, the review equally discussed the problem and challenges associated with the development and use of institutional repositories. A study by Christian (2008) shows that academic and research institutions in many developed countries like Nigeria are still battling to overcome many challenging issues in an attempt to make their research outputs openly accessible. Some of those problems include; lack of awareness of open access institutional repositories, inadequate information and communication technology infrastructure, inadequate funding, etc.

The role institutional repositories (IRs) play in the preservation and dissemination of scholarly researchers are enormous. Gideon (2008) stated that the open access movement emerged in response to increasing legal and economic barriers by commercial scholarly publishers which made access to research output and information at faculty especially to people in developing countries of the world.

Thus the movement sought to promote free and open access to research output devoid of any permission barriers and unnecessary legal restraints. The open access movement therefore seeks to use the internet a product of the networked information economy to provide freed access to research and scholarly output to people irrespective of their physical or geographical location or their social and economic mean.

Related research works have been carried out on issues and challenges associated with the development and the use of institutional repository, home and abroad. The uniqueness of this research work is that, a gap has been created between the research work and other related work, due to the recent developments, especially

the use of (ICT) information communication technology in the management of institutional repository.

The review of relevant literature pointed out the fact that institutional repository play vital role in research and educational development, because it serves as viable tool for information dissemination and sharing of latest information between scholars and professionals. The researcher also consulted several works of authors which were not mentioned in previous studies.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discussed the methodology of the study, which explains the fieldwork pattern of this research work. The section also explain the population of the study, sample size, source of data collected, types of data collected, sampling technique procedure, questionnaire administration, validity of the instrument, problems of data collected and method of data analysis. The methodology used for the study was quantitative research methodology.

3.1 Research Design

This research study adopted the cross sectional survey research design Oyedun,(2011) stated that surveys are used extensively in library and information science to assess attitudes and characteristics of a wide range of subjects and is used when a researcher wants to collect data on phenomena that cannot be directly observed(such as opinion in library services). Cross sectional studies are descriptive studies that involve data collection from a population, or a representative subset, at one specific point in time. They aim to provide data on the entire population under study. (Wikipedia.org/wiki /cross-sectional study). The purpose of cross sectional studies is to find the prevalence of the outcome of interest, for the population or subgroups within the population at a given time point.

3.2 Population of the Study

There were two different types of population for this study- the secondary and primary populations. The secondary population Comprised 2720 academic staff of the

selected federal universities, there were a total of six(6) Federal Universities in the North Central Zone of Nigeria. While the primary population for the study comprised all the academic staff of the selected three federal universities.

. This is reported in table 3.1 and 3.2 below-

Table 3:1 List of Federal universities in the North central zone

S/NO	Name of Universities	Location	Status	Year Founded
1	University of Agriculture	Makurdi, Benue State	Federal	1988
2	Federal University of Technology, minna.	Minna, Niger State	Federal	1982
3	Federal University, Lafia	Lafia, Nasarawa State	Federal	2011
4	Federal University, Lokoja	Lokoja, Kogi State	Federal	2011
5	University of Jos	Jos, Plateau State	Federal	1975
6	University of Ilorin	Ilorin, Kwara State	Federal	1975

Source: Nigeria University commission (NUC), 2013

3.3 Preliminary Study

The researcher undertook a preliminary survey of federal universities selected for this study at different dates in North Central Zone of Nigeria. The purpose of the visit was to find out the actual population of academic staff in each of the respective university and to also find out the existence of Institutional repository in their institutions, it was discovered that university of Jos has Institutional repository while university of Ilorin and university of technology minna have developed their IRs though are not made available online (intranet). The result of my visit is indicated on table 3.1 above.

Table 3:2 the population of the academies staff of the three (3) selected federal universities.

S/No	Name of University	Location	Status	Type	Population of Academic Staff	Sample
1	University of Ilorin	Ilorin, Kwara state	Federal	Conventional	1004	100
2	University of Jos	Jos, Plateau State	Federal	Conventional	894	89
3	Federal University of Technology Minna	Minna, Niger State	Federal	Special	822	82
Total					2720	271

3.4 Sampling Procedures

This section discussed the sampling procedures used for the study

3.4.1 Sampling Techniques

Since the study was based on availability of institutional repositories all the three universities, university of Ilorin, university Jos, federal university of technology Mina, that indicated they have institutional repositories(as observed from the preliminary survey carried out) were involved in this study. There is therefore no need for application of any sampling technique to select the study areas.

However in view of the large population of academic staff there was the need to sample out some of the academic staff for the study.

Thus, proportionate sampling technique as suggested by Creswel (2009) was used to select the research subjects.

3.4.2 Sample size

Based on the result of the preliminary survey carried out for this study 2,720 academic staff were presently working in the three Federal Universities selected for the study. 10% academic staff, taking a clue from Kerlinger's (1986) large sample theory, were selected from each of the universities for the study. The respondents selected from the institutions are as follows: one hundred (100) respondents from the University of Ilorin, eighty nine (89) from University of Jos while eighty-two (82) was selected from Federal University of Technology, Minna making a total number of two hundred and seventy-one (271) administered.

3.5 Data Collection Instrument

The main research instrument used to collect data for this study was questionnaire, which was designed by the researcher. In other words, it is a self-designed questionnaire (SDQ), It is also reliable because it provided accurate information about the data collected.

Apart from the above advantages, other advantages of questionnaire, as a research instrument, as stated by Ifidon and Ifidon (2007) include:

- i. Elimination of research bias because of its efficiency in data collection.
- ii. Its usefulness for obtaining opinion of judgments from a large population.

The above advantages amongst other factors also necessitated the researchers' intention to use the questionnaire for this research. The questionnaire was divided into five sections:

Section A: Demographic Characteristics of the Respondents with six (6) Questions.

Section B: Availability and awareness of institutional repository with Eleven (11) Questions.

Section C: Accessibility and utilization of institutional repository with Eighteen (18) Questions.

Section D: Benefits and challenges of using institutional repository with Eight (8) Questions.

Section E: Diffusion of innovation of institutional repository with Twelve (12) Questions.

3.6 Validity of the Instrument

The researcher validated the instrument by sending the research questions, statement of the problem and questionnaire to experts in the areas of librarianship, IT, research methodology and statistics in order to validate the instruments. Their suggestions were used to improve upon the items and structure of the instrument.

3.7 Reliability of the instrument

To further validate the instrument, the reliability of the instrument was tested. Fifty copies of the questionnaire were administered to academic staff of University of Abuja. Responses of the academic staff were analysed using Cronbach's alpha for reliability test, the findings showed that all the items and variables on the instruments had alpha value between 0.6-0.9. This showed that all the items were within the acceptable region of reliability.

3.8 Administration of Research Instrument

The researcher personally administered the instrument with the help of research assistants. Due to time, the researcher decided to employ two (2) research assistants to assist in administering the questionnaire to each university. The researcher personally visited institutions to collect the completed copies of the questionnaire from the respondents. This ensures optimum responses and on the spot

clarification of issues between the researcher and the respondents. In addition, the approach also assisted the researcher in obtaining some information which the questionnaires may not have revealed.

According to Best and Khan (1989) “Questionnaire administered personally to a group of individuals has advantages as the person administering the instrument explains the meaning of items that may not be clear”. The availability of the number of respondents in one place therefore, makes possible an economy of time and expenses and provides a high proportion of usable responses.

3.9 Method of Data Analysis

The data collected from the field was analyzed using descriptive and inferential statistics. Descriptive statistics was used in order to organize the data using frequency distribution table. While the inferential was used to make inference of the data collected and draw conclusion using chi-square to test relationship or association. According to Ekott (2006), chi-square is very significant to the study because the testing is used to measure the differences between what is observed and what is expected.

The decision about which test to use in any research is based on the type of experiment and the information sought from the statistical analysis (Keller, 2003). Since this study is interested in discovering the relationship between two variables, descriptive and inferential statistics were employed. Descriptive statistics otherwise known as non-parametric statistics are those mathematic tools which are often used for describing observed events which are non-probabilistic. In effect, it uses numerical techniques to gather and summarize data using frequency and percentages. On the other hand, inferential statistics is working with selected representatives or a sample of the population. Data is therefore collected from the

sampled population. In this case it is the awareness and use of institution repositories among academic staff in north central Nigeria.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter deals with the analysis of data obtained from field survey, test of hypotheses and discussion of findings. The analyses of data collected are presented in table of frequencies and percentages under the following sub-headings:

4.1 Response rate

4.2 Descriptive statistics

4.2.1 Respondents personal information

4.3 Availability and Awareness of Institutional repository

4.4 Accessibility and Utilization of institutional repository

4.5 Benefits and challenges of institutional repository

4.6 Level of Adoption of Institutional Repository

4.7 Inferential statistics

4.8 Relationship between availability and utilization of institutional repository

4.9 Relationship between accessibility and Utilization

4.10 Discussion of findings

4.1 Response Rate

In the course of the investigation two hundred and seventy-one (271) copies of questionnaire were administered to the respondents selected from the federal universities in North Central Zone of Nigeria, out of which (210) two hundred and ten copies of questionnaire representing 77.5% were retrieved and found usable While, (61) sixty –one copies of questionnaire representing 22.5% were not returned. The

high response rate from the study was attributed to the follow up made by the researcher and this response rate was adequate enough to use for analysis in a survey research.

Table 4.1 Response Rate

s/n	University	Administered Questionnaires		Returned Questionnaires	
		Number	%	Number	%
1	University of Jos	104	38.37%	77	36.66%
3	University of Ilorin	95	35.05%	75	27.67%
4	Federal University of Technology Minna	62	22.87%	51	18.81%
	Total	271	100	210	77.5%

SOURCE: - Field Work, 2014

Table 4.1 shows the copies of questionnaire administered and the response rate of returned copies of questionnaire. Less than half 104 (38.37%) copies of questionnaire were distributed to University of Jos, only 77 (36.66%) were returned and found usable. This followed 95 (35.05%) copies of questionnaire were distributed to University of Ilorin, However, only 75(27.67%) were returned. And 62 (22.87%) copies of questionnaire were distributed to FUT Minna but only 51 (18.18%) were returned and found usable. From the above table it can be deduced that there were a total of 210 (77.5%) copies of questionnaire returned and found usable for the analysis of the study.

4.2 Descriptive Statistics

This section analyzes or discusses the data collection for the study with respect to the research questions raised in the study.

4.2.1 Personal data analysis

The following tables and analyses present data of the respondents:

Table 4.2 AGE DISTRIBUTION OF THE RESPONDENTS

AGE GROUP	FREQUENCY	PERCENTAGE %
25 - 30 Years	30	14.3%
31 – 35 Years	30	14.3%
36 – 40 Years	52	24.8%
41 - 45 Years	26	12.4%
46 -50 Years	40	19.0%
Above 51 Years	32	15.2%
Total	210	100%

Table 4.2 shows the age distribution of the respondents. Less than half 52 (24.76%) of the respondents were between 36-40 years of age. This is followed by 30(15.7%) of the respondent were between 25-30 and 31-35years of age respectively. While, 40 (19.04%) of the respondents were between the age of 46-50years of age, and 32(15.23%) of the respondents were 51 and above years. It can be seen that majority 112 (53.33%) of the respondents under study were between the age of 25-40years of age. This shows that academic staffs under study are still within their productivity years which will allow them adopt the new technology in their teaching and research activities.

Table 4.3 genders of respondents

AGE	FREQUENCY	PERCENTAGE %
MALE	138	65.71%
FEMALE	72	34.3%
TOTAL	210	100%

Table 4.3 shows the gender distribution of respondents. Majority 138(65.71%) of the respondents were male while 72 (34.28%) of the respondents were female. The

findings of this study are in line with majority of findings in Nigeria. In terms of gender male are always more in number than the female due to domestic engagement and activities.

Table 4.3 educational backgrounds of the respondents

QUALIFICATIONS	FREQUENCY	PERCENTAGE %
Doctorate Degree	36	17.1%
Masters	85	40.5%
Bachelor Degree	89	42.4%
TOTAL	210	100%

Table 4.3 above indicates the educational background of the respondents; less than half 85(40.47%) of the respondents had master degree, followed by 89(42.38%) with Bachelor Degree. While 36 (17.14%) had PhD. This means that majority 174 (82.85%) of the respondent had bachelor and masters degree. This implies the federal universities under study need to be more proactive in sending their staff for further studies.

Table 4.4 computer skills?

OPTIONS	RESPONSES	PERCENTAGES
EXCELLENT	10	4.8%
VERY GOOD	25	11.9%
GOOD	25	11.9%
POOR	52	24.8%
FAIR	98	46.6%
TOTAL	210	100%

Table 4.4 shows the level of computer skill of the respondents; less than half 98 (46.6%) had fair skills in computer operation. This is followed by 52 (24.8%) who indicated that their skills were poor. While 25 (11.9%) each indicated that their skills were very good and only 10 (4.8%) indicated that their skills were excellent. This

shows that majority 150 (71.42%) of the respondents had poor skills in computer operation. Therefore, the universities under study need to provide adequate training on the use of computer in order to enable their staff use the institutional repository effectively.

4.3 Section b: Availability and Awareness of Institutional Repository

Respondents were asked to indicate whether their university had the availability of institutional repositories.

Table 4.5 Level of availability

OPTIONS	RESPONDENTS	PERCENTAGES%
Highly available	29	13.9%
Available	53	25.2%
Moderately available	78	37.1%
Fairly available	50	23.8%
Total	210	100%

Table 4.5 shows that, less than half 78 (37.1%) of the respondents had indicated the level of availability of institutional repository is moderately available, followed by 53(25.2%) that indicated it is available, while 50 (23.8%) indicated that level of availability is fair and only 29 (13.9%) indicate the level of availability was high. This implies that less than half of the university indicated the level of availability was moderately available.

Respondents were asked who provide the availability and hosting of institutional repositories in their institutions.

Table 4.6 Provision and hosting of Institutional repository

OPTIONS	RESPONDENTS	PERCENTAGES %
University Authority	50	23.9%
Library	120	57.1%
Non- Government Organization (NGO)	Nil	-
International donors	Nil	-
National university commission (NUC)	Nil	-
Ministry of Education	Nil	-
Philanthropist	Nil	-
I don't know	40	19.0%
Total	210	100%

Table 4.6 shows who provided and host the institutional repositories by the federal universities under study. More than half 120(57.1%) of the respondents indicated Library who provide and host the institutional repositories in their universities, while 50 (23.9%) indicated that it was the University authority who provides and host the institutional repository in their universities while 40(19.0%) respondent indicate they do not know.

Respondents were asked whether they are aware of institutional repository in their universities.

Table 4.7 Awareness of Institutional repository

OPTIONS	RESPONDENTS	PERCENTAGES %
Yes	130	61.9%
No	80	38.0%
Total	210	100%

Tables 4.7 clearly indicate the respondent's awareness of institutional repository. More than half 80 (38.0%) of the respondents indicates that they are not aware of

institutional repository, while 130(61.9%) indicates that they are aware of institutional repository. This shows that more than half of the federal universities under study are not aware of institutional repository.

Respondents were asked if they are aware of institutional repository and how they get the awareness in their institutions.

Table: 4.8: Method of awareness

OPTIONS	RESPONDENT	PERCENTAGES %
Through friends/colleagues	20	9.5%
Through the university bulletin	10	4.8%
Through the university library	85	40.5%
Through the university website	15	7.1%
I don't know	80	38.1%
Total	210	100%

Table
4.8
shows
how
those
respond
ents that

indicate yes to institutional repository get their awareness. More than half 80(38.1%) of the respondents indicate they don't know how they get awareness of institutional repository while 85 (40.5%) of the respondent get their awareness through the university library follow by 20 (9.5%) who get their awareness through friends and colleagues while 10 (4.8%) get awareness through the university bulletin. This shows that majority of the respondents in federal universities north central did not know how they get awareness of institutional repository.

Respondents were asked who is responsible for providing awareness on the availability institutional repository in their institutions.

Table: 4.9 Responsibility for providing awareness

OPTIONS	RESPONDENT	PERCENTAGES %
University authority	50	23.8%
University Library	87	41.4%
Academic Staff Union of the Universities	Nil	-
Centre for information technology	10	4.8%
I don't know	63	30%
Total	210	100%

Table 4.9 shows those who are responsible for providing awareness on the available institutional repository in their institution more than half 63 (30%) of the respondents indicate that they do not know while 87 (41.4%) said university library follow by 50(23.8%) who said university authority is responsible for providing awareness on the available institutional repository in their institution and 10(4.8%) of the respondents indicate centre for information technology. This indicates that university library and university authority are the majority that provide awareness of institutional repository. Respondents were asked the type of awareness method their institution adopted in providing awareness of institutional repository.

Table 4.10 Type of awareness method

METHOD	RESPONDENT	PERCENTAGES %
Brochures and poster	36	17.1%
Advertisement on the library website	39	18.6%
Briefing paper	Nil	-
University Bulletin	72	34.3%
Others (Specify)	-	-
I don't know	63	30%
Total	210	100%

Table 4.10 shows the type of awareness method adopted by the institutions under study. More than half 63 (30%) of the respondents said they do know the type of awareness method their institution adopted in providing awareness while 72 (34.3%) get awareness through university bulletin follow by, 39(18.6%) who indicate that their institution use advertisement on the library website as method of awareness and 36(17.1%) indicate brochures and poster as the method of awareness their institution adopted.

This show that the universities under study need to intensify or create more awareness method.

Respondents were asked to rate the level of their awareness with regards to institutional repository available in their institution.

Table 4.11 Level of awareness

OPTIONS	RESPONDENT	PERCENTAGES %
Highly aware	57	27.1%
Aware	43	20.5%
Not sure	32	15.2%
Unaware	78	37.1%
Total	210	100%

Table 4.11 shows the respondents who rate the level of awareness with regards to institutional repository available in their institution 57 (27.1%) respondent were highly aware follow by 43 (20.5%) indicate that they are aware, 78 (37.1%) indicate they unaware and 32 (15.2%) indicate they are not sure. This shows that majority of the respondents are completely not aware of institutional repository.

Respondents were asked who develop and manage the institutional repository of their institution.

Table: 4.12 Development & management of IR

OPTIONS	RESPONDENT	PERCENTAGES %
University library	98	46.7%
Centre for information technology	52	24.8%
Commercial and ICT Vendors	15	7.1%
Non Governmental Organizations	Nil	-
International donors and philanthropist	Nil	-
I don't know	45	21.4
Total	210	100%

Table 4.12 shows the opinion of the respondents about who develop and manage the institutional repository in their institutions. Less than half 98 (46.66%) of the respondents indicates university library, follow by 52 (24.76%) who indicates centre for information technology while 45 (21.4) indicate I don' not and 15 (7.14%) of the respondents indicates commercial and vendors. This shows that less than half of the respondents are not familiar with institutional repository.

4.4 Section c: accessibility and utilization

Respondent were asked whether they have access to the institutional repository available in their institution.

Table4.13 Access to institutional repository available

OPTIONS	RESPONDENT	PERCENTAGES %
Yes	140	66.7%
No	70	33.3%
Total	210	100%

SOURCES – FIELD SURVEY 2014

Table 4.13 shows whether the respondents has access to institutional repository available, majority 140 (66.7%) indicated Yes while 70 (33.3%) indicated No. This show that less than half of the respondents did not have access to institution repository available in their institutions.

Respondents were asked where they normally get access to the institutional repository available in their institution.

Table 4.14: Point of access

OPTIONS	RESPONDENTS	PERCENTAGES %
University library	85	40.5%
ICT-Centre	15	7.1%
MIS Unit	Nil	-
Computer Centre	18	8.6%
Through modem on my personal computer	42	20%
I don't know	50	23.8%
Total	210	100%

Table 4.14 shows where the respondents always get access to the institutional repository that is available. Less than half 85 (40.5%) of the respondents indicates university library. Follow by 50 (23.8%) of the respondents who indicate they do not know while 42 (20%) of the respondents indicate through modem on their computer while 18 (8.6%) of the respondents indicate through computer centre and 15(7.1%) indicate ICT-centre as where they get access to the available institutional repository in their institution. This still signify that less than half are not familiar with institutional repository.

Respondents were asked to rate the level of accessibility of institutional repository in their institution.

Table 4.15 Level of accessibility

OPTIONS	RESPONDENTS	PERCENTAGES %
Highly accessible	20	9.5%
Accessible	35	16.7%
Moderately accessible	50	23.8
Poorly	30	14.3%
I don't know	75	35.7%
Total	210	100%

Table 4.15 In assessing the access of academic staff to institutional repository in their respective institutions ,75 respondents representing 35.7% have no access,50 respondents representing 23.8% had moderate access to institutional repository the accessibility of 30 respondents being 14.3% was poor, just 35 people representing 16.7% claimed to have access to institutional repository, while 20 respondents representing 9.5% are highly accessibly to institutional repository. Judging from the above analysis, access to institutional repository is low, and there is need to create more awareness about this subject matter.

Respondents were asked the strategy they used in accessing the institutional repository in their institution.

Table 4.16 Strategy used in accessing

OPTIONS	RESPONDENTS	PERCENTAGES %
Through the use of search engines	62	29.5%
Through the use of library's web page	75	35.7%
Through the use of offline databases	33	15.7%
I don't know	40	19.0%
Total	210	100%

Table 4.16 Indicate the strategy used in accessing institutional repository in federal universities under study. More than half 75 (35.7%) of the respondents indicate through the use of Library's web page while 62 (29.5%) indicate the use of search engines, follow by 40 (19.0%) respondents who indicate they do not know while 33 (15.7%) of the respondents use offline data bases as the strategy used in accessing institutional repository in their institutions. This indicate that less than half of the respondents did not know the strategy used in accessing Institutional repository.

Respondents were asked how frequent they access the institutional repository in their institutions.

Table4.17: Frequency of accessing institutional repository.

OPTIONS	RESPONDENTS	PERCENTAGES %
2-5 hours a day	30	15.7%
10 hours a week	25	11.9%
4 times a month	15	7.14%
Once a month	60	28.6%
Not all	80	38.1%
Total	210	100%

Table 4.17 indicate the strategy used in accessing institutional repository in federal universities under study more than half 80 (38.1%) of the respondents indicate not at all, follow by 60 (28.6) Of the respondents who indicate once a month, while 30 (15.7%) indicate 2-5 hours a day and 30(15.7%) who indicate 2-5 hours a day and 15 (7.14%) who indicate 4 times in a month. This reveals that more than half of the respondents did not create time to access the institutional repository in their in institutions.

Respondents were asked whether they use the institutional repository available in your Institutions.

Table 4.18: Used of institutional repository

OPTIONS	RESPONDENTS	PERCENTAGES
Yes	83	39.5%
No	127	60.5%
Total	210	100%

Table 4.18 indicates the use of institutional repository available in their institutions. More than half 127 (60.5%) of the respondents indicate No, while 83 (39.5%) indicate no to the question. This indicates that most of the respondents did not use the available institutional repository in their institution.

Respondents were asked if they normally use the Institutional repository in their institutions.

Table 4.19: Where do you use the Institutional repository

OPTIONS	RESPONDENTS	PERCENTAGES %
University Library	30	14.3%
ICT-Centre	20	9.5%
MIS-Centre	Nil	-
Computer Centre	12	5.7%
Through modem on my personal computer	21	10%
No responses	127	60.5%
Total	210	100%

Table 4.19 shows the opinion of the respondents on where they use the institutional repository in their institutions. More than half 127 (60.5%) Of the respondents indicate no responses, follow by 30(14.3%) of the respondents indicate university library while 20 (9.5%) indicate ICT-centre while 21 (10%) indicate modem on their personal computer respectively, while 12 (5.7%) indicate Computer-Centre as where they use institutional repository. This shows that more than half of the respondents do not use institutional facilities in their institutions.

Table 4. 20: Type of Resources used

OPTIONS	RESPONDENTS	PERCENTAGES %
Research report	9	4.2%
Journal publications	35	16.6%
Conference publications	34	16.1%
Thesis/Dissertation	52	24.8%
Not at all	81	38.6%
Total	210	100%

Table 4.20 indicates the type of resources used in the institutional repository .More than half 81 (38.6%) of the respondents indicate Not at all while 52 (24.8%) of the respondents indicate thesis/Dissertation follow by 35 (16.6%) of the respondents who indicate journal publications while 34 (16.1%) of the respondents indicates conference publications and 9 (4.2%) of the respondents indicates research report. This indicates that more than half of the respondents do not use any resources in the institutional repository, which is not encouraging.

Respondents were asked if they are satisfied with Institutional repository of their institutions.

Table 4.21: Satisfaction with use of IR

OPTIONS	RESPONDENTS	PERCENTAGES %
Highly satisfied	Nil	-
Satisfied	54	25.7%
Not satisfied	46	21.9%
Not very satisfied	80	38.1%
I don't know	30	14.3%
Total	210	100%

Table 4.21 shows the level of satisfaction of the respondents more than half 80 (38.1%) of the respondent indicates not very satisfied while 54 (25.7%) of the respondents indicate satisfied follow by 46(21.9%) who indicate not satisfied, while 30 (14.3%) indicates they do not know. This reveals that it is difficult to measure user’s satisfaction because of low awareness.

Respondents were asked about the effectiveness of institutional repository in their institution

Table 4.22 Effectiveness of IR

OPTIONS	RESPONDENTS	PERCENTAGES %
Very effective	23	11.0%
Effective	32	15.2%
Not effective	44	21.0%
Not very effective	50	23.8%
I don’t know	61	29.0%
Total	210	100%

Table 4.22 shows the effectiveness of institutional repository as an information services. Less than half 61 (29.0%) of the respondents indicate they don’t know while 50 (23.8%) indicate not very effective follow by 44(21.0%) who indicate not effective while 32 (15.2%) of the respondents indicates effective and 23 (11.0%) indicates very effective. Based on the above submission of the respondents less than half of the respondents cannot readily measure the effectiveness of institutional repository as information service delivery.

Respondents were asked if they use the institutional repository to deposit any of their word

Table 4.23 Use of Institutional repository to deposit work

OPTIONS	RESPONDENTS	PERCENTAGES %
Yes	140	66.7%
No	70	33.3%
Total	2109	100%

Table 4.23 shows the respondent rate of those who used the institutional repository to deposit any of their work. Majority 140(66.7%) of the respondents indicate Yes while 70(33.3%) of the respondent agreed not to have used institutional repository to deposit their materials. This indicate that less than of the respondents do not deposit their work in the institutional repository to enhance global visibility.

Respondents were asked if yes, what kinds of materials, do they deposit in the institutional repository.

Table 4.24: Material/ publication deposit in the repository

OPTIONS	RESPONDENTS	PERCENTAGES
Research papers	43	20.5%
Conferences papers	25	11.9%
Teaching materials	20	9.5%
Theses/dissertations	52	24.8%
Technical reports	Nil	-
Not at all	70	33.3%
Total	210	100%

Table 4.24 shows the kinds of material publication deposit in the repository. Majority 70 (33.3%) of the respondents indicate not at all while 52 (24.8%) indicates theses/

dissertations follow by 43 (20.5%) of the respondents who indicate research papers.25 (20.5%) of the respondents indicate conferences papers and 20 (9.5%) indicates teaching materials respectively. This shows that less than half of the respondents are yet to deposit there materials on Institutional repository.

Respondents were asked how often they deposit their work into the repository.

Table4.25: Deposition of Materials

OPTIONS	RESPONDENTS	PERCENTAGES%
Very frequently	42	20%
Frequently	35	16.7%
Rarely	61	29.0%
Not at all	72	34.3%
Total	210	100%

Table 4.25 shows how often the academic staffs of federal universities deposit their work in to their institutional repository. More than half 72 (34.3%) of the respondents indicate not at all while 61 (29.0%) indicates rarely, follow by 42 (20%) who indicate very frequently, while 35(16.7%) of the respondents indicate frequently. The table above shows that majority of the respondents have not been sending their materials on IR.

Respondents were asked who is responsible for uploading their work/publication unto Institutional repository.

Table 4.26: Responsibility of uploading

OPTIONS	RESPONDENTS	PERCENTAGES%
Myself	35	16.7%
Staff in the university library Staff in the ICT center	65	30,9%
Friends and Colleagues	35	16.7%
Others (specify)	Nil	-
I don't know	75	35.7%
Total	210	100%

Table 4.26 shows who is responsible for uploading publication /work unto the institutional repository. Less than half 75(35.7%) of the respondents indicates they do not know while 65 (30.9%) indicate staff in the university library and staff in the ICT center, follow by 35 (16.7%) who indicate myself and friends and colleagues. This shows that less than half of the respondent deposits their work through friends and colleagues.

Question17: The respondents were asked to choose from the following options Strongly Disagree (SDA), Disagree (DA), Undecided (D) Agree (A) Strongly Agree (AS)

Table 4.27

Statement	1SDA	%	2DA	%	3UD	%	4A	%	5SA	%	TOTAL	PERCENTAGES
Awareness with IR is helping my institution to organize and store the publications of the staff.	35	16.7	19	19.0	3.5	16.7	35	16.7	65	31.0	210	100%
A awareness of the IR is making my publication to be known in the university community.	44	21.0	45	21.4	20	9.5	26	12.4	75	35.7	210	100%
Awareness of IR has encouraged scholars to publish more and patronize the institution's library.	40	19.0	41	19.5	22	10.5	27	12.9	80	38.1	210	100%
The availability of IR has increased the library resources of my institution.	25	11.9	15	7.14	20	9.5	70	33.3	80	38.1	210	100%
Availability of IR has increase the research profile of my institution.	15	7.14	25	11.9	45	21.4	55	26.2	70	33.3	210	100%
Availability of I.C.T infrastructure will improve storage and retrieval of information from IR.	20	9.5	35	16.7	20	9.5	50	23.8	85	40.5	210	100%
Access to IR makes enquiry about subject matter faster.	20	9.5	20	9.5	2f5	11.9	85	40.5	60	28.6	210	100%
Access to IR by users is sometimes delayed due to poor connectivity.	25	11.9	20	9.5	30	14.3	70	33.3	65	31.0	210	100%
Access to IR will enhance research and development.	15	7.14	30	14.3	18	8.6	75	35.7	72	34.	210	100%
Utilization of IR will facilitates 2information sharing among academic staff.	20	9.5	22	10.5	10	4.8	83	39.5	75	35.7	210	100%
The use of IR has reduced the interaction of the scholars with the library staff.	45	21.42	44	21.0	24	11.4	47	22.4	50	23.8	210	100%
The use of IR will make colleagues to criticize my work.	38	18.1	19	9.05	16	7.62	64	30.5	73	34.8	210	100%
The benefit of IR is that it will improve usage.	14	6.67	15	7.14	40	19.0	66	31.4	75	35.7	210	100%
IR has a great positive impact on the growth of this institution.	55	16.7	32	15.2	25	9.0	43	1.90	55	25.2	210	100%
user enjoy prompt and efficient services	30	14.3	36	17.1	22	10.5	50	23.8	72	34.3	210	100%

delivery												
One of the challenges of IR is that to retrieves information is time consuming.	20	9.5	18	8.57	15	7.14	75	35.7	82	39.0	210	100%
Users are sometimes delayed due to poor connectivity.	25	9.0	42	15.27	32	11.6	76	27.63	100	36.36	210	100%
There is a need to improve the services rendered by the institutional repository.	23	8.36	25	9.0	20	7.2	85	31	112	40.72	210	100%

4.5 Section D: Benefits and Challenges

Respondents were asked about the benefits derived from uploading their work unto the Institutional repository.

Table 4.28: Benefits of uploading your work

OPTIONS	RESPONDENTS	PERCENTAGES %
Yes	99	47
No	111	53
Total	210	100%

Table 4.28 shows the benefits derive from uploading work unto the institutional repository. More than half 111 (53%) of the respondents indicate No, to the benefits derived why 99 (47%) of the respondents indicate Yes. This indicates that majority of the respondents did not know the benefits of uploading unto institutional repository.

Respondents were asked about the specific benefits one stand to derive from using the Institutional repository.

Table 4.29 Specific benefits derive

OPTIONS	RESPONDENTS	PERCENTAGES %
Monetary benefits	60	28.6%
Research funds	43	20.5%
Reaching wider audience	72	34.3%
Personal recognition	35	16.6%
Others (specify)	Nil	-
I don't know	66	31.4%
Total	210	100%

Table 4.29 shows the specific benefits they stand to derived from using institutional repository. More than half 66 (31.4%) of the respondents indicates they do not know, while 72 (34.3%) indicate reaching wide audience, follow by 60 (28.6%) who indicates monetary benefits, while 43 (20.5%) of the respondents indicates research

fund while 35(16.6%) indicates personal recognition. This indicates that less than half of the respondents did not know the derivable benefit of using institutional repository.

Respondents were asked who stands to benefits from the services of Institutional repository.

Table 4.30: Benefits from the services

OPTIONS	RESPONDENTS	PERCENTAGES %
The library	60	28.6%
The institution	50	20.5%
The academic staff & researchers	40	34.8%
Faculty	Nil	
The student	Nil	
All of the above	Nil	
I don't know	45	16.7%
Total	210	100%

Table 4.30 shows who stands to benefits from the services of institutional repository. More than half 60 (28.6%) of the respondents indicates the library, while 50 (20.5%) of the respondents indicates the institution, follow by 40(34.8%) who indicates the academic staff and researchers while 45 (16.7%) of the respondents both indicates I don't know. This shows that less than half of the respondents did not know the benefits of the services render by institutional repository.

Respondents were asked about the difficulties encountered while uploading their work(s) unto the Institutional repository.

Table4.31 Difficulties while uploading

OPTIONS	RESPONDENTS	PERCENTAGES
Yes	54	25.7%
No	70	33.3%
I don't know	86	40.9%
Total	210	100%

Table 4.31 clearly portrays the difficulties encountered while uploading their work unto the institutional repository. Less than half 86 (40.9%) of the respondents indicates I don't know. Follow by 70 (33.3%) of the respondents who indicates No. While 54 (25.7%) indicates Yes, to difficulties. This shows that more than half of the respondents do not upload their work unto the institutional repository.

Respondents were asked to specify some of the difficulties faced.

Table4.32: Difficulties faced

Here the respondents were given the freedom to comment on specific noticeable problems regarding the challenges or difficulties encountered. There seems to be agreement in the following areas mentioned in the Questionnaire.

CHALLENGES	RESPONDENTS	PERCENTAGES %
Erratic power or unstable power supply	50	23.8%
Expiration of access incenses	24	11.4%
Tedious step of uploading	23	11.0%
Inadequate information about IR	52	24.7
I don't know	61	29.0%
Total	210	100%

Table4.32 shows some of the difficulties faced. Less than half 61 (29.0%) of the respondents indicate they don't know. Follow by 52 (24.7%) of the respondents who indicate, inadequate information about institutional repository while 50 (30.9%) indicates erratic power or unstable power supply, while 24 (11.4%) indicate expiration of access incenses and 23(11.0%) indicates tedious step of uploading. This shows that less than half of the respondents experience problem of erratic power or unstable power supply.

Respondents were asked about the challenges faced while accessing the Institutional repository.

Table 4.32: Challenges while accessing IR

OPTIONS	RESPONDENTS	PERCENTAGES %
Yes	127	60.5%
No	21	10.0%
I don't know	62	29.5%
Total	210	100%

Table 4.32 shows the challenges faced while accessing the institutional repository, less than half 62(29.0%) of the respondents indicate they don't not know, follow by 127 (60.5%) who indicate Yes, while 21(10.0%) of the respondents indicates No problem. This indicates that most of those who have access to institutional repository do face one challenges or the other.

Respondents were asked to specify the nature of the challenges faced when accessing the Institutional repository.

Table 4.33: Nature of challenges

OPTIONS	RESPONDENTS	PERCENTAGES %
Connectivity problem	30	14.3%
Unstable power supply	82	39.0%
Lack of server owned by the library	Nil	-
Poor response from server	20	9.5%
Lack of frequent and adequate publication	Nil	-
Lack of technical skills	25	11.9%
In different attitude of the users	22	10.5%
I don't know	31	14.8%
Total	210	100%

Table 4.33 indicates the specify nature of challenges when accessing the institutional repository. Less than half 82 (39.0%) of the respondents indicate unstable power supply follow by 31 (14.8%) of the respondents who both indicate I don't. While 30(14.3%) connectivity problem and 25(11.9%) of the respondents indicates lack of technical skills and 22(10.5%) indicate indifferent attitude of the users. While 20(9.5%) of the respondent indicate poor response from the server This shows that less than half of the respondents indicate unstable power supply and connectivity.

4.6 Section E: Adoption of Diffusion of Innovation

The respondents were asked to indicate their preferences from the following options Strongly Disagree (SDA), Disagree (DA), Undecided (UD), Agree(A), Strongly Agree (SA)

Statement	1SDA	%	2DA	%	3UI	%	4A	%	5SA	%	Total	%
Libraries with institutional repositories have relative advantages in provision of adequate information resources to the client.	22	10.5	25	11.90	21	10	35	16.7	107	51.0	210	100%
An institutional repository provide relative advantages for information sharing	10	5.00	28	13.3	10	5.00	70	33.3	92	43.8	210	100%
Institutional repositories also provides relative advantages for institutions ability to engage in research and development.	20	9.50	18	8.57	22	10.5	40	19.0	110	52.4	210	100%
There is compatibility between IR and other reference materials in the library of parent institution	23	11.0	30	14.3	34	16.2	37	17.6	86	41.0	210	100%
How compatible is institutional repository with the curriculum of the institution under study	19	9.00	70	33.3	40	19.0	45	21.4	36	13.0	210	100%
There is compatibility between IR and the objectives of the institution understudy.	14	6.67	33	15.7	15	7.14	58	27.6	90	43.0	210	100%
Complexity in the storage of IR cannot deprive the user access to vital information.	25	11.9	25	11.9	25	11.9	45	21.4	95	45.2	210	100%
Complexity in software use can create problem for effective maintenance of IR	28	13.3	34	16.2	24	11.4	45	21.4	55	26.2	210	100%
Complexity in arrangement of IR materials has adverse effect on research and development	6	29.0	30	14.3	30	14.3	39	19.0	50	23.8	210	100%ss
Triability of IR enables the users to appreciate its value.	50	23.8	29	13.8	26	12.4	60	29.0	45	21.4	210	100%
Triability of IR creates more awareness about the new innovation in academic library	15	7.14	2	9.5	15	7.14t r	105	50	55	26.2	210	100%

Triability also gives more confidence to other institution to start IR in their academic libraries	50	23.8	27	13.0	28	13.3	40	19.0	65	31.0	210	100%
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Table44: Adoption Diffusion of innovation

4.7 TEST OF HYPOTHESIS

In testing the research hypothesis the researcher used chi-square test with formula

$$X^2 = \sum \frac{(O-E)^2}{E}$$

Where:

X^2 =chi- square

\sum =summation of data

E=Expected frequency

O=observed frequency

The two hypotheses to be tested are:

H_1 , There is significant relationship between availability of Institutional repository and the utilization

H_0 , there is no significant relationship between availability of Institutional repository and the utilization

X^2 TABLES

OPTIONS	O	E	O-E	O-E ²	$\frac{(O-E)^2}{E}$
Agree	90	105	20.5	200.25	10.5
Disagree	120	105	10.5	100.25	10.5
TOTAL	210	210	-	-	21.0

$X^2=21$

Decision Rule= Decision rule states that, reject H_0 Null hypothesis when calculated X^2 is greater than table rate, which is 3.418 constant which means H_1 Alternate hypotheses is accepted in this case.

It shows that, there is a relationship between availability and utilization of institutional repository (IR).

4.9 H₁ There is statistical significance relationship between accessibility and utilization of Institutional repository

H₀ There is no statistical significance relationship between accessibility and utilization of Institutional repository

X² TABLE

OPTIONS	O	E	O-E	(O-E)²	<u>(O-E)²</u> E
Agree	80	105	30	900	30
Disagree	130	105	20	400	20
Total	210	210	-	-	50

$$X^2=50$$

Decision rule states that reject Null Ho Hypothesis when calculated X² is greater than table value which is constant 3.418

Since 97.8 is greater than 3.418 then, Null hypothesis is rejected which shows that, there is a statistical significant relationship between accessibility and utilization of institutional repository.

In line with the hypothesis tested, and the analyses of data obtained from the respondents reveals that, the two research hypotheses tested were valid

It then shows that, there was a statistical significance relationship between accessibility and utilization of Institutional repository.

It was also discovered that, there was statistical significance relationship between availability of Institutional repository and utilization.

4.10 Discussion of findings

Research question 1: Are there institutional repository in your institution.

The result of the study revealed that there are institutional repositories in the federal university under study (table 4.5) Pappalardo (2008) study corroborated, this result when he concluded that institutional repository provide a compelling respond to two strategic issues facing academy institution first, it expands access to research r control over scholarship by the academy, increase competition and reduce monopoly of power on journals and brings economic relief and heightened relevance to the institutions and libraries that support them.

Secondly, it serves as a tangible indicator of a university quality and to demonstrate the scientific, societal and economic relevance of its research activities, thus increasing the institution visibility status, and public value.

Research question 2: To what extents do academic staff in the universities understudy are aware of institutional repositories.

The result of the study reveal that most academic staff under study are not aware of institutional repository Table (4.7) this negates Hedlund (2008) study that indicated that more sensitization and awareness programs should be organized to enlighten the general public on the concept of institutional repository to correct the observed non-used of institutional repositories despite knowing lots of benefit when effectively developed and to use.

Research Question 3: What extent do academic staff under study have access to institutional repositories.

The result of the study revealed that majority of the respondents did not rate the level of their accessibility (table 4.15)

From the response to the questions on accessibility to institutional repository by the staff of the institutions under investigation, it was discovered that most of the academic staff did not have much access to institution, due to low level of awareness about institutional repository in the institution.

For the advancement of research and development, there is need to create more awareness about the use of institution repository in institution under study.

Research Question 4: The purposes for which academic staffs understudy use the institutional repository available.

The results of the study Revealed that, academic staffs use the institutional repository to deposit their work such as research report, journal publications, Thesis/ Dissertation (Table 4.22).Clifford, (2010) study supported these findings when he sees institutional repositories as a set of services that university offers to the community for the management and dissemination of digital materials created by the institution and its community members. It is most essential an organizational commitment to be p of these preservation digital materials, including long term preservation where appropriate, as well as information, access and distribution.

Research Question 5: The benefit derives by academic staff under study on the use of Institutional repository

The findings from the study shows that academic staff derives specific benefit in using institutional repository. (Table 4.30).The benefits of uploading work into institutional repository is reaching wider audience and personal recognition. Attesting to this, Akor and Udensi (2008) rightly observed that, they are valuable for research

and development because they can offer instant access to information and knowledge resources being generated on the continent.

Research Question 6: Level of institutional repository adoption by academic staff understanding in terms of Relative advantage, compatibility, complexity and triability.

The result of the study revealed that a library with institutional repository has relative advantages in provision of adequate information resources to the client and there are compatibility between institutional repository and the objectives of the institution understudy. Triability of institutional repository enables the users to appreciate its value Table (4.6).

Research Question7: The challenges associated with the use of institutional repository by academic staff understudy.

The findings from the study revealed that the major challenges associated with the awareness and use of institutional repository are connectivity problem, unstable power supply and indifferent attitude of the users (Table 4.36), attesting to this, Jennifer (2011) with the growth in the internet usage in Nigeria, the speed and reliability of the internet connections still possess a great deal of challenge to most of the institutions in Nigeria. As rightly opined by the researcher and attested to by Gideon (2008) another infrastructural problem associated with internet connectivity in Nigerian academic institution, is the problem of electricity

Power supply: An institutional repository should be openly accessible 24 hours a day. This implies a sustained and regular supply to power ICT faculties.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter is divided into three parts: the summary of the findings, the conclusions of the study and the recommendations considered by the researcher to be useful to the readers of this work especially to the subsequent scholars willing to conduct studies similar to this.

5.2 Summary of the Study

The primary aim of this study is to find out the awareness and use of institutional repositories among academic staff of federal universities of North central Zone Nigeria, and chapter one of the study deals with basic elements such as the introduction, background to the study, statement of the problem, research objectives, research questions, research hypotheses, significance of the study, scope and limitations of the study, as well as the definitions of research terms. Under the background to the study ,it was established that institutional repositories awareness has increased over the years worldwide especially in the industrialized countries such as Britain, United State of American ,Germany etc. But in Africa especially in Nigeria, awareness of institutional repositories is still very low in the university communities.

Chapter two reviewed literatures related to the topic of study. Existing literatures in the area show that institutional repository awareness in Nigeria University is still very low particularly in the university communities.

The third chapter outlined the procedures adopted for the collection of data relevant to the study which include research methodology, research design, population

of the study, sampling technique, sample size, data collected instrument, administration of research instrument and data analysis technique etc. Survey research methodology was used for the study and the only instrument used was questionnaire. The population was made of mainly academic staff and the sample of the study was the same academic staff randomly selected from the four selected federal universities in the North central Zone of Nigeria. However for the purpose of inferential analysis, Chi-square tests on Institutional repository awareness between academic staff and the use of Institutional repository, Availability of Institutional repository and the utilization. Also tested is accessibility and utilization of Institutional repository in the federal universities North central zone of Nigeria.

Chapter four analyzed the data collected in accordance with the objectives of the study. The characteristics of the respondents were investigated, it was found that majority of the academic staff in these universities were within the age range of 36-40 years and the number of male lecturers was much greater than that of the female. Furthermore, the result shows that majority of them were holders of first degree, masters degree, and PhD respectively. In order to determine the awareness and use of institutional repositories among academic staff in the federal universities of north central Nigeria, the research approached the issue in the context of purpose and importance of Institutional repository, awareness of users towards the use of Institutional repository, accessibility and utilization of Institutional repository, challenges associated with the development and use of Institutional repository among academic staff of the federal universities of North central Nigeria.

Chapter five of the work summarized the major findings of the study, draws conclusion based on the findings and make appropriate recommendations towards

improving the awareness and use of Institutional repository among the academic staff in university of North central Nigeria.

5.3 Summary of findings

Based on the data analysis, presentations and discussions, the following are the major findings of the study:

1. The concept of institutional repository has not been given serious attention by most of the universities in the North Central zone of the country. The research visit to these universities also revealed that, only university of Jos has been able to develop their institutional repository to high standard, for research and information dissemination.
2. Academic staff in the area understudy, some of the academic staff are not aware of institutional repository. As a result of this development some of the respondents did deposit their work into the repository.
3. For the academic staff in the area understudy, it was discovered that most of the academic staff did not have much access to institutional repository, due to low level of awareness about institutional repository resources in their institution.
4. Academic staff in the area understudy used institutional repository not frequently to deposit their work such as research report, publications, thesis, and dissertation.
5. Reaching wider audiences and personal recognition are the specific benefits derived by the academic staff in the area under study.
6. for the academic staff in the area under study, libraries with institutional repository has relative advantages in provision of adequate information resources to the client and there are compatibility between institutional repository and the objectives of the institution understudy.

7. The major challenges associated with the awareness and use of institutional repository is connectivity problem, unstable power supply as in different attitude of the users.dsea

8. There was statistical significance relationship between accessibility and utilization of institutional repository.

9. There was statistical significance relationship between availability of institutional repository and utilization.

5.4 Conclusion

In view of the present situation of institutional repository among the university under investigation which have not been impressive, there is need to create more awareness about the concept, through research, workshop and seminars, so that more universities and other tertiary institution will appreciate the need for an institutional repository in their institutions.

From the research findings we can conclude that there is a low percentage of awareness of IR among the academic staff which result in the poor Utilization.

The researcher concludes that by advocating that more awareness programme be put in place to sensitize academics staff of the advantages of institutional repository to learning and research and academic development.

5.5 Recommendations

In view of the importance of institutional repository to storage and retrieval of information, Institutional repository has become integrated into the mainstream of scholarly activities. Academic staff increasingly recognized the need to store their intellectual output in the form of personal collections and to make available the results of their work within and outside the institution. The potential of IR to help foster

change within the academic circle is significant. However, due to problems or challenges identified by the researcher, the following recommendations are made that will enhance the effective utilization and implementation of institutional repository in the federal university. The researcher recommends that:

- Management of universities should invest more on research and development by funding and establishing institutional repository.
- More librarians and other university staff should be trained on ICT to enhance quality service delivery in the area of institutional repository.
- All the academic journals published, thesis/dissertation, conference publication by the selected universities should be deposited on Institutional repository.
- Provision of it infrastructure, the success of an Institutional repository would depend on storage and adequate network architectures which could increase access and usability of the content of the repository.
- The library should embark on a massive awareness campaign, in order to acquaint the academic staff on the importance of open-access. This can be done through workshop, seminars and conference. As this will enable the academic staff to bring out their "grey materials" or unpublished works for uploads.
- In line with most projects funding is a crucial factor in ensuring the success and/ or maintenance of a repository; therefore, adequate funds should be - 'injected in to the repository project by the Government and university administration to ensure the long term, or continuity of the repository.

- What can be termed as the "Nigerian factor" of inadequate supply of power is one major challenge militating against the proper access and utilization the repository. The library should devise an appropriate way of addressing this “decades old” Nigerian problem.
- Internet facility is a crucial factor in access to knowledge; therefore institutions should provide this facility as top priority.
- Finally, all the academic staff in these universities must improve on their computer literacy.

5.6 Recommendations for further study

- 1 Access and use of institutional repository by post-graduate research students.
2. Relationship between use of institutional repository and research output of academic staff.

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APPENDIX I

Library and Information Science
Department,
Bayero University,
Kano.
5th June, 2014.

Dear Sir / Madam,

REQUEST TO FILL THE FOLLOWING QUESTIONNAIRE

I am a post-graduate student of the above name institution undertaking a research titled “Awareness and use of institutional repositories among academic staff in the federal universities north central Nigeria.”

The attached copy of the questionnaires is meant to collect data needed for the research. You are therefore, kindly requested to fill in the questionnaire as objective as possible.

You are assured that all the information and data that would be supplied by you will be treated with utmost confidence.

Thanks

Yours faithfully,

Hinmikaiye, Bukky Victoria

08067434350, 08154967256

APPENDIX II

Questionnaire for the Academic Staff of the Federal Universities in North Central Nigeria. Kindly tick (✓) the appropriate answer in the space provided in each of the question.

SECTION A: PERSONAL DATA

1. Name of institution: -----
2. Please kindly indicate your gender
 - a. Female
 - b. Male
3. Please kindly indicate your age Range:
 - a. 25 -30 years
 - b. 31 – 35 years
 - c. 36 – 40 years
 - d. 41 -45 years
 - e. 46 -50 years
 - f. 51 years and above
4. What is your highest level of your educational qualification?
 - a. Doctorate Degree
 - b. Masters
 - c. Post Graduate Degree
 - d. Bachelor Degree
 - e. Others please specify.....
5. How can you rate the level of your skills in using computer?
 - a. Excellent

- b. Very good
- c. Good
- d. Poor
- e. Fair

6. How can rate your knowledge of databases and institutional repositories?

- a. Excellent
- b. Very good
- c. Good
- d. Poor
- e. Fair

SECTION B: Availability and Awareness of Institutional Repository

1. How can you rate the level of availability of the Institutional repository in your institution?

- a. Highly available
- b. Available
- c. Moderately available
- d. Fairly available

2. Who provide the availability and the hosting of IR in your institution? (Tick as applicable).

- a. University authority
- b. Library
- c. Non-Governmental Organizations (NGO)
- d. International donors

e. National University Commission (NUC)

f. Ministry of Education

g. Philanthropist

6. Are you aware with the institutional repository available in your institution?

a. Yes

b. No.

7. If yes, how do you get the awareness with Institutional repository?

a. Through friends/colleagues

b. Through the university bulletin

c. Through the university Library

d. Through the university website.

e. Others please specify.....

8. Who is responsible for providing awareness on the availability of institutional repository in your university?

a. University authority

b. University library

c. Academic Staff Union of universities

d. Centre for information technology

e. Others, Please specify

9. What type of awareness method has your institution adopted in providing awareness with Institutional Repository?

a. Brochures and Posters

- b. Advertisement on the library website
- c. Publication in the project website
- d. Briefing paper
- e. University Bulletin
- f. Others, Please Specify

10. How can you rate the level of your awareness with regards to institutional repository available in your institution?

- a. Highly aware.
- b. Aware
- c. Not sure.
- d. Unaware.
- e. Completely not aware.

11. Who develop and manage the Institutional Repository of your institution?

- a. University library
- b. Centre for Information Technology
- c. Commercial and ICT Vendors
- d. Non-Governmental Organizations
- e. International donors and Philanthropist
- f. Others, Please specify

SECTION C: ACCESSIBILITY AND UTILIZATION

1. Do you have access to the institutional repository available in your institutions?

a. Yes

b. No

2. Where do you always get access to the IR available in your institution?

a. University library

b. ICT- Centre

c. MIS unit

d. Computer centre

e. Through modem on my personal computer

f. Others, Please specify

3. How can you rate the level of accessibility of the institutional repository in your institution?

a. Highly accessible

b. Accessible

c. Moderately accessible

d. Poorly

4. What strategy do you use in accessing the Institutional Repository in your institution?

a. Through the use of search engines

b. Through the use of Library's web page

c. Through the use of offline databases

d. Others, please specify

5. How frequent do you access the institutional repository of your institution?

- a. 2-5 hours a day
- b. 10 hours a week
- c. 4 times a month
- d. Once a month
- e. Not all

6. Do you use the Institutional repository available in your institution?

- a. Yes
- b. No

7. If yes, where do you usually use the institutional repository of your institutions?

- a. University library
- b. ICT- Centre
- c. MIS unit
- d. Computer centre
- e. Through modem on my personal computer
- f. Others, Please specify

8. If no, what efforts are you making to start using the institutional repository of your institution?

9. What type of resources do you use in the Institutional Repository?

- a. Research report
- b. Journal publications
- c. Conference publications

d. Thesis/Dissertation

e. seminar and workshop papers

f. Others, please specify

10. How satisfied are you with the use of the Institutional Repository of your institution?

a. Highly satisfied

b. Satisfied

c. Not sure

d. Not satisfied

e. Not very satisfied

12. How effective do you find the use of Institutional Repository as an information services delivery

a. Very Effective

b. Effective

c. Not sure

d. Not effective

e. Not very effective.

13. Do you use the institutional repository to deposit any your materials/publication?

a. Yes

b. No

14. If yes, what kinds of materials/publication do you deposit in the repository?

a. Research papers

b. Conferences papers

c. Teaching materials

- d. Theses and dissertations
- e. Technical reports
- f. Others, Please specify

15. If No, what are the efforts you are making to deposit your materials or publication in the depository?

16. How often do you deposit your work in the repository available in your institution?

- a. Very frequently
- b. Frequently
- c. Rarely
- d. Very rarely

17. Who is responsible for uploading your work/publication unto institutional repository of your institution?

- a. Myself
- b. Staff in the university library
- c. Staff in the ICT center
- d. Friends and Colleagues
- e. Others, please specify

18. Kindly indicate your agreement with the following statements based on the likert scale 1-5.

Strongly Disagree (SDA), Disagree (DA), Undecided (UD), Agree (A) and Strongly Agree

STATEMENT	1	2	3	4	5
	SDA	DA	UD	A	SA
Awareness with Institutional repository is helping my institution to organize and store the publications of the Staff.					
Awareness of the Institutional repository is making my publication to be known to the university community.					
Awareness of IR has encouraged scholars to publish more and patronize the institution's library.					
The availability of Institutional repository has increases the library resources of my institution.					
Availability of Institutional repository has increase the research profile of my institution.					
Availability of I.C.T infrastructure will improve storage and retrieval of information from Institutional repository.					
Access to Institutional repository makes enquiry about subject matter faster.					
Access to Institutional repository by users is sometimes delayed due to poor connectivity.					

Access to Institutional repository will enhance research and development.					
Utilization of Institutional repository will facilitates information sharing among academic staff.					
The use of Institutional repository has reduced the interaction of the scholars with the library staff.					
The use of Institutional repository will make colleagues to criticize my work.					
The benefit of Institutional repository is that it improves usage.					
IR has a great positive impact on the growth of this institution.					
Users enjoy prompt and efficient services delivery.					
One of the challenges of Institutional repository is that to retrieves information is time consuming.					
Users are sometimes delayed due to poor connectivity.					
There is a need to improve the services rendered by the institutional repository.					

SECTION D: BENEFITS AND CHALLENGES

1. Is there any benefits derivable for uploading your work unto the Institutional repository?

- a. Yes
- b. No

2. What kind of specific benefits one stand to derive for using the Institutional repository?

- a. Monetary benefits
- b. Research funds
- c. Reaching wider audience
- d. Personal recognition
- e. Other (specify please) _____

3. Who stands to benefits from the services of the institutional repository?

- a. The library
- b. The institution
- c. The academic staff and researchers
- d. Faculty
- e. The students
- f. All of the above

4. Do you encounter any difficulty while uploading your work (s) unto the Institutional repository?

- a. Yes
- b. No

5. Can you please specify some of the difficulties faced?

- a.....
- b.....
- c.....
- d.....
- e.....

6. Are there any challenges while accessing the Institutional repository in question?

a. Yes

b. No

7. Can you specify the nature of the challenges when accessing the Institutional repository in question? (Tick as applicable)

- a. Connectivity problem
- b. Unstable power supply
- c. lack of server owned by the Library

-
- d. Poor response from server
 - e. Lack of frequent and adequate publications
 - f. Lack of technical skills
 - g. Lack of adequate internet connection and facilities
 - h. In different attitude of the users

8. State the strategies to be use in overcoming the above challenges in your institutions

.....
.....

SECTION E: DIFFUSION OF INNOVATION

Kindly indicate your preferences using the following scale; strongly disagree (SDA),

Disagree (DA), Undecided (UD), and Agree (A) and strongly agree (SA)

S/N	Answer options	SDA(1)	DA(2)	UD(3)	A(4)	SA(5)
1.	Libraries with institutional repositories have relative advantages in provision of adequate information resources to the clients.					
2.	An institutional repository provides relative advantages for information sharing.					
3.	Institutional repositories also provide relative advantages for institutions ability to engage in research and development.					
4.	There is compatibility between Institutional repository and other reference materials in the library of parent institution.					
5.	How compatible is institutional repository with the curriculum of the institution under study.					
6.	There is compatibility between Institutional repository and the objectives of the institution understudy.					

7.	Complexity in the storage of Institutional repository cannot deprive the user access to vital information.					
8.	Complexity in software used can create problem for effective maintenance of Institutional repository.					
9.	Complexity in arrangement of Institutional repository materials has adverse effect on research and development.					
10.	Triability of Institutional repository enables the users to appreciate its value.					
11.	Triability of Institutional repository creates more awareness about the new innovation in academic libraries.					
12.	Triability also gives more confidence to other institution to start Institutional repository in their academic libraries.					