

**AWARENESS AND UTILISATION OF INSTITUTIONAL DIGITAL
REPOSITORY (IDR) BY POSTGRADUATE STUDENTS OF THE
FACULTY OF SCIENCE AHMADU BELLO UNIVERSITY ZARIA**

BY

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**A Dissertation Submitted to the School of Postgraduate Studies, Ahmadu
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Award of Master of Archives and Records Management**

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**Prof Zakari Mohammed
&
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DECLARATION

I hereby declare that this Dissertation titled “Awareness and Utilisation of Institutional Digital Repository (IDR) by Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria” is my own research work. It contains no material that has been submitted previously in any other institution, in whole or part, for the award of academic degree or any certificate. All the sources cited or quoted have been indicated and duly acknowledged by means of complete referencing.

Signed: *Date:*

Aliyu Isyaku Ahmad

CERTIFICATION

This Dissertation titled “AWARENESS AND UTILISATION OF INSTITUTIONAL DIGITAL REPOSITORY BY POSTGRADUATE STUDENTS OF THE FACULTY OF SCIENCE AHMADU BELLO UNIVERSITY ZARIA” by Aliyu Isyaku Ahmad meets the regulations governing the award of degree of Master of Archives and Records Management of Ahmadu Bello University Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

I dedicated this dissertation to the family of late Father Alhaji Isyaku Ahmad Musawa and the people of Musawa Town.

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ABSTRACT

The study investigated Awareness and Utilisation of Institutional Digital Repository by Postgraduate Students of the Faculty of Science, Ahmadu Bello University Zaria. The study achieved the following objectives; To find out the extent of awareness of the Institutional Digital Repository, to identify the factors motivating the Utilisation of the Institutional Digital Repository, to find out the extent at which the Institutional Digital Repository is being utilised by the Postgraduate Students and to identify the challenges of Utilisation of the Institutional Digital Repository by the Postgraduate Students. The study adopted a quantitative method for data gathering. Questionnaire was the only instrument used for the study, targeted 73 respondents selected through stratified proportional random sampling technique from a population of 1451 Postgraduate Students from nine (9) Departments of the Faculty of Science Ahmadu Bello University Zaria. Among the 73 copies of questionnaire administered 67 (91.9%) were returned duly completed by respondents. Similarly, 53 (79.1%) of the 67 respondents were males and 14 (20.9%) were females. Data from the survey was analysed using descriptive and inferential statistics of SPSS. Frequency distribution tables and percentages were used for the descriptive statistic while two (2) simple t-tests were used for the inferential statistic to test null hypothesis 1 and 2. The two hypotheses were tested all at α 0.05 and 65 degree of freedom. The study discovered that, the Awareness of Institutional Digital Repository by Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria was very low so also the utilisation of the institutional digital repository, free access to the IDR was the major motivator of utilisation of IDR in A.B.U. Zaria by Postgraduate Students of the Faculty of Science that were opportuned to be aware of the IDR. Finally the study established that for Ahmadu Bello University Zaria and Kashim Ibrahim Library to attain the set goal, a maximum utilisation of Institutional Digital Repository by increased awareness campaign on the importance and the reason why the IDR was established should be provided to the entire university community.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Academic Libraries especially those situated in Universities continue to expand their use of Institutional Digital Repositories (IDRs). Awareness of Institutional Digital Repositories and its benefits for the Institution, Faculty and Students have grown over the past several years. These Repositories are regarded as useful and effective tools for increasing visibility of the research and academic outputs of Higher Education Institutions. Research on the visibility of researches through Institutional Digital Repositories has shown dramatic and positive increase. It has been discussed that the increase demand in research disseminated by an Institution increases the academic standard and perceived rigor of such Institution. Michael, (2009) conducted a study at the Hong Kong Institute of Education to determine if the Institutional Digital Repository increases the visibility of the research at the Institution. He stated in his findings that, making available of academic research through IDRs can have an immediate impact on making research more visible. And, a very important note is also that this occurred with little or no intentional marketing of the new Repository.

The benefits of IDR are immense; as a result, many universities have implemented it. Crow, (2002) and Prosser, (2003) viewed IDR as appropriate model that perform the four functions of scholarly communication: 'registration', 'awareness' 'certification' and 'archiving'. Johnson, (2002) comparing IDR and the traditional scholarly model submits that traditional model limits readership, obscures institutional origin, costs much but IDR model implies no monopoly, increase of output and awareness which is the essence of scholarly communication.

However, global trends have shown that as laudable as IDR is, one of the major challenges to the realization of its full potentials is content recruitment. Previous studies have persistently reported low submission of scholarly works by faculty members who are the major authors of scholarly works (Ware, 2004; Nicholas, Rowlands, Watkinson, Brown, and Jamali, 2012).

Meanwhile, in Nigeria, as observed by Umar, Musa and Aliyu, (2014) that the idea of Institutional Digital Repositories (IDRs) is a current theme 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 web metrics 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 shareability of Institutional resources (Akintunde and Anjo, 2012).

Institutional Digital Repository (IDR)

Institutional Digital Repositories are digital collections of research outputs created within a University or Research Institution. Whilst the purposes of Repositories may vary (for example, some universities have teaching/learning Repositories for educational materials), in most cases they are established to provide Open Access to the Institution's research output. Crow, (2006) assert that, an Institutional Digital Repository is an online locus for collecting, preserving, and disseminating in digital form the intellectual output of an Institution, particularly a Research Institution. An Institutional Digital Repository is a Digital Archive of the intellectual product created by the Faculty, Research Staff, and Students of an Institution and accessible to end-users

both within and outside of the Institution with few if any barriers to access. It will also house experimental and observational data captured by members of the Institution that support their scholarly activities (Lynch, 2003).

Development of Institutional Digital Repositories has largely taken place in Universities. Institutional Digital Repositories provide services to Faculty, Researchers, and Administrators who want to archive researchable, historic, and creative materials in the open access. The Open Access and Open Archives movement paved the way to the need for changes in scholarly communication to remove barriers to access, and the increasing awareness that Universities and Research Institutions are losing valuable digital and print materials which as a result have begun driving the establishment of Institutional Digital Repositories, (Drake, 2004). While the main purposes of Institutional Digital Repositories are to bring together and preserve the intellectual output of a Laboratory, Department, University, or other entity. The incentives and commitments to change the process of scholarly communication have also begun serving as strong motivators. Computers have been ubiquitous on campuses since the late 1980s. Students and Faculty are comfortable with the power of online communication. Faculty Teachers and Researchers want to archive their own materials and have them available on personal or Institutional Web sites, these articles, along with the development of the Internet and more powerful search engines have enabled people to think in practical terms about the establishment of central facilities for storing, archiving, preserving, and making scholarly and artistic materials available. But one should remember, Repositories may be limited to one field, a Department, Institution, or a consortium of several Institutions. Collaboration through a consortium reduces costs for each member through resource sharing while expanding access to digital content.

For Universities, IDRs are marketing tools communicating capabilities and quality by showcasing Faculty and Student researches, public service projects, and other activities and collections. IDRs in Universities may include preprints and post prints of journal articles, technical reports, white papers, research data, theses, dissertations, work in progress, important print and image collections, teaching and learning materials, and materials documenting the history of the Institution.

Ahmadu Bello University (ABU) Library DigitalRepository

The Ahmadu Bello University, Zaria University Library Complex popularly known as Kashim Ibrahim Library (KIL) is one of the biggest libraries in the country in terms of land mass, collection and staff strength. Need to shift along with the current trends of making information resources easily available and accessible to patrons via the online system prompted the Ahmadu Bello University library to design, establish, develop and manage its digital information resources of enduring value to students, lecturers, and researchers Abdulkadir and Mohammed (2014). This resulted the management of Kashim Ibrahim library established a Digitisation unit in 2005 in the main library (KIL) with the responsibility of digitising the title pages and abstracts of all the theses and dissertations submitted to the University for the Award of higher degrees.

The review of the Kashim Ibrahim library's policy and the creation of ICT division, paved a way for the University Librarian in 2009 to set up a committee with the responsibility of designing, developing and installing a Digital Repository in Kashim Ibrahim library. The committee was mandated to complete and submit its report with two months. The committee successfully came up with the basic requirements for the project and strategies for implementation, maintenance and sustenance within the two months period given to it,

(Mohammed, 2012). The library hosted the digital repository in 2010 with the purchase of a server and other facilities for digitisation. The Dspace management software was installed on the server using the Windows platform as recommended by the committee and digital repository took up in 2010.

Ever since then, the IDR provides access to the research outputs of the institution and the interface is available in English language. The IDR content size as at February 2016 was 5919 items and as said earlier the repository is uses Dspace version 1.8.2 digitisation software. The repository content covers subject areas ranging from Agriculture, Food and Veterinary, Ecology and Environment, Health and Medicine, Fine and Performing Arts, History and Archaeology, Physiology and Religion, Education, Law and Politics as well as Library and Information science. The types of digital content are conference papers, electronic theses and dissertations as were as School of Postgraduate Studies' collections

Utilisation of Institutional Digital Repositories (IDRs)

Utilisation of IDRs in both disseminating and accessing scholarly information has attracted the attention of many scholars in recent years. Utilisation of IDR is concerned with the use of variety of Services and digital contents available for teaching, learning and research activities. Such digital contents include e-journals, e-thesis and dissertations (ETDs), conference papers and proceedings, Seminars/Symposia, lecture notes and course materials, non-peer-reviewed articles published in a journal, Articles awaiting Peer-review, Photos/Images/Slide Collections and Video/Audio Materials etc. Many researches showed that IDRs are being utilized for different purposes. Connell (2011) was of the view that IDR is used for research and self-publishing of own-research works. According to open access scholarly information sourcebook AOASIS (2009) opined that, IDRs have a number of uses within the institution. The

main purposes to which IDRs are been utilized includes; providing access to research outputs, showcasing the institutional outputs, preservation of products of institution's research programme, research monitoring and assessment as well as monitoring of research outputs by the funders.

1.2 Statement of the Problem

While there have been more researches in recent years about IDRs, the focus has predominantly been on issues related to motivating individuals (Scholars) to input the content of their researches into IDRs. Yet to become a successful innovation, IDRs must also be identified as potentially valuable information sources and then used by information seekers. Revell (2009) gives a simple equation to demonstrate how IDR will become successful as: "Input of documents + Access/Use of documents = Successful Institutional Repository". One of the responsibilities of Academic Library reference team is to make the Academic Staff and Students in their University become aware of any available information resource or service and help them to find and utilise the information or service. The launch of Scholarly Journals and Electronic Theses and Dissertations (ETDs) was therefore an important breakthrough in terms of scholarly communication improvement, (Dulle, 2010). This breakthrough paved the way for the emergence of Institutional Digital Repositories for researches conducted in Tertiary Institutions especially Universities.

However, despite the numerous advantages and opportunities offered by the IDRs, preliminary investigations conducted by the researcher indicated a dramatic non-use of Institutional Digital Repositories by the Postgraduate Students of Ahmadu Bello University (ABU) Zaria. This finding is surprising and worrisome in the sense that it can affect negatively

the research efforts and productivity of Students vis-à-vis reduce the quality of their research generally. This investigation was corroborated by the statistics generated by the ICT unit of Kashim Ibrahim Library (2014). It was discovered that 7827 views were recorded from May to November 2014 as generated from <http://kubanni.abu.edu.ng:8080/jspui/> by ICT unit of Kashim Ibrahim Library. This statistic means that 1118 views were recorded proportionately every month and 40 views every day. Looking at the above statistic, it is clear that, the utilization of the repository was very low. This is a serious problem on Library management and the entire Institution in general because it cost a lot to set up this Repository by the Institution. This scenario therefore calls for a research of this nature to unravel the actual causes of this ugly trend and proffer solutions to them. However, one could speculate whether these anomalies could be that Postgraduates Students are not aware or not willing to utilise the new technology (IDR) which leads to the low level of utilization of this Repository? Thus, the need for a study to investigate the Awareness and Utilisation of IDRs by Postgraduate Students in Ahmadu Bello University Zaria is indeed of utmost important. It was on this basis that, this research was set out to investigate the level of Awareness and Utilisation of Institutional Digital Repository by the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria.

1.3 Research Questions

This research worksought answers to the following research questions:

- 1: To what extent do the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria are aware of the Institutional Digital Repository?
- 2: What factors facilitate the utilisation of the Institutional Digital Repository by the Postgraduate Students of the Faculty under study?

- 3: To what extent do the Postgraduate Students of the Faculty of Science utilised Institutional Digital Repository under study?
- 4: What are the challenges associated with the utilisation of the Institutional Digital Repository by the Postgraduate Students of the Faculty under study?

1.4 Objectives of the Study

This research tried to achieve the following objectives:

1. To find out the extent of awareness of the Institutional Digital Repository by the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria.
2. To identify the factors facilitating the Utilisation of the Institutional Digital Repository by the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria.
3. To find out the extent at which the Institutional Digital Repository is being utilised by the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria.
4. To identify the challenges of Utilisation of the Institutional Digital Repository by the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria.

1.5 Hypotheses

The research tested the following null hypotheses:

HO₁ There is no significant difference between gender and awareness of the Institutional Digital Repository, by the Postgraduate Students in the Faculty of Science

HO₂ There is no significant difference between gender and the utilisation of the Institutional Digital Repository.

1.6 Significance of the Study

This study on the AWARENESS AND UTILISATION OF INSTITUTIONAL DIGITAL REPOSITORY BY POSTGRADUATE STUDENTS OF THE FACULTY OF SCIENCE, AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA would raise the level of Awareness of Institutional Digital Repository initiative among not only Postgraduate Students of the Faculty of Science but the entire University Community. It would also raise the level of Utilisation of Institutional Digital Repositories that is on open access domain among Postgraduate Students and the general Academia of the Ahmadu Bello University Zaria.

It is hoped that, the findings of this study would revealed to the University management, the extent to which postgraduate students are aware of the Institutional Digital Repository in A.B.U Zaria which is very paramount in making any decision by the management in budget provision to either increase or otherwise the fund in maintenance of the repository. Furthermore, it is hoped that, this study would assist the management of Kashim Ibrahim Library (KIL) Ahmadu Bello University Zaria to know the extent of Awareness and Utilisation of their IDR and help the Library to design a new strategy for change programme of their information resources and services and how best to maintain or improve the way services rendered to the general University Community.

The study would also serve as an information resource for researchers in the field of Library, Archival and Information sciences especially scholars that have interest in study of Information Utilization, Institutional Digital Repositories and Digital Archiving.

1.7 Scope of the Study

This study covered Awareness and Utilisation of Institutional Digital Repositories by the Postgraduate Students of the Faculty of Science in Ahmadu Bello University, Zaria. Postgraduate Students of other Faculties as well as Undergraduate Students were excluded in this research. The statistics of A.B.U. Zaria IDR utilization collected by the researcher in 2014 showed that Postgraduate Students of the faculty of science were found to be least in utilisation of the repository. This stood as the reason for limiting this research to only investigate the Awareness and Utilisation of Institutional Digital Repository by Postgraduate Students of the Faculty of Science Ahmadu Bello University, Zaria.

1.8 Limitation of the Study

The study investigated the level of Awareness and Utilization of Institutional Digital Repository by the Postgraduate Students of the Faculty of Science in Ahmadu Bello University, Zaria. It was one of the limitations of this study that some of the respondents did not know the concept of institutional digital repository as such they had to call the researcher and asked him to explain the concept for them to be able to understand what they were asked to respond on. To overcome this problem, the researcher had trained the research assistants very well about the concept and answers to possible questions that the researcher anticipated to be arisen from the part of the respondents. Another limitation to this study was the issue of literature on studies conducted in Nigerian situation which was found to be scanty, to overcome this, the researcher tried to use all the relevant ones at his disposal and fill the gap with literature of studies conducted in other countries that were found relevant.

1.9 Definition of Terms

In this research, the following concepts are defined as follows:

Awareness: This refers to the ability to perceive, to feel, or to be conscious of the existence of institutions digital repositories.

Electronic Theses and Dissertations: Theses refer to digital copies of Postgraduate Students degree research projects put on the institutions digital repositories.

Faculty of Science: This refers to the old faculty of science which comprised the two newly established faculty of life science and faculty of physical science.

Institution: An organization, establishment, foundation, society, or the like, devoted to the promotion of a particular cause or program, especially one of a public, educational, or charitable character. It also means establishment of higher learning where people's minds are trained for clear thinking, independent thinking, analysis and for problem solving at higher level.

Institutional Digital Repository: Institutional Digital Repository here refers to database created to manage, preserve, and maintain the digital assets, intellectual output, and histories of institutions.

Postgraduate Students: These are University Students studying different courses at Postgraduate Diploma, Masters and PhD levels.

Utilisation: To make use of something in an effective and efficient way

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CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This Chapter reviewed and discussed literature related to this study. Literature review is central to the research process because it provides a general understanding of the research problem as well as serves as a benchmark against which the researcher can compare and contrast the research results (Aina, 2002, Gray, 2004). The following sections reviewed literature on concepts around Awareness and Utilisation of Institutional Digital Repositories under the following sub-headings;

2.2 Awareness of Institutional Digital Repository

2.3 Factors motivating the Utilisation of Institutional Digital Repository

2.4 Utilisation of Institutional Digital Repository

2.5 Challenges of Utilisation of Institutional Digital Repository.

2.6 Summary of the Review

2.2 Awareness of Institutional Digital Repositories

The usage of Institutional Digital Repositories is highly dependent on scholars being aware of open access mode of scholarly communication. However, in certain situations users benefit from open access initiatives without their knowledge of this form of scholarly communication (Papin-Ramchan and Dawe, 2006; Fullard, 2007). This is especially true when users found the content of Institutional Digital Repositories openly accessible while searching for information on the Internet. It should be noted however that, for an individual to publish in open

access outlets like IDRs, prior knowledge of this publication mode is important. This has raised interest of many scholars of Institutional Digital Repository usage studies to address the awareness and utilization of IDRs by the tertiary institution's community. Even studies that did not assess awareness, still acknowledge that low level of utilisation of IDRs was probably due to lack of awareness by the respondents (Lawal, 2002; Gadd, Oppenheim and Probet, 2003).

This Subsection provided a review of awareness and usage of IDRs in general sense. Institutional digital repositories concept is still not widely known among researchers from different geographical localities and research disciplines. The term awareness can be understood as knowledge, cognizance, consciousness or sensibility gained through one's own perceptions or by means of outside information. Awareness of Institutional Digital Repository can mean the knowledge, consciousness and or cognizance an individual gained about the existence of IDR. The usage of Institutional Digital Repositories is highly dependent on scholars being aware of open access mode of scholarly communication. However, in certain situations users benefit from open access initiatives without their knowledge of this form of scholarly communication (Papin-Ramchan and Dawe, 2006; Fullard, 2007). This is especially true when users found the content of Institutional Digital Repositories openly accessible while searching for information on the Internet. It should be noted however that, for an individual to publish in open access outlets like IDRs, prior knowledge of this publication mode is important. This has raised interest of many scholars of Institutional Digital Repository usage studies to address the awareness and utilization of IDRs by the tertiary institution's community. Even studies that did not assess awareness, still acknowledged that low level of utilisation of IDRs was probably due to lack of awareness by the respondents (Lawal, 2002; Gadd, Oppenheim and Probet, 2003). Some of the studies indicate Institutional digital repositories was an unknown concept to many researchers (Pelizzari, 2003;

Swan and Brown, 2004; Rowlands and Nicholas, 2005; Kim, 2006 and Greyson, Vezuna, Morrison, Taylor, and Black, 2009). A study by Christian (2008) for example, reveals that while only 3% of 66 respondents at the University of Lagos were aware of the Institutional digital repositories concept, 22.7% others knew very little about it and majority (74%) of the respondents were completely unaware of Institutional digital repositories. Another similar study involving 27 universities in Canada reveals that from among 32 survey respondents, 66% had some kind of familiarity with the term Institutional repositories (Greyson *et al*, 2009). Studies reporting some kind of open access awareness reveal that it is below or slightly above 60% of the respondents that are aware of Institutional repositories (De Beer, 2005; Pickton, 2005; Moller, 2006; Ouya, 2006; SARUA, 2008).

A similar study on open access awareness by Allan (2005) found that among the 24 randomly displayed terms related to open access, only the general terms were found to be well known while the specific ones were not. Likewise, a half of the respondents who claimed to know about open access, only a few of them were aware of digital repositories (Pickton, 2005). Utulu and Bolarinwa, (2009), also acknowledge that among 189 respondents 65% were aware of pre-prints as compared to 60 % and 48.3% who reported to know open access journals and postprints respectively.

Another study by Halder and Chandra (2013) titled “Users’ Attitudes towards Institutional Repository in Jadavpur University: A critical study” revealed that faculty awareness about Institutional Digital Repository was found so high, i.e. 93.33% of Teachers correctly identified that the repository hosted by the Jadavpur University Library. The result of this study showed that 93.33% of teachers and 76.47% of Students are aware about Institutional Digital Repository in Jadavpur University. On the other hand, some people, i.e. 17.64% Students do not

know what the Institutional Digital Repository is; Rest of the people (06.67% of teachers and 05.89% of students) under investigation do not give any opinion due to lack of awareness. There could be other factors than the above that contribute to having low awareness of institutional repositories in developing countries that need further investigation. The above observations testify that the essence of establishing institutional digital repository is still not well understood by the scholarly community and hence there is need for more awareness campaigns.

The Role and Purpose of Institutional Digital Repositories

A reoccurring theme within the literature is how to define an Institutional Digital Repository and its role in the scholarly communication process (Xia and Sun, 2007). Lynch's working definition is often cited as it is broad enough to encompass a large number of roles within an Institution. He defined IDR as "A set of services that a University offers to the members of its community for the management and dissemination of digital materials created by the Institution and its community members" (Lynch 2003). More so, in a widely-cited SPARC (Scholarly Publication and Academic Resources Coalition) paper on Institutional Digital Repositories, Crow (2002) explains the potential of Open Access Repositories. For Crow (2002) Repositories have the potential to create a positive paradigm shift in the processes of scholarly communication in two ways: first, the potential to provide a complement to existing modes of publication and stimulate changes in the current model of scholarly publishing (particularly mitigating the increasing cost of accessing scholarly publishing); and second, the ability to 'make visible' the research outputs of individual Institutions in order to 'demonstrate the relevance of its research activities' and increase the 'visibility, status and public value' of the Institution (Crow, 2002).

According to Lynch (2003), the four main objectives for having an institutional repository in an institution are as given below:

- To provide open access to institutional research output by self-archiving it;
- To create global visibility for an institution's scholarly research;
- To collect content in a single location;
- To store and preserve other institutional digital assets, including unpublished or otherwise easily lost ("grey") literature (e.g., theses or technical reports).

The above objectives have been strongly supported by Swan (2009), who indicated that typical Institutional Digital Repository must have the following purposes and benefits for an Institution:

- Opens up the outputs of the university to the world
- Maximise the visibility and impact of these outputs
- Showcases the university to interested constituencies prospective Staff, prospective Students and other Stakeholders
- Collects and curates digital outputs
- Manages and measures research and teaching activities
- Provides a workspace for work-in-progress, and for collaborative or large-scale projects
- Enables and encourages interdisciplinary approaches to research
- Facilitates the development and sharing of digital teaching materials and aids
- Supports students endeavors', providing access to theses and dissertations and a location for the development of e-portfolios

Institutional Digital Repositories' Contents

According to Lihitkar, Lihitkar, and Agashe, (2009) usually an institutional repository should contain the following;

❖ Peer-reviewed Journal Articles and Conference Proceedings

The primary type of content in repositories is the Peer-reviewed Journals. A collection of the Journal Articles published from an Institution, provided in Open Access through the Repository, gives the Institution's research programme worldwide visibility and increases its impact. Individual authors also enjoy the same increased visibility for their work and concomitant impact.

❖ Research Data

Now that research data are increasingly created in digital form, Repositories are also places where Authors can deposit the data that underpin their final articles. More and more research funders are requiring their grant-holders to make their data Open Access, once they have themselves analysed and published their findings from the data. This is in order that other researchers can use the data to verify results, to compare with their own data or to re-use in some way to generate new data and knowledge. Datasets may be of many types – spreadsheets, photographs, audio files, video files, representations of artwork, diagrams, and charts etc. They may even be complex objects that are combinations of several types of data, such as a numerical dataset recording weather patterns with accompanying satellite images.

❖ Monographs and Books

Some Institutional Digital Repositories also contain books or book chapters. Books are often written for monetary gain (royalties on sales) and in such cases authors may be reluctant to

deposit them for free in a repository. In these cases it is still important for the book to be deposited, with the metadata (title, author, synopsis, publisher details, etc) on display, but the text may be ‘hidden’ from viewers. Having the metadata visible means that the book is counted in the institution’s assessment procedures, its existence is known to would-be readers and it can be located by Web search engines. The evidence is accumulating, however, to show that when the entire content of a book is visible in a repository, sales of the book frequently rise. This is because the visibility in the repository is raising awareness of the book and promoting it to an audience which is then likely to buy the book if it seems relevant to their work. It is analogous to what Amazon offers with its ‘Look inside’ facility.

❖ **Electronic Theses and Dissertations (ETDs)**

Apart from the types of content described above, Institutional Digital Repositories frequently contain theses, dissertations and other research-related outputs such as seminar presentations, workshop papers and conference proceedings. Electronic Theses and Dissertations are not different in content from the printed ones, the differences are in the format in which each is created and use by the users. Electronic Theses and Dissertations are either born digital or digitized and are used/accessed with electronic means while the latter is in print format and used without requiring any electronic device(s).

The Development of Open Access Institutional Digital Repositories (OAIR)

The Open Access movement was founded by the Open Access Initiative and the Scholarly Publishing and Academic Resources Coalition (SPARC). Commencing with the first preprint services at American higher education establishments in 1999, the Open Access movement conquered the European scientific community in 2001 with the Budapest Open Access Initiative. Similarly, the ROAR (2011) as quoted in Aliyu (2014) asserts that, “the

movement was said to have started in the 1960s, but became much more prominent in the 1990s with the advent of digital communications, in particular, the Internet. Before the advent of the Internet, File Transfer Protocol, Gopher, and the World Wide Web were used to increase availability of scholarly material by lowering the barriers to distribution'.” The Budapest Open Access Initiative (BOAI) is a public statement of principles relating to open access to the research literature. It arose from a conference convened in Budapest by the Open Society Institute on December 1–2, 2001 to promote open access – at the time also known as Free Online Scholarship. This small gathering of individuals is recognized as one of the major historical and defining events of the open access movement. On the occasion of the 10th anniversary of the initiative, it was reaffirmed in 2012 and supplemented with a set of concrete recommendations for achieving “the new goal that within the next ten years, Open Access (OA); will become the default method for distributing new peer-reviewed research in every field and country” (BOAI 2012).

Open Access Initiative (OAI)

The opening sentence of the Budapest Open Access Initiative (2002) encapsulates what the open access movement is all about, and what its potential is. It reads thus:

“An old tradition and a new technology have converged to make possible an unprecedented public good. The old tradition is the willingness of scientists and scholars to publish the fruits of their research in scholarly journals without payment, for the sake of inquiry and knowledge. The new technology is the internet. The public good they make possible is the world-wide electronic distribution of the peer-reviewed journal literature and completely free and unrestricted access to it by all scientists, scholars, teachers, students, and other curious minds.”

In trying to clearly establish the goal to achieve by this communiqué, it states that Open Access to peer-reviewed journal literature is the goal. Self-archiving (I.) and a new generation of open-access journals (II.) are the ways to attain this goal (Budapest, 2002). This development paved the way to which current trend in open access became a success.

2.3 Factors Facilitating Utilisation of Institutional Digital Repository

Researchers' expectations of advantages of institutional repositories have also been acknowledged by many studies as among the important facilitating factors for them to consider accessing or disseminating scholarly content using open access outlets like digital repositories. For example, free or unrestricted access to open access content has been reported as the main facilitator for many researchers to access open access scholarly content in repositories (Warlick and Voughan, 2006; Bernius, Hanauske, Konig, & Dugall, 2009; Frandsen, 2009). Similarly, it has been observed that increased research impact (Brody, 2006; Joint, 2009; Gargouri, Hajjen, Lariviere, Gingras, Carry, Brody, & Harnad, (2010).); increased speed of publication or dissemination of research output (Carr, Swan, Sale, Oppenheim, Brody, Hitchcock, Hajjem, & Harnad, 2006); and a wider dissemination of research output (Sanchez-Tarrago and Fernandez-Molina, 2009) as among the other factors influencing researchers utilised open access by means of making their publications openly accessible or accessing the available digital content relevant to their needs.

The findings above also revealed that most of the respondents had a lot of expectations regarding utilising digital repositories for open access publishing or utilising the open access digital content. Over 60% of the respondents either agreed or strongly agreed on the view that open access publishing is superior to the conventional subscription based scholarly publishing in many respects. These findings support the previous observation that despite that many

researchers have not previously published in open access outlets, majority of the respondents have expectations of future publishing in open access outlets. The above studies recommended that local research output on the repositories should be increased, free or unrestricted access to repository content, speed of publication or dissemination of research output should be maintain and faculty members be encourage to deposit or publish in the open access digital repositories.

2.4 Utilisation of Institutional Digital Repositories (IDRs)

Utilisation of IDRs in both disseminating and accessing scholarly information has attracted the attention of many scholars in recent years. Varying levels of involvement of researchers in using IDRs were reported by Allan (2005), Swan and Brown (2005), Macfie (2006), Kim (2006), Schroter and Tite (2006), Kaur and Ping (2009), Sanchez-Tarrago and Fernandez (2009), and Utulu and Bolarinwa (2009). Swan and Brown (2005), Kim (2006), and Utulu and Bolarinwa (2009) conducted studies that revealed more involvement of researchers in open access IDRs. Kim (2006), reports more than half of the respondents claimed to have made their researches or teaching materials publicly accessible through web sites. Similarly, Swan and Brown (2005) found out that less than half of the respondents have utilised the content of the repository during the last three years during the conduct of their study.

The study by Utulu and Bolarinwa (2009) established that the respondents had acknowledged having accessed scholarly content either preprints (30%) or post-prints (23.3%) and 35% in open access journals via their respective institutions' IDRs. Similarly, Mann, Walter, Hess, & Wigand, (2008) observed that despite that 66% of the respondents from their study claimed to have used freely available material from institutional repositories, only a minority (28%) affirmed to have published their papers using similar means. More support for such findings are reported by Gadd, Oppenheim and Probet (2003) who also revealed that even among

those who had never self-archived papers, a good number of them had used others' self-archived works. A survey by Deoghuria and Roy (2007) also established that out of 125 respondents, 80% used IDRs to access local contents and 20% used open access IDRs for publishing their research output. The findings reported in an article by Utulu and Bolarinwa (2009) further support the above observations. In the cited article, it is noted that 40% of the respondents claimed to have accessed scholarly content using pre-prints or post-prints and 46% through open access journals and institutional repositories. This is compared to 30% and 23.3% of the respondents who reported to have disseminated their scholarly content using pre-prints and post-prints respectively against 35% who had published in open access journals. Although in the short term such a trend may be considered undesirable, in the long term the increasing usage of IDRs contents may also influence non-users of IDRs materials to start accessing the same database (Dulle, 2010).

However, Utulu and Bolarinwa (2009) report results from a study on open access initiatives adoption by academics from the Universities of Ibadan and Lagos in Nigeria. The two universities were selected on convenient sampling basis. Using the survey methodology, 250 copies of the questionnaire were distributed to the respondents selected from a population of 2,224 academic members of staff from the study area. From the distributed copies of the questionnaire, 189 (75.6%) were returned out of which 180 were found useful for analysis. Categorised in the two main research disciplines, 58.3% of the respondents belonged to sciences and 40% were from humanities disciplines while the remaining 1.7% of the respondents did not indicate their research disciplines. The key finding from this study was that, the academics awareness on IR did not tally with the actual usage of information resources from such IRs by these respondents as users as well as readers of scholarly publications. The research findings

indicated that on average, the awareness of IRs by the academics was above 50% while the actual usage of IRs to access and disseminate scholarly content by these respondents was less than 50%. Another pertinent finding from this study was that the respondents were found to prefer usage of open access journals than open access repositories. Though the findings from this investigation may not be generalised to the rest of Nigerian universities due to the sampling technique that was used, the study provides a good basis for planning and conducting similar comprehensive and more representative studies for understanding of the acceptance and use of IDRs by academics in universities and similar institutions in Nigeria and elsewhere. The studies above suggested that, utilisation of IDR can be achieved through increase awareness, advocacy and promotion of the open access repositories. Increase self-archiving and content recruitment of local research outputs.

2.5 Challenges associated with using Institutional Digital Repository

Talking about the challenges associated with using IDR Bamigbola, (2014) conducted a survey study titled “Surveying Attitude and Use of Institutional Repositories (IRs) by Faculty in Agriculture Disciplines: A Case Study”. The study examines the level of awareness, attitude to use of institutional repositories and challenges faced by faculty in Agriculture disciplines in Federal University of Technology, Akure, (FUTA) Nigeria. Survey method was adopted; data was collected through questionnaire and analyzed using descriptive statistics. So many statements have been stated which includes; IDR services are good idea, Using the IDR is a pleasant experience, I use IDR when my colleagues have successful experience of using it, I use IDR when I have seen others using it, IDR is compatible with most aspects of my work, I use IDR on a trial basis, IDR enables me to accomplish my research works more quickly, IDR improves the quality of my work, Learning to self-archive is easy for me and My peers think I

should use IDR. The results of this study showed that, seven (7) out of ten statements, respondents agree that there were challenges to use of IDR while the other responses for the remaining three (3) statements implied that the respondents strongly agreed that there were challenges to use of IDR. Some of the challenges as revealed by the study are; Lack of awareness of IDR, epileptic power supply in the country, fear of not being able to publish works submitted in IDR, fear of plagiarism, ignorance of publishers policy among others were challenges faced by faculty members.

The above report is in consonance with two previous studies; Christian (2008) and Nwokedi (2011) that highlighted the major barriers to use of IDR by faculty in University of Lagos and University of Jos as lack of awareness or ignorance, fear of plagiarism, constant power failure, copyright issues, server unavailability and lack of time. In a similar study by Musa, Shittu, and Abdulkadir (2014) cited Ezeani&Eczema(2011) reported that, the most nagging problem for IDR use among other things are Inadequate power supply. However, Eke (2011) reported that, the challenges in the University of Nigeria Nsukka include Low Bandwidth, Technophobia, Technical Support and Security, Finance and Legal Aspects. Akintunde and Anjo (2012) reported similar problem bedeviling the project at the University of Jos stated that lack of skilled personnel to manage the repository, Lack of adequate power supply as the electricity power sector of Nigerian is poor and it really affects the servers that house the repository. They equally observed lack of Support from the community. From the foregone review, the studies recommended increased awareness of open access Institutional Repositories is likely to be a solution to many other factors considered to affect utilisation of Institutional Repositories, Christian (2008) and Nwokedi (2011), adequate power supply, Ezeani&Ezema (2011) and high bandwidth, Eke (2011). It is therefore important for more campaigns to be directed to both

faculty and policy makers, adequate power supply and provision of high bandwidth in order to attain high usage of open access Institutional Repositories.

2.6 Summary of the Review

The purpose of the literature review in this Chapter was to identify similar studies to the current investigation for the establishment of benchmarks against which the researcher can compare and contrast the emerging research results. The review also identified gaps to be further addressed in this study. The studies delved on the Awareness and Utilisation of Institutional Digital Repositories. The literatures on awareness of Institutional Digital Repositories among Academics have been also reviewed as well as the level of usage of these repositories by Academics. However, the studies also showed the different challenges reported to have been understood as stumbling blocks to the acceptance and use of IDRs by mostly faculty members in various institutions where the studies were subjected. Nevertheless, it should be noted that, larger part of the literatures reviewed here dwelled on use of Institutional Digital Repositories by Academics/Faculty members, only one study has reported the use of IDRs by Postgraduate Students and also little was said about awareness and acceptance of IDRs especially among postgraduate students in Nigerian universities. Moreover, majority of the reported studies were conducted in the developed nations and very little were from developing countries like African nations and particularly Nigeria. Therefore, there is a need to conduct specific studies in order to understand the level of awareness and utilisation of IDRs by postgraduate students of Ahmadu Bello University Zaria specifically students of the faculty of veterinary medicine of this

university so as to come up with proper strategies for an effective promotion of utilisation of this repository and other open access repositories available on the web.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This research used quantitative research methodology. According to Dulle, (2010) quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity (Kothari, 2004). Typical forms of quantitative research are surveyed, in which many respondents are asked questions and their answers are averaged and other statistics calculated.

This chapter therefore, described the research method as it relates to the population, sample, research instruments and procedure for data collection as well as data analysis based on quantitative research technique. The aforementioned items are discussed as follows:

3.2 Research Design

3.3 Population of the Study.

3.4 Sample and the Sampling Technique adopted.

3.5 Procedure for the Data Collection.

3.6. Instrument for Data Collection

3.7 Validation of the Instrument

3.8 Reliability of the Instrument

3.9 Procedure for Data Analysis, Presentation and Discussion of Findings.

3.2 Research Design

The research design adopted for the study was cross-sectional survey research design. Nwargu (1991) defined survey research as one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire population. However, the researcher adopted cross-sectional survey design, because it is ideal and capable of providing accurate and comprehensive data. The cross-sectional survey allows a researcher to collect data or information from the respondents at a single period of time (Osker, 2008). He further stated that, cross-sectional survey, usually utilize questionnaires to ask about a particular topic at one point in time and sometimes, cross-sectional surveys are used to identify the relationship between two variables. This design was chosen because it singles out individuals, groups of individuals, institutions or communities for study. Aina, (2004) stresses that in cross-sectional survey design, opinions of individuals are collected at one point and comparisons are made between the sub-groups and is a cheap method of collecting data and it can be accomplished within a relatively short time.

Cross-sectional survey research design was considered appropriate for this study because it allows extensive gathering of information, it is easier, convenient and flexible. It was used for

this research because it enabled the researcher to reach out to the study population in their different locations. In addition, the research design was adopted because the work was mainly interested in describing certain variables in relation to the population.

3.3 Population of the Study

Population according to Mugo (2010) is a group of individuals, persons, objects or items from which samples are taken for measurement. Osuala, (2002) reported that “population is any group of individuals that have one or more characteristics in common that is of interest to the researcher. Similarly, Gray (2004) defines a population as the total number of possible units or elements that are included in the study. Therefore, this study targeted the population of 1451 Postgraduate Students from nine (9) Departments of the Faculty of Science of Ahmadu Bello University, Zaria. The table 3.1 presents the population distribution according to the departments in the faculty of science of Ahmadu Bello University Zaria.

Table 3.1 Population distribution according to Departments in the faculty of Science, Ahmadu Bello University, Zaria

S/No	Department	No. of Students
1	Biochemistry	244
2	Biological science	137
3	Chemistry	97
4	Geography	386

5	Geology	74
6	Mathematics	261
7	Microbiology	150
8	Physics	56
9	Textile Science and Technology	46
Grand Total		1451

Source: MIS Unit, A.B.U. Zaria. Statistics of Postgraduate Students of the Faculty of Science Ahmadu Bello University, Zaria as at 6th Nov., 2015.

3.4 Sample Size and Sampling Procedure

Sample size of this research was three hundred and two (302) Postgraduate Students from nine (9) Departments of the Faculty of Science Ahmadu Bello University Zaria. Sample size refers to the number of items to be selected from the universe or population to constitute a sample (Kothari, 2004). Kothari recommends that the sample size should neither be excessively large nor too small but it must be optimum. According to Neuman (2006), a researcher's decision about the best sample size depends on three issues: the degree of accuracy required; the degree of variability or diversity in the population; and the number of different variables examined simultaneously. A sample of 302 Postgraduate Students were selected from a population of 1451 Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria.

There are two main approaches of sampling i.e. probability and non-probability sampling. According to Neuman (2006), "the non-probability approach is the one in which the sampling elements are selected using something other than a mathematically random process, while the

probability sampling approach relies on random processes such that each element has an equal probability of being selected". In general, probability sampling is preferred by quantitative researchers because it produces a sample that represents the population and enables the researcher to use powerful statistical techniques (Neuman, 2006).

The probability sampling approach was adopted in this study in order to enable the researcher to make generalisations of the research findings to the study population using a sample of the respondents. Probability sampling can be achieved either through simple random sampling, systematic random sampling, stratified random sampling or cluster sampling (Kothari, 2004; Neuman, 2006). The research adopted Cluster sampling technique. Cluster sampling technique is the type of sampling through which, the selection of individual member is made on the basis of place, residence, employment or geographical location. According to Cohen, Manion and Morrison, (2005) in a cluster sample, the parameters of wider population are often drawn very sharply. A researcher therefore, would have to comment on the generality of the findings. Ideally the sample should be representative and allow the researcher to make accurate estimate of the thoughts and behavior of the larger population. Respondents are to be selected. It was useful for this study, as it allowed the researcher to make a generalization at the end. Moreover, the Faculty under study has nine (9) Departments that differ in terms of courses offered and the number of Postgraduate Students; as such the choice of Cluster sampling technique was imperative for this research, in order to have a certain number as representatives from each department.

The study used sample size table by Krejcie and Morgan, (1970) as cited by Cohen, Manion and Morrison, (2005). According to the table, the population of 1451 falls under 1500 and therefore a sample of 302 has been selected. Therefore, a total no of 302 copies of

questionnaire were distributed based on the percentage of the target population. An opinion obtained from the sample reflected the opinion of all the Postgraduate Students of the Faculty of Science, Ahmadu Bello University Zaria. Therefore, table 3.3 showed the distribution of sample size from each of the departments as follows:

Table 3.3 Distribution of sample size

S/N	Department (as Clusters)	No. of P.G Students	Sample drawn from each Cluster	Percentage (%) for each Cluster
1	Biochemistry	244	51	16.9
2	Biological science	137	29	9.6
3	Chemistry	97	20	6.6
4	Geography	386	80	26.5
5	Geology	74	15	5.0
6	Mathematics and Comp. Science	261	54	17.9
7	Microbiology	150	31	10.3
8	Physics	56	12	3.9
9	Textile Science and Technology	46	10	3.3
	Total	1451	302	100

Key:

✓ 302 is required for the population of 1500 (Krejcie and Morgan, 1970 sample

table)

✓ 1451 was the total population of the faculty studied.

Thus the sample size was obtained as follows:

Department of Biochemistry: $302 \times 224 / 1451 = 50.8$ (approx. 51) which represented 16.9%

Department of biological Science: $302 \times 137 / 1451 = 28.5$ (approx. 29) represented 9.6%

The same procedure was used to arrive at the sample sizes of each other cluster(departments).See appendix (iii)

3.5 Procedure for Data Collection

Data collection involves gathering of data using defined techniques in order to answer the pre-defined research questions of the study (Onyango, 2002; Kripanont, 2007). The copies of the questionnaire were administered to the Respondents by the Researcher with the help of research Assistants. A period of two weeks was given to the Respondents to fill in the questionnaires and another period of two weeks was used to collect the completed copies of questionnaire from the Respondents. This enabled the Respondents enough time to respond to questions asked without pressure from the Research Assistants and as well the Research Assistants found it easier when collection as expected that, by then majority of the Respondents have completed their questionnaire.

3.6 Instrument for Data Collection

The researcher used questionnaire to collect data for the study. The questionnaire used was self-developed by the researcher with the help of supervisors. Likert scale five point items was used in some part of the questionnaire. The questionnaire was used to collect data on Awareness, Access and Utilisation of Institutional Digital Repository by the Postgraduate Students of the faculty of Science Ahmadu Bello University Zaria. A questionnaire is a research instrument through which people are asked to respond to some questions in predetermined order and it is among the most widely used data collection tools (Gray, 2004). The researcher encountered some of the limitations of the questionnaire such as unreturned of the duly completed questionnaire and uncompleted copies of sent questionnaire.

The questionnaire was divided into five (5) sections numbered (A-E). The first sections (i.e. A) solicited for the demographic data of the Respondents which was used for identification and classification of the Respondents. The other four (4) sections (B-E) contained items which sought out data to answer the four (4) research questions and two (2) formulated hypotheses which were used as a guide in the course of the investigation of the research problem. The choice of this method of data collection has been justified with the following reasons. Firstly, the Respondents were capable of completing the questionnaire without any assistance from anybody. Secondly, the Respondents were homogenous in terms of location as they belong to same Faculty that is Faculty of Science of Ahmadu Bello University, Zaria.

3.7 Validation of the Instrument

Validity of the instrument is the extent to which the data collected truly reflect the phenomena being studied (Field, 2005). According to Kripanont (2007), validity tests for assessing the instruments' validity can be done by undertaking content validity, criterion validity or construct validity. This study adopted face and content validity. The instrument for data

collection of this study was a questionnaire. It was a self-developed by the researcher which was subjected to face and content validity tests. After comprehensive search and review of relevant literature from theoretical and empirical studies. The validity of the questionnaire was done by first testing face validity as the researcher selects those which seem likely prove the point and checked by supervisors and two professionals in the field of library and information science. Similarly, the content of the questionnaire was also reviewed by the same specialists to determine the content validity of the items of the questionnaire, if it will actually assess and elicit information on what it was intended. The specialists made constructive criticisms on the area of language and relevance of the items to the study. Thus, areas pointed out by these specialists as ambiguous irrelevant and the inclusion of too many items were corrected. The corrections validated the face and content of the instruments which finally produced the final draft of the instruments for the study.

3.8 Reliability of the Instrument

A pilot study was carried out by the researcher at University of Jos using eight (8) Respondents. After the pilot study, the researcher used Cronbach alpha reliability. The overall reliability index of 0.76 was obtained. This means that, the instrument was reliable and thus adopted for the study. Table 3.4 presents the result of reliability test variable by variable using Cronbach alpha.

Table 3.4: Reliability analysis results for the pilot study

Variable	Numberof items	Cronbach's alpha	Reliability results	Cronbach's alpha if item deleted
Awareness	9	0.734	Acceptable	0.686-0.719

Facilitating factor	6	0.775	Acceptable	0.767-0.773
Utilisation	5	0.792	Acceptable	0.713-0.729
Challenges of utilisation	6	0.735	Acceptable	0.677-0.714

From Table 3.4 it can be noted that all reliability tests of the variables were quite high indicating that items in each set were positively correlated. The values for Cronbach's alpha of 0.7 to 0.8 are considered as acceptable and good respectively (Anez, Reis and Petroski, 2008). The acceptable value for an alpha if item is deleted should not be greater than the overall Cronbach's alpha of the variable in question. For example, if the overall alpha of the variable is 0.841 all values in the column of Alpha if deleted should be around that same level. Items with values greater than the overall alpha mean that the deletion of such items improves reliability.

3.9 Procedure for Data Analysis

The information collected through questionnaire were organized and presented descriptively in form of frequency distribution tables and the data arisen from the distribution were converted into percentages. The analysis and presentation of data were in the tabular form. The data collected were also descriptively analyzed using descriptive statistic in order to obtain answers to the research questions raised and inferential statistic was used to test the formulated hypotheses using two (2) sample T-test (independent) for the two (2) null hypotheses. This is because, T-test measure two independent groups e.g. male and female.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter dealt with data presentation, analysis and discussion of findings of the study. The study adopted descriptive and inferential statistics using simple percentage and frequency tables. The data collected and analysed are presented under the following headings:

4.2 Response Rate

4.3 Demographic Information

4.4 Descriptive Statistics

4.5 Analysis of Inferential Statistics

4.2 Response rate

Three hundred and two(302) copies of the questionnaire were administered to the Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria and out of which a total of 241 (79.7%) copies were returned duly completed and found usable for this study. The reason for the high response rate was due to the fact that the research assistants used were staff in the faculty and enough time was given to the respondents to fill and return the administered questionnaire. It can also be attributed to the fact that the respondents too were given enough time within which to complete and return their copies of questionnaire. The response rate distribution of the Postgraduate Students of the Faculty of Science Ahmadu Bello University, Zaria is presented in table 4.1:

Table 4.1: Response Rate

S/No	Department	No. of Questionnaire Administered.	No. of Questionnaires Retrieved.	Percentage of retrieved questionnaire (%)
1	Biochemistry	51	42	13.9
2	Biological science	29	25	8.3
3	Chemistry	20	16	5.3
4	Geography	80	62	20.5

5	Geology	15	13	4.3
6	Mathematics	54	36	11.9
7	Microbiology	31	27	8.9
8	Physics	12	10	3.3
9	Textile science and tech.	10	10	3.3
Total		302	241	79.7

Table 4.1: Respondents rate of retrieved questionnaire from the Nine Departments of the Faculty of Science, Ahmadu Bello University, Zaria.

As seen from table 4.1, a total of three hundred and two (302) copies of questionnaire were administered to the postgraduate students in the nine (9) Departments of the Faculty of Science Ahmadu Bello University, Zaria. The table showed that Geography Department got the highest number of questionnaire administered and retrieved with 80 copies administered and 62 (20.5%) respectively, followed by Department of Biochemistry with 51 copies of questionnaire administered and 42 (13.9%) retrieved. While Textile Science and Technology and Physics Departments were the least with 10 and 12 copies questionnaire administered in which 10 copies (3.3%) each were retrieved respectively. The above data revealed that, out of 302 copies of questionnaire administered 241 were retrieved which constituted 79.7% of the sample. This revealed the anticipated cooperation from the respondents was realized.

4.3 Demographic Information of the Respondents

In this section information about respondents' gender was provided. The exclusion of other information such as age, educational status was due to the fact that they are irrelevant to the study.

4.3.1 Gender Distribution of Respondents

The respondents of this study comprised male and female Postgraduate Students across the nine (9) Departments of the Faculty of Science Ahmadu Bello University, Zaria. The inclusion of gender in this study is to reflect the fact that both males and females engaged in postgraduate studies in Ahmadu Bello University Zaria. Table 4.2 presents the gender distribution of the respondents:-

Table 4.2: Gender Distribution of Postgraduate Students of the Faculty of Science Ahmadu Bello University, Zaria

	Departments
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Gender group	Biochemistry		Biological Science		Chemistry		Geography		Geology		Mathematic		Microbiology		Physics		Textile Science and Tech.		Total	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Female	11	4.6	9	3.7	6	2.5	5	2.1	0	0.0	7	2.9	9	3.7	3	1.2	0	0.0	50	20.8
Male	31	12.9	16	6.6	10	4.1	57	23.7	13	5.4	29	12.0	18	7.5	7	2.9	10	4.1	191	79.2
Total	42	17.4	25	10.4	16	7.5	62	25.5	13	6.0	36	14.8	27	12.0	10	4.4	10	3.0	241	100.0

Table 4.2 shows the response rate of the respondents' based on gender, which Male Postgraduate Students were of the majority with 53 (79.1%), while Female Postgraduate Students constituted the minority of the respondents with only 14 making (20.9%). The result revealed that, males enrolled higher in the postgraduate studies in the faculty than their females' counterpart. The number of female respondents was low as a result of this category of Postgraduate Students having the lower representation than their male counterparts in all the departments under the study. This was due to the fact that fewer females were admitted by the departments/university which may resulted at getting more male graduates than females.

4.4 Descriptive Statistics

Measures of frequency and percentages was used to answer the four research questions raised based on the objectives of the study. According to Kripanont (2007), descriptive statistics have a number of benefits including: describing the characteristics of the sample, checking

variables for any violation of the assumptions underlying the statistical techniques used, and addressing specific objectives. A broad descriptive analysis was done across all the available data using the SPSS. The detailed results from descriptive analysis are presented in this Chapter in items 4.4.1 to 4.4.4:

4.4.1: Awareness of Institutional Digital Repository among Respondents

This question was asked to determine the extent of awareness of postgraduate students of the faculty of science A.B.U. Zaria on the university’s owned Institutional Digital Repository. In order to determine that a question was asked using a 5 point Likert scale of measurement which were collapsed into 2 points for easy analysis and presentation of data. Table 4.3 revealed the responses.

Table 4.3 Awareness on Institutional Digital Repository of Postgraduate Students of the Faculty of Science Ahmadu Bello University, Zaria

Department	Responses on awareness			
	EA		NA	
	F	%	F	%

Biochemistry	19	7.9	23	9.5
Biological science	11	4.6	14	5.8
Chemistry	8	3.3	8	3.3
Geography	20	8.3	42	17.4
Geology	4	1.7	9	3.7
Mathematics	22	9.1	14	5.8
Microbiology	10	4.2	17	7.1
Physics	4	1.7	6	2.5
Textile science and Tech.	3	1.2	7	2.9
Total	101	42.0	140	58.0

Key: EA= Extremely Aware and NA= Not at all Aware

Table 4.3 reveals that out of 241(79.7%) of the sample of the population, majority 140 (58.0%) of the respondents were not aware of the IDR. While 101 (42.0%) of the respondents were aware of the IDR in A.B.U. Zaria. Majority of the respondents who were aware 22(9.1%) came from mathematics and computer science department followed by geography department with 20 (8.3%) and Biochemistry department with 19 (7.9%). Textile science and technology department was had the least of respondents who were aware of the IDR in A.B.U. Zaria. From the above result, it can be noted that, majority of the respondents were not aware of the IDR in A.B.U. Zaria. This result concurred with a study by Christian (2008), which reveals that while only 3% of 66 respondents at the University of Lagos were aware of the Institutional digital repositories, 22.7% others knew very little about it and majority (74%) of the respondents were completely unaware of Institutional digital repositories, but it contradicted with that of Halder and Chandra (2013) who reveals that 76.47% of Students were aware about Institutional Digital Repository in Jadavpur University. From the above analysis, it is clear that a majority of the respondents were not aware of the Institutional Digital Repository in A.B.U Zaria. This finding

facilitate a call to the management of Kashim Ibrahim Library and the University management at large to revive or improve the awareness campaign programme, on the existence of the university digital repository.

A follow up question was asked for the postgraduate students of the faculty of science who answered “Yes” that they were aware of the IDR in A.B.U Zaria to indicate the sources through which they became aware of the IDR. To achieve that, a number of sources of awareness of IDR were provided for the respondents to indicate the source through which they became aware of the ABU Zaria IDR. Table 4.4 revealed the responses of the postgraduate students in the study:

Table 4.4 Frequency Distribution of Sources of Awareness of IDR by Postgraduate Students of the Faculty of Science Ahmadu Bello University, Zaria

Sources of Awareness	Departments																					
	Biochemistry		Biological Science		Chemistry		Geography		Geology		Mathematic		Microbiology		Physics		Textile Science and Tech.		Total			
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%		
Publishers' promotion	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
On Internet	8	7.9	4	4.0	3	3.0	6	5.9	1	0.9	12	11.9	4	4.0	2	2.0	0	0.0	0	0.0	40	39.6
Workshop/conference/debate on open access	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	5.9	0	0.0	0	0.0	0	0.0	0	0.0	6	5.9
Colleague	11	10.9	7	6.9	5	4.9	14	13.9	3	3.0	4	4.0	6	5.9	2	2.0	3	3.0	3	3.0	55	54.5
Total	19	18.8	11	10.9	8	7.9	20	19.8	4	3.9	22	21.8	10	9.9	4	4.0	3	3.0	3	3.0	101	100.0

Table 4.4 showed the responses of the respondents on the sources of awareness of institutional digital repository by postgraduate students studied. The result revealed that 55 (54.5%) of the respondents indicated colleagues as their source of awareness of IDR in A.B.U. Zaria, followed by 40 (39.6%) of the respondents who indicated that, they became aware about IDR whilst on internet and only 6 (5.9%) of the respondents indicated that they became aware of the IDR in a Workshop/conference/debate on open access. It should be noted that, none of the respondents indicated publisher's promotion as the source through which they became aware of the IDR. From the above result it can be seen that the major source of awareness of IDR by postgraduate students in the study was their colleagues (co-students) followed by the internet. This may be attributed as a result of good relationship that exists between students at classes, students' hostels and other learning and social interaction places. This implies that postgraduate students in A.B.U. Zaria engaged in interactions that enlightened themselves about any new development in the campus.

From the above findings it is very clear that the respondents became aware of IDR through different sources. However, provision for other sources of awareness of IDR was not provided by the researcher to enable the respondents disclose their source(s) of awareness other than the ones provided. This was due to the fact that, the questions were set to be close-ended. Therefore, in regards to the research question that was asked to find out the awareness of the Postgraduate students on IDR in A.B.U. Zaria, based on the findings of the study it was concluded that there is low awareness of IDR among postgraduate students of the faculty of science, Ahmadu Bello University Zaria.

4.4.2 Factors Facilitating the Utilisation of IDR

Therespondents were asked to indicate the factors facilitating the utilisation of IDR in A.B.U. Zaria. Table 4.5 indicated the factors based on the respondents' choice:

Table 4.5 Factors Facilitating the Utilisation of IDR by the Postgraduate Students of the Faculty of Science, A.B.U. Zaria

Factors facilitating the IDR Utilisation	Departments																			
	Biochemistry		Biological Science		Chemistry		Geography		Geology		Mathematics		Microbiology		Physics		Textile Science and Tech.		Total	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Colleague's assistance	5	4.9	3	3.0	3	3.0	4	4.0	0	0.0	7	6.9	3	3.0	0	0.0	0	0.0	25	24.8
Library Promotion/ Bulletin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Library Website	3	7.9	1	4.9	2	4.9	3	6.9	1	0.9	5	11.9	1	4.0	2	2.0	0	0.0	18	17.8
Workshop/Seminar/Conference	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	6	5.9	0	0.0	0	0.0	0	0.0	6	5.9
University Bulletin	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Free access	11	10.9	7	6.9	3	3.0	13	12.9	3	3.0	4	4.0	6	5.9	2	2.0	3	3.0	52	51.5

Table 4.5 showed the responses of the respondents on motivators of IDR utilisation in A.B.U.Zaria. The result revealed that 52 (51.5%) of the respondents have indicated that free access to IDR in their institution was the major facilitator to their utilisation of IDR. This was followed by colleague's assistance 25 (24.8%) of the respondents, 18 (17.8%) of the respondents indicated that library website had facilitated their utilisation of IDR, while the least motivator was Workshop/Seminar/Conference with 6 (5.9%). It should be noted that, Library Promotion/ Bulletin and University Bulletin were not in any case considered as a facilitator for IDR utilisation by the respondents. This finding was in consonance with the findings of previous

studies by Warlick and Voughan, 2006; Bernius *et al*, 2009 and Frandsen, 2009 that reveals free or unrestricted access to open access content has been found to be the main facilitator for many researchers to access open access scholarly content in repositories. With regards to the finding that reveals Library Promotion/ Bulletin and University Bulletin not considered as factors that motivate IDR Utilisation, the problem could be attributed to the poor or lack of effective promotion of library services in the university through those media by both the library and the university managements. This findings implies that Kashim Ibrahim Library being the custodian of the IDR in A.B.U Zaria needs to adopt using other media to promote the services of the IDR so as to maximize the utilisation of the repository by the Postgraduate Students.

4.4.3 Utilisation of Institutional Digital Repository (IDR)

This respondents were asked to indicate the extent of utilisation of IDR. Respondents were provided with different types of digital materials to indicate the extent to which they use them using a 5 point Likert scale of measurement. However, the scale was merged into 2 –point scale to eased analysis and discussions. The options were provided thus: VF(Very Frequent), and NF(Not Frequent). Table 4.6 presents the result thus:

Table 4.6 Frequency of Utilisation of IDR by Postgraduate Students

Department	Utilisation of IDR			
	VF		NF	
	F	%	F	%
Biochemistry	7	6.9	12	11.9
Biological science	5	4.9	6	5.9
Chemistry	4	4.0	4	4.0
Geography	7	6.9	13	12.9
Geology	1	0.9	3	3.0
Mathematics	15	14.8	7	6.9
Microbiology	3	3.0	7	6.9
Physics	1	0.9	3	3.0
Textile science and tech.	3	3.0	0	0.0
Total	46	45.5	55	54.5

KEY: VF=VERY FREQUENT AND NF=NOT FREQUENT

Table 4.6 revealed the responses of the respondents on the extent of utilisation of IDR. The result showed that 46 (45.5%) of the respondents had indicated that they were very frequently on utilising the IDR while 55 (54.5%) of the respondents were found not frequently utilising the IDR in A.B.U. Zaria. Also in the table, it was found that, mathematics department has the majority among those indicated to have utilised the repository very frequently with 15 (14.8%) of the respondents. Physics and Geology departments had the least number of respondents that had frequently utilised the IDR. The findings of the study were in consonance with the findings of Swan and Brown (2005) who found that less than half of the respondents in their study had utilised the content of the repository. Meanwhile, the findings were in contrast with the study by Mann, Walter, Hess & Wigand (2008) who found that 66% of the respondents from their study claimed to have used freely available material from institutional repositories. This result might be influenced by the lack of awareness as found clearly in the findings of table 4.3.

Therefore, one could argue that there is very low utilisation of A.B.U. IDR by postgraduate students of the faculty of science A.B.U. Zaria. This implies that the university management would continue sinking their funds in the maintenance of the repository without achieving the required result if the utilisation of this repository is not improved.

4.4.4 Challenges Militating against the Utilisation of A.B.U Zaria IDR

The respondents were asked to identify the challenges militating against the utilisation of IDR in A.B.U. Zaria. Table 4.15 presented the responses of P.G Students as regards to challenges:

Table 4.7 Challenges of Utilisation of A.B.U. Zaria IDR

Challenges to Utilisation of IDR	Departments																			
	Biochemistry		Biological Science		Chemistry		Geography		Geology		Mathematics		Microbiology		Physics		Textile Science and Tech.		Total	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Lack of awareness of IDR among Postgraduate Students	32	13.4	18	7.5	18	7.5	43	17.9	14	6.0	22	9.0	29	11.9	11	4.5	7	3.0	194	80.6
Lack of adequate skills for using IDR among Postgraduate Students	18	7.5	4	1.5	7	3.0	14	6.0	4	1.5	7	3.0	4	1.5	4	1.5	7	3.0	69	28.6
Poor Internet services in the Library and the University	25	10.4	14	6.0	18	7.5	32	13.3	11	4.6	18	7.5	11	4.6	8	3.3	9	3.7	146	60.9
IDR is not user friendly	4	1.5	0	0.0	7	3.0	0	0.0	4	1.5	7	3.0	11	4.5	4	1.5	0	0.0	37	15.0
Use of IDR is costly	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Inadequate power supply	7	3.0	0	0.0	0	0.0	7	3.0	4	1.5	11	4.5	7	3.0	7	3.0	4	1.5	47	19.5

The table 4.7 revealed the result of data collected on challenges of utilisation of A.B.U. Zaria IDR. The result shows that, lack of awareness of IDR among the respondents 194 (80.6%) was the major challenge to the utilisation of A.B.U. Zaria IDR followed by poor internet service in the library 146 (62.9%). 47 (19.5%) of the respondents indicated that Inadequate power supply was a challenge to utilisation of the IDR while 37 (15.0%) indicated that IDR is not user friendly was a challenge to utilisation of IDR. It should be noted that, the respondents here tick as many challenges as possible. Also it should be noted here that, those respondents that claimed they were not aware of the IDR in table 4.3 above have responded to this question. Therefore, it can be argued that the major challenges to IDR utilisation by Postgraduate students of the Faculty of Science A.B.U. Zaria were lack of awareness and poor internet service in the Kashim Ibrahim Library.

The findings from table 4.7 corresponds with the findings the study of Christian (2008) and Nwokedi (2011) that the major barriers to use of IDR by faculty in University of Lagos and University of Jos as lack of awareness or ignorance, fear of plagiarism, constant power failure, copyright issues, server unavailability and lack of time. This implies that the number of Postgraduate Students that utilised the IDR would tend to reduced drastically in future if the result of the findings above are not considered and necessary action taken immediately.

4.5 Analysis of Inferential Statistic

This section presents the inferential statistics used to test the two (2) formulated hypotheses for the study using two sample T-test, in order to find out the significance difference between the two groups of (male and female) Awareness of IDR.

HO₁ There is no significant difference between gender and awareness of the Institutional Digital Repository, by the Postgraduate Students in the Faculty of Science.

The result is summarized in tables 4.8 and 4.9 below:

Table 4.8 Data output of Descriptive Statistic from Hypothesis 1

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Awareness	Male	191	2.3962	1.56081	.21439
	Female	50	3.0714	1.54244	.41223

Table 4.9: Sample T-test on significant difference between male and female postgraduate students on awareness of the institutional digital repository

	Gender	N	Mean	Std. Deviation	T-value	DF	P-value
Awareness	Male	191	2.3962	1.56081	-1.443	239	0.154
	Female	50	3.0714	1.54244			

Alpha $\alpha=0.05$

Table 4.9 revealed that with p-value (0.154) and alpha at (0.05). The null hypothesis was therefore retained. The result of this observation implied that gender has no significant effect to the awareness of institutional digital repository by PG Students in the faculty of science, Ahmadu Bello University, Zaria.

4.5.1 HO₂. There is no significant difference between gender and the utilisation of the Institutional Digital Repository.

The result is summarized in tables 4.10 and 4.11 below:

Table 4.10 data output of descriptive statistic from hypothesis 2

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Utilisation	Male	191	2.3396	1.56824	.21541
	Female	50	2.5000	1.74312	.46587

Table 4.11 Sample T-test on Significant Difference between Male and Female Postgraduate Students on Utilisation of Institutional Digital Repository

	Gender	N	Mean	Std. Deviation	T-value	DF	P-value
Utilisation	Male	191	2.3396	1.56824	-0.333	239	0.741
	Female	50	2.5000	1.74312			

Alpha $\alpha=0.05$

The result in table 4.11 revealed that, there is no significant difference between gender and utilisation of Institutional Digital Repository. With alpha at (0.05) and p-value (0.741) the study failed to reject the null hypothesis and the null hypothesis was therefore retained. This observation also implied that gender did not have effect to the Utilisation of Institutional Digital Repository by PG Students in the Faculty of Science, Ahmadu Bello University, Zaria.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This Dissertation investigated the Awareness and Utilisation of Institutional Digital Repository (IDR) by Postgraduate Students of the Faculty of Science, Ahmadu Bello University Zaria. This chapter summarized the entire research and draws conclusions and recommendations based on the research findings.

5.2 Summary of the Study

The chapter one of this work dealt with the purpose of study which was to investigate Awareness and Utilisation of Institutional Digital Repository by Postgraduate Students of the Faculty of Science, Ahmadu Bello University, Zaria, so as to recommend strategies for the enhancement of its maximum accessibility and utilisation. The study was motivated by the notable problems associated with awareness, access and utilisation of IDR in Ahmadu Bello University, Zaria especially by this group of users (Postgraduate Students) who formed a majority of the targeted users of the Repository. To achieve the aim of the study, four objectives and four research questions as outlined in chapter one were formulated and also two (2) null hypotheses were tested. It was established that for Kashim Ibrahim Library, Ahmadu Bello University, Zaria to attain the set goal for its IDR, a maximum utilisation of Institutional Digital Repository by increased awareness campaign on the importance and the reason why the IDR was established should be provided to the entire university community.

Chapter two of the study reviewed related literature based on the concepts of Awareness of Institutional Digital Repository, Factors motivating the Utilisation of Institutional Digital

Repository, Utilisation of Institutional Digital Repository and Challenges of Utilisation of Institutional Digital Repository.

In the chapter three the study adopted a quantitative methodology for data gathering. The survey questionnaire was used and 302 respondents selected through Clustersampling technique from a population of 1451 Postgraduate Students from nine (9) Departments of the Faculty of Science Ahmadu Bello University Zaria. Among the 302 copies of questionnaire administered 241 (79.8%) were returned duly completed by respondents. Similarly, 191 (79.2%) of the respondents were males and 50 (20.8%) were females.

Chapter four dealt with Data emerged from the survey which were analysed using the descriptive and inferential statistics of SPSS. Frequency distribution tables and percentages were used for the descriptive statistic in order to answer the five research questions while two (2) simple t-tests were used for the inferential statistic to test null hypothesis 1 and 2. The two hypotheses were tested all at α 0.05 and 239 degree of freedom for both hypotheses.

And finally chapter five provided the summary of the study, summary of the major findings, conclusion and recommendations as well as the contribution of the study to the knowledge.

5.3 Summary of the Major Findings

The study discovered:

1. That Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria have very low awareness of IDR.
2. That free access to the IDR was the major Facilitator of utilisation of IDR in A.B.U. Zaria by Postgraduate Students of the Faculty of Science that were opportuned to be aware of the IDR.

3. That utilisation of IDR by Postgraduate Students of the Faculty of Science was very low.
4. That the major challenges to the utilisation of IDR among Postgraduate Students of the faculty of science A.B.U. Zaria were lack of awareness of IDR and poor Internet service in the Kashim Ibrahim Library.

5.4 Contribution to knowledge

1. The findings of this study will surely serve as an information resource which shall be used to create awareness of IDR among not only Postgraduate students but the entire members of Ahmadu Bello University Community.
2. The findings of the study will also help to increase utilisation of Ahmadu Bello University IDR which in turn will help increase the visibility status of the A.B.U local researches to the wider world. Increase in research visibility uplift the level of institution in the world universities ranking.

5.5 Conclusion

Study on Awareness and utilisation of Institutional Digital Repository is very paramount to the management of any institution that established IDR for its Academics and Postgraduate Students. This is because without clearly understanding whether the targeted users are aware of the IDR at their disposal or not, the proper and effective utilisation of this technology could never be achieved to its maximum level. Based on the findings above, it was clearly understood that the level of Awareness and as well Utilisation of Institutional Digital Repository by Postgraduate Students of the Faculty of Science, Ahmadu Bello University Zaria was very poor in the sense that, majority of these targeted users of the repository were not aware of what IDR is all about and what are the good things this technology can provide for them. Very little they could say about what the repository was all about. This is the major reason why they were not

optimally utilising the technology and it is also one of the reason why the visibility of the IDR was very low to the global community. Therefore, these findings would assist Kashim Ibrahim Library management to improve its Institutional Digital Repository. Moreover, the findings will enable the management to find a better way(s) to promote the Institutional Digital Repository for the benefit of the entire University community.

This could only be achieved when the management of Kashim Ibrahim Library re-strategise their awareness and promotion programme on the use of A.B.U. IDR. Because if this trend continued the result will probably be a waste of fund and resources that were used and also being used for setting up of the IDR as well as maintaining of the IDR.

5.6 Recommendations

Based on the findings above, the following recommendations have been made as follows:

1. A new awareness campaign on Institutional Digital Repository to the entire Ahmadu Bello University Zaria community should be planned and executed to facilitate increase utilisation to the optimum level of the repository.
2. That, free and unrestricted access to repository contents should be maintained and faculty members be encourage to deposit or publish in the A.B.U. Digital Repositories.
3. That, more contents like preprint and post print laboratory reports, science-based research digital content e.t.c. should be added and IDR services should be adequately and effectively promoted to maximize utilisation.
4. That, lack of Awareness of IDR and poor internet service in the library should be address with utmost importance by both the management of Kashim Ibrahim Library and the ICT Division of Ahmadu Bello University Zaria.

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Appendix I

Introductory Letter for a Survey on Awareness and Utilisation of Institutional Digital Repository (IDR) by Postgraduate Students of the Faculty of Science Ahmadu Bello University Zaria

Department of Library and information Science,

Faculty of Education,

Ahmadu Bello University, Zaria

Date:

Dear Respondent,

I am a MASTER OF ARCHIVES AND RECORDS MANAGEMENT (MARM) Student in the above named Department conducting a research titled “**AWARENESS AND UTILISATION OF INSTITUTIONAL DIGITAL REPOSITORY (IDR) BY POSTGRADUATE STUDENTS OF THE FACULTY OF SCIENCE IN AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA**”.

This research is essentially for academic purposes. You are one of those selected in Your Department for this exercise. Kindly assist to respond to the questions in this questionnaire. Your views are highly valuable regardless of whether you already have experience with Institutional Digital Repository or not, as it is your personal opinion that matters since there is no right or wrong answer. Results from this survey will form a crucial component of My Master’s Thesis and will provide an important input in suggesting better ways in which this service can be improved and maximally utilised.

All the information given will be used strictly for the research purpose only.

Thank you for your anticipated cooperation.

Yours sincerely,

A. I. Ahmad

MARM Student (AHMADU BELLO UNIVERSITY ZARIA)

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Appendix II

QUESTIONNAIRE

SECTION (A) DEMOGRAPHIC DATA OF THE RESPONDENTS(tick the appropriate option)

1. **Gender:** a). Male

b). Female

2. **Department**

MAIN ITEM OF THE STUDY

SECTION B.EXTENT OF AWARENESS OF IDR AMONG POSTGRADUATE STUDENTS OF THE FACULTY OF SCIENCE AHMADU BELLO UNIVERSITY ZARIA

1. **Please indicate the extent to which you are aware of the IDR in A.B.U. Zaria. Rate from 1-5 (tick the appropriate)**

5	Extremely aware	
4	Somewhat aware	
3	Somewhat aware	
2	Slightly aware	
1	not At all aware	

2. **Please indicate the source of your awareness of the IDR(Tick as many as possible).**

SOURCES OF AWARENESS OF IDR		
Publishers' promotion		
On Internet		
Workshop/conference/debate on open access		
Colleague		

SECTION C: FACTORS FACILITATING THE UTILISATION OF IDR

1. **Indicate the factor(s) that facilitates you to utilise the IDR in A.B.U. Zaria.** (*Tick as many as possible*).

Facilitators of IDR utilization	
Colleague's assistance	
Library Promotion/ Bulletin	
Library Website	
Workshop/Seminar/Conference	
University Bulletin	
Free access	

SECTION D: EXTENT OF THE UTILISATION OF INSTITUTIONAL DIGITAL REPOSITORY (IDR)

2. **Indicate the extent to which you utilise the IDR in A.B.U. Zaria.** *Rate from 1-5 (tick the appropriate)*

5	Very frequent	
4	Moderately frequent	
3	Somewhat frequent	
2	Slightly frequent	
1	Not at all frequent	

SECTION E: CHALLENGES TO THE A.B.U IDR UTILISATION

2. 1. **Indicate the challenge(s) to utilisation of IDR in A.B.U. Zaria.** (*Tick as many as possible*).

Challenges to utilisation of IDR	
Lack of awareness of IDR among Postgraduate Students	
Lack of adequate skills for using IDR among Postgraduate Students	
Poor Internet services in the Library and the University	
IDR is not user friendly	
Use of IDR is costly	
Inadequate power supply	

Thank you very much

Appendix III:

Krejce and Morgan Table for determining the size of a random sample:

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1,200	291
15	14	230	144	1,300	297
20	19	240	148	1,400	302
25	24	250	152	1,500	306
30	28	260	155	1,600	310
35	32	270	159	1,700	313
40	36	280	162	1,800	317
45	40	290	165	1,900	320
50	44	300	169	2,000	322
55	48	320	175	2,200	327
60	52	340	181	2,400	331
65	56	360	186	2,600	335
70	59	380	191	2,800	338
75	63	400	196	3,000	341
80	66	420	201	3,500	346
85	70	440	205	4,000	351
90	73	460	210	4,500	354
95	76	480	214	5,000	357
100	80	500	217	6,000	361
110	86	550	226	7,000	364
120	92	600	234	8,000	367
130	97	650	242	9,000	368
140	103	700	248	10,000	370
150	108	750	254	15,000	375
160	113	800	260	20,000	377
170	118	850	265	30,000	379
180	123	900	269	40,000	380
190	127	950	274	50,000	381
200	132	1,000	278	75,000	382
210	136	1,100	285	100,0000	384