ADOPTION OF LEGAL DEPOSIT STATUTORY LAW ON ELECTRONIC INFORMATION RESOURCES FOR UTILIZATION OF DIGITAL REPOSITORY OF NATIONAL LIBRARY OF NIGERIA

BY

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A RESEARCH DISSERTATION SUBMITTED TO SCHOOL OF POSTGRADUATE STUDIES IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE AWARD OF MASTER OF PHILOSOPHY DEGREE IN INFORMATION SCIENCE (MPHIL)

IN THE DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE FACULTY OF EDUCATION, AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA

DECEMBER, 2024

DECLARATION

I declare that this dissertation titled: **"Adoption of Legal Deposit Statutory Law on Electronic Information Resources for Utilization of Digital Repository of National Library of Nigeria"** has been written by me in the Department of Library and Information Science, Ahmadu Bello University, Zaria. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree at this or any other institution.

_____ _____

RIDWAN, SANI MURTALA **Date**
P21EDLS8138

CERTIFICATION

This dissertation titled **"Adoption of Legal Deposit Statutory Law on Electronic Information Resources for Utilization of Digital Repository of National Library of Nigeria"** written by **RIDWAN, Sani Murtala** has met the requirements governing the award of degree of MPhil Information science in the Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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Prof. Tijjani Abubakar Chairman, Supervisory Committee	Date
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DEDICATION

This work is dedicated to my parent, Alhaji Murtala Ridwan and Hajiya Hannatu Murtala Ridwan

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Glory and praise be to Almighty God for HIS mercy upon my life to carry out this programme successfully. I am highly indebted to my untiring supervisory team Prof. Tijjani Abubakar and Dr. Mohammed Habibu, for their time, patience, guidance and intellectual support. May your versatile knowledge continue to be a blessing to all mankind.

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ABSTRACT

This study investigated Adoption of Legal Deposit Statutory Law on Electronic Information Resources for Utilization of Digital Repository of National Library of Nigeria to achieve this seven research objectives were raised, among others to: find out the types of electronic resources are covered with legal deposit statutory law by National Library of Nigeria, identify the types of digital repository available for adoption of legal deposit statutory law on electronic information resources of National Library of Nigeria, explore the extent in which the strategies employed are relevant for the adoption of legal deposit statutory law on electronic information resources for utilization of Digital Repository by National Library of Nigeria. Quantitative research methodology was adopted using cross-sectional survey strategy. 297 questionnaires were administered and 161 retuned and found worthy for analysis. The study found that the types of electronic information resources are covered with legal deposit statutory law by National Library of Nigeria among others were e-audio visual materials, e-almanacs, e-annual reports, e-books, e-compendium of conferences, e-conference papers, e-gazettes and e-maps. The study reveals that the type of digital repository available is National Repository @power by Eko-Konnect. The study found that type of strategies available among others were introducing e-policy for submitting books to National Library of Nigeria, collection base of quality of information publications, digital deposits of information through dedicated National Library information systems, digital registration of the incoming deposits of information, The study established that the extent in which the strategies employed is highly relevant for the adoption of legal deposit statutory law on electronic information resources for utilization of digital repository of National Library of Nigeria. The study found that the extent in which the adoption of legal deposit statutory law on electronic information resources is highly facilitates visibility of information for utilization of Digital Repository. The study also found that the extent in which the adoption of legal deposit statutory law on electronic information resources is highly facilitates access of information resources for utilization of Digital Repository of National Library of Nigeria. The study reveals that extent in which the adoption of legal deposit statutory law on electronic information resources is highly facilitates use of information resources in digital repository. The study established that the challenges faced while adopting of legal deposit statutory law on electronic information resources among others were lack of clear policy for digital deposition of information; lack of awareness surrounding digital information policy; and lack of skilled staff for adoption of digital repository. The study concluded that the adoption of the Legal Deposit Statutory Law on electronic information resources has significantly advanced the utilization of the Digital Repository of the National Library of Nigeria. This initiative has expanded the scope of information coverage, ensuring that electronic publications and intellectual resources are systematically preserved and made accessible for national and international research purposes. The policy facilitates seamless access to electronic resources, enhances the visibility of Nigerian scholarly outputs, and supports compliance with global standards for digital repository management. The study recommended that, more publicity and awareness should be created on clear policy for digital deposition of information, emphasis should be maintained on the strategies applied for sustainability of digital deposition of information.

Keywords: Adoption, Digital Deposition, e-Information Resources, Utilization, Digital Repository, National Library

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CHAPTER ONE

INTROD0UCTION

1.1 Background to the Study

Legal deposit statutory law is a regulation instituted by governments to ensure the preservation of cultural and intellectual heritage, originally concerning books and printed materials. With advancements in technology and the proliferation of digital resources, legal deposit has expanded to include digital content. Legal deposit laws trace their origins to France in 1537 (Iqbal, Qutab, & Soroya, 2015). These laws aim to preserve a nation's cultural heritage, establish bibliographic control, manage state library networks, and support libraries with access to newly published materials (Saleem, Kindi, & Rahbi, 2017).

The National Library of Nigeria (NLN), established in 1964 by Decree No. 29 of 1970, is tasked with preserving the nation's intellectual output. The decree mandates the NLN to "accumulate, preserve, and expand a collection of periodicals, books, newspapers, pamphlets, films, maps, recordings, musical scores, and other materials suitable for a library of the highest standing and make them accessible to the public." As Nigeria's legal depository, the NLN collects publications from the Federal Government, state governments, and commercial publishers. Federal publications require 25 copies, state publications 10 copies, and commercial publishers 3 copies for submission (Ufuoma, 2015).

However, Nigeria's legal deposit law currently applies predominantly to non-academic resources, often limited to printed materials from recognized publishers. Many publications remain confined to publishers' archives, limiting access and utilization. While some publishers explore digital dissemination, a significant portion of intellectual resources remains inaccessible or underutilized by researchers and users.

The Open Access Initiative (OAI) provides a viable solution by facilitating greater access to information at national level. By leveraging the OAI, the National Library of Nigeria can enhance its role as a regulatory body and address the challenges of legal deposit compliance. The National Library of Nigeria's core functions include conserving cultural heritage, extending bibliographic control, and coordinating library services nationwide. Ode and Omotola (2012) emphasized its roles in preserving the nation's literature for posterity, managing rare manuscripts, publishing a national bibliography, providing advisory services, and issuing ISBN, ISSN, and ISMN identifiers. By integrating digital deposition methods and open-access platforms, the National Library of Nigeria can modernize its approach to bibliographic control and resource dissemination, ensuring the preservation and accessibility of Nigeria's intellectual and cultural assets.

The National Library plays a pivotal role in the dissemination and preservation of information resources, as well as in fostering sustainable development. According to Matthew (2009) and Okeagu (2009), the National Library is integral in providing access to information, partnering with stakeholders, structuring knowledge, imparting skills, preserving cultural heritage, and building public trust. These functions are essential for supporting a knowledge economy, which aims to meet present needs while safeguarding resources for future generations. White (2000) emphasized that national libraries serve as repositories for intellectual contributions from the world's best minds, regardless of their origin. They support intellectual freedom and nurture a nation's creative potential through unrestricted access to information. Without national libraries, individual and national development may face significant setbacks, risking systemic failure in achieving educational and research goals. Oke (2008) further highlighted the multifaceted value of national libraries, particularly in research, education, and personal development. Libraries provide access to essential resources for research assignments, academic presentations, and knowledge enhancement.

Beyond academic purposes, they offer recreational services, including access to documentaries, novels, periodicals, and more, enriching users' leisure experiences.

Advancements in Information Technology (IT) have revolutionized the way information is stored, accessed, and disseminated. Digital libraries and repositories have emerged as essential tools for organizing and providing access to both general and scientific knowledge. These technologies have reshaped scholarly communication by improving collaboration among researchers and offering diverse publication platforms. Open Access Digital Repositories (OADR) are digital platforms designed to store, manage, and provide unrestricted access to intellectual works. These repositories include e-prints, theses, dissertations, and other digital outputs, often organized at institutional or national levels. Fowoyo (2014) asserts that OADRs consolidate institutional research outputs under one umbrella, facilitating access and ensuring long-term preservation. The rise of OADRs aligns with the demands of globalization and the digital age, where Information and Communication Technologies (ICTs) have removed barriers to accessing knowledge. Lynch (2003) describes digital repositories as transformative tools for educational and scholarly institutions, enabling them to expand their reach and impact.

While OADRs are predominantly associated with universities and research institutions, they are increasingly found in governmental agencies, museums, and corporations (Shreeves & Cragin, 2008). These repositories not only preserve intellectual output but also democratize access to information by making it available without financial or geographic restrictions. By adopting OADRs, NLN can enhance the visibility and utilization of intellectual resources, ensuring broader accessibility for researchers, students, and the general public. This aligns with the goals of sustainable development, fostering inclusion, knowledge-sharing, and collaboration on a global scale.

The Federal Government of Nigeria has undertaken significant steps to preserve and modernize the National Library of Nigeria (NLN), which is critical to the nation's cultural and intellectual heritage. Recognizing the physical deterioration of the library's 57-year-old resources, a large-scale digitization project has been initiated to safeguard these materials and enhance their accessibility through the integration of Information and Communication Technology (ICT). Anunobi (2022) emphasized that the degradation of the library's materials, caused by age and extensive usage, necessitated this intervention. The initiative aims to bridge the gap between traditional resources and modern technological advancements, ensuring that the library's offerings are preserved and remain relevant in a digital age. The centerpiece of this transformation is the National Repository of Nigeria (NRN), an electronic database that aggregates and organizes Nigerian heritage materials deposited under the legal deposit law. The repository, which was 70% complete as of late 2022, allows users to search for resources and their physical locations digitally. This minimizes the need for physical handling, further preserving the materials.

Anunobi highlighted that the National Repository of Nigeria is expected to increase the visibility of Nigerian intellectual heritage globally while providing creators with opportunities for intellectual recognition and potential financial returns. The repository reflects a commitment to making library services universally accessible, regardless of users' location, status, or qualifications. To strengthen the NLN's functions, a bill was introduced on December 13, 2022, to repeal the National Library Act (CAP N56, LFN, 2004) and enact the National Library Act 2022. The updated legislation aims to align the library's operations with modern standards, enhancing its capacity to collect, preserve, and disseminate resources effectively.

This shift in strategy underscores the library's evolving role:

1. **Collecting**: Expanding its resource base by gathering both traditional and digital materials.
2. **Building**: Leveraging ICT to develop robust infrastructure for preservation and access.
3. **Informing**: Facilitating the dissemination of knowledge to the citizenry, enriching education and research.

The digitization of the National Library of Nigeria represents a forward-thinking approach to library management, emphasizing the need to preserve cultural heritage while adapting to the global shift toward digital information systems. By leveraging technology, the National Library of Nigeria is not only preserving its past but also positioning itself as a vital resource for future generations. This initiative serves as a model for other national libraries worldwide, showcasing how innovation can ensure the sustainability and accessibility of knowledge.

2.1 Statement of the Problem

The legal deposit statutory law in Nigeria is a significant regulation designed to support the publishing industry and advance education, research, and national development. It mandates the submission of published materials, including commercial publications and academic journals, to the National Library of Nigeria through recognized publishers or printing houses. However, the methods and strategies for collecting such information must align with the demands of the digital age. This is in line with the finding of Aina, (2017) that the analysis of legal deposit and ISBN statistics revealed a significant discrepancy between the number of ISBNs assigned by the National Library of Nigeria and the legal deposits received. The number of legal deposits collected is considerably lower than the ISBNs issued to publishers and authors, highlighting a low level of compliance with the legal deposit law. Similarly,

Adio, (2006) explains that ineffectiveness of legal deposit laws of other non-print information resources affect the level of compliance.

Currently, many publishing companies face challenges in complying with the required timelines for deposit submissions. The adoption of digital depositon as a mechanism for information resources submission could streamline this process, providing users and researchers with convenient access to resources at the national level. Open Access Initiatives (OAI) as window for digital repository offer a viable framework for this transition, leveraging the potential of digital systems to make published materials widely available. A shift toward digital deposition would also address gaps in the comprehensive coverage of information resources deposition, as noted by (Akidi and Omekwu 2019). They highlighted deficiencies in the collection process, which impact the completeness of the National Bibliography of Nigeria. This issue is partly due to the absence of multiple methods and strategies for depositing information resources at the National Library of Nigeria.

Globally, countries like the United States, the United Kingdom, France, and others in Europe and Asia have adopted digital deposition of information resources, enabling efficient collection, management, and dissemination of information through open access initiatives. These practices align with international standards for non-print resource collections, providing a model for Nigeria to emulate.

The researcher identifies a significant gap of comprehensive coverage, level of compliance, governmental repository and electronic method of deposition of information resources at the national level, which necessitates a scientific approach to address the issue. This study is investigated Adoption of Legal Deposit Statutory Law on Electronic Information Resources for Utilization of Digital Repository of National Library of Nigeria. It bridges the gap between the National Library and stakeholders through a digital framework for legal deposit

submissions. While extensive research exists on institutional repositories in Nigeria, studies on governmental repositories, especially those addressing digital deposition, are rare. This aligns with Ufuoma (2015), who observed that governmental repositories remain underrepresented despite recent growth.

The Open Access Digital Repository (OADR) has revolutionized service delivery in Nigerian tertiary institutions, but its full potential can be realized through a national digital repository encompassing all intellectual outputs of the nation. Digital deposition of information resources can make the national products more visible, accessible, and secure, maximizing their value for academic circles, scholarly communication, and the nation's knowledge assets.

Globally, OADR has proven transformative, shifting research from isolation to inclusion and fostering international collaboration (Abrizah, Noorhidawati, & Kiran, 2010). By removing barriers to access, developing countries like Nigeria can ease scholars' challenges in accessing scholarly works. Hence, the inclusion of electronic deposition of information resources into Nigeria's legal deposit statutory law would enhance the visibility, accessibility, and utilization of the nation's intellectual resources.

In light of the above assertion, the researcher proposes a study on the Adoption of Digital Deposition of Information Resources for the Utilization of Digital Repository of the National Library of Nigeria**.** This research established a robust framework for transitioning to digital legal deposits, ensuring the comprehensive collection, management, and dissemination of Nigeria's intellectual heritage while fostering professional and international collaboration.

1.3 Research Questions

1) What are the types of electronic information resources are covered with legal deposit statutory law of National Library of Nigeria?
2) What are the types of digital repository available for adoption of legal deposit statutory law on electronic information resources?
3) What are the types of strategies are available for the adoption of legal deposit statutory law on electronic information resources?
4) To what extent the strategies employed are relevant for the adoption of legal deposit statutory law on electronic information resources for utilization of Digital Repository?
5) To what extent the adoption of digital deposition increase visibility of Information resources for utilization of Digital Repository of National Library of Nigeria?
6) To what extent the adoption of digital deposition facilitate access of Information resources in Digital Repository of National Library of Nigeria?
7) To what extent the adoption of digital deposition compatibly facilitate use of Information resources in Digital Repository of the National Library of Nigeria?
8) What are the challenges faced by National Library of Nigeria while adopting digital deposition of Information resources for utilization of Digital Repository?

1.4 Objectives of Research

The aim of this research is create a visible window where information resources freely access and use by researcher/user through use of Digital Repository of National Library of Nigeria. The specific objectives are to:

1) Find out the types of intellectual resources are covered with legal deposit statutory law by National Library of Nigeria

2) Identify the types of digital repository available for adoption legal deposit statutory law on electronic information resources in National Library of Nigeria
3) Identify the types of strategies are available for the adoption of legal deposit statutory law on electronic information resources
4) Explore the extent in which the strategies employed are relevant for the adoption legal deposit statutory law on electronic information resources for utilization of Digital Repository by National Library of Nigeria
5) Examine the extent in which the adoption of digital deposition increases visibility of Information resources for utilization of Digital Repository by the National Library of Nigeria
6) Ascertain the extent in which the adoption of digital deposition facilitates access of Information resources in Digital Repository of National Library of Nigeria
7) Explore the extent in which the adoption of digital deposition compatibly facilitates use of Information resources in Digital Repository of National Library of Nigeria?
8) Identify the challenges faced by National Library of Nigeria while adopting digital deposition of Information resources for utilization of Digital Repository

1.5 Significance of the Study

This research has introduced an innovative approach for the National Library of Nigeria to expand its information deposition coverage through digital deposition. The existing system has yet to deliver optimal results due to challenges such as physical deposition requirements, time constraints, geographical distances, and financial implications. Adoption of digital deposition of information will eliminate the above barriers and create new world for deposition, interaction, collaboration between National Library and relevant stakeholders. Therefore this will increase visibility, availability, accessibility and usability of information

in National Library, henceforth, the information deposited eventually will be in open access digital repository system. Researchers in Nigeria will find it easy for searching comprehensive, relevant, multidiscipline, interdiscipline, and transdiscipline information needed for a specific purpose through use of national repository, which is only housed on local content of the publisher. National repository will assist scholar for their work to be more visible, available, accessible and secured. The work will be added as one of existing national product that available for literary consumption, research purposes, recreation, and assignment etc.

1.6 Scope of the Study

The scope of this study covered the adoption of digital deposition of information for open access by National Library of Nigeria, the outcome of this study will come with types of intellectual resources are covered with legal deposit statutory law by National Library of Nigeria, types of digital repository technologies available for the adoption, strategies that employed by National Library of Nigeria for successful adoption of digital deposition of information, extent of the adoption of digital deposition of information for open access, extent of the adoption of digital deposition of information that facilitate use of information, extent of the adoption of digital deposition of information and increase visibility of information for Open Access Digital Repository.

The study comprises 297 management staff, including nine (9) staff members each at the headquarters and branch levels. The management team consist of the head of National Librarian/CEO/Head of State Branch, Eight (8) head of departments (Legal Deposit Department, Public Service Department, International Standard and Programs Department, Virtual Library Services Department, Planning Research and Statistic Department, Human Resource and Administration Department, Finance and Account Department, and Collection Development and Technical Services Department).

The study examines primarily, the management and administrative issues but does not deal with the technical details to a great extent. The information gained as a result of this study will not be perceived as the opinions, perceptions or attitudes of other any participant, but rather those of the individual participants who are believed to be responsible for making a policy and supporting the adoption of digital deposition of information resources for utilization of Digital Repository of National Library of Nigeria. Meanwhile, the theory used in this study is for understanding and explaining the phenomenon under investigation on how National Library of Nigeria comprehend an idea of other developed nation and come together in the process of adopting digital deposition of information resources for utilization of digital repository at national level, and how such innovation translated into Nigerian setting. Moreover, the use of theory in this study is not for testing the phenomenon under investigation.

1.7 Operational Definition of Terms

This section elucidates the salient words and concepts applied in manner throughout this study:

Adoption: refers to the recognition of a need of idea, or promoting an innovation, behavior, or product simultaneously in a social system

Digital repository (IR): is a set of technology services that provides the means to collect, manage, provide access to, disseminate, and preserve digital materials produced at an organization.

Legal Deposit Statutory Law (LDSL): is a statutory obligation required of the producer of any type of publication, be it commercial, public or private organization to deposit one or more copies of the publication with a recognized national institution.

Digital Deposition (DD): is a technological method required of the producer of any type of publication, be it commercial, public or private organization to deposit a soft copy of the publications with a recognized national institution.

National Library: is a body responsible for bibliography control in Nigeria and who has also mandate of Legal Deposit Statutory Law on all types of intellectual resources produced within Nigeria or by Nigerian in abroad

Open Access (OA): is the free availability of intellectual resources on the Internet, permitting users to read and utilize the full texts of articles for lawful purposes, without financial, legal, or technical barriers.

Open Access Digital repository (OADR): refers to digital archives or electronic store house of the intellectual products created by the government agency or tertiary institution for faculty members, research scholars, and students of entire nation and made freely accessible.

Electronic Information Resources (EIR) refers to digital materials that provide access to information through electronic means. These resources include a wide range of formats such as e-books, e-journals, online databases, multimedia content, and other digital files.

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CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

The chapter reviews related scholarly literature on the conceptual issues on this study. It also provides a theoretical framework for the research. The research reviewed conceptual issues related to descriptive literature that studied the backgrounds related to this work. The purpose of the chapter is to provide an overview of a discourse domain in inclusion and coverage of Digital Deposition of Information for Open Access Digital Repository were reviewed under the following sub-headings:

2.2 Application of Theory in the Study
2.3 Conceptual Review
2.4 Types of Electronic Information Resources Covered With Legal Deposit Statutory Law
2.5 Types of Digital Repository Available
2.6 Extent of Relevance of Strategies Employed For Digital Deposition of Information
2.7 Extent of Adoption and Increasing Visibility of Information
2.8 Extent of Adoption and Facilitating Access of Information
2.9 Extent of Adoption and Facilitating Use of Information
2.10 Challenges Faced While Adopting Digital Deposition of Information
2.11 Review of Empirical Studies
2.12 Summary of the Review

2.2 Application of Theory in the Study

Diffusion of Innovation (DOI) Theory, developed by E. M. Rogers in 1962, is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently

than what they had previously (i.e., purchase or use a new product, acquire and perform a new behavior, etc.). The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.

Adoption of a new idea, behavior, or product (innovation) does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others. Researchers have found that people who adopt an innovation early have different characteristics than people who adopt an innovation later (Singer, 2022). When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation.

Adoption usually starts with the recognition that a need exists and moves to searching for solutions, then to the initial decision to attempt the adoption of a solution and finally to the actual decision to attempt to proceed with the implementation of the solution (Damanpour and Schneider 2006; Gallivan 2001; Mendel et al. 2008). Greenhalgh et al. (2004) characterized in the adoption process: pre-adoption (e.g., awareness of innovation), peri-adoption (e.g., continuous access to innovation information), and established adoption (e.g., adopters' commitment to the adoption decision). Alternatively, Frambach and Schillewaert (2002) discussed two stages associated with adoption: the organization's decision to pursue adoption and the staff's acceptance and initiation of their individual processes of accepting the innovation. Adoption will either move to initial implementation activities or revert to de-adoption. There is little information about de-adoption (Frambach and Schillewaert 2002; Gallivan 2001). The decision to adopt is a process, how the adoption proceeds is better characterized in terms of level, rate, or degree of adoption (Mendel et al. 2008). The better the process of adoption can be understood, the more likely adoption challenges can be addressed thus leading to initial implementation. On an organizational or system level, the adoption process is complex. It is particularly challenging to promote change in routine

practice when decision-makers within organizations do not perceive changes as necessary (Garland et al. 2010). Despite the similarity to individual-level adoption, Aarons et al. (2011) suggest that individuals in organizations may have difficulty knowing, weighing, or selecting appropriate innovations to solve particular problems, or their decision to adopt is often complicated by organizational factors (e.g., hierarchy, culture, values) that are not necessarily experienced in individual problem-solving.

Singer, (2022) Opined that there are five established adopter categories, and while the majority of the general population tends to fall in the middle categories, it is still necessary to understand the characteristics of the target population. When promoting an innovation, there are different strategies used to appeal to the different adopter categories.

Innovators - These are people who want to be the first to try the innovation. They are venturesome and interested in new ideas. These people are very willing to take risks, and are often the first to develop new ideas. Very little, if anything, needs to be done to appeal to this population.

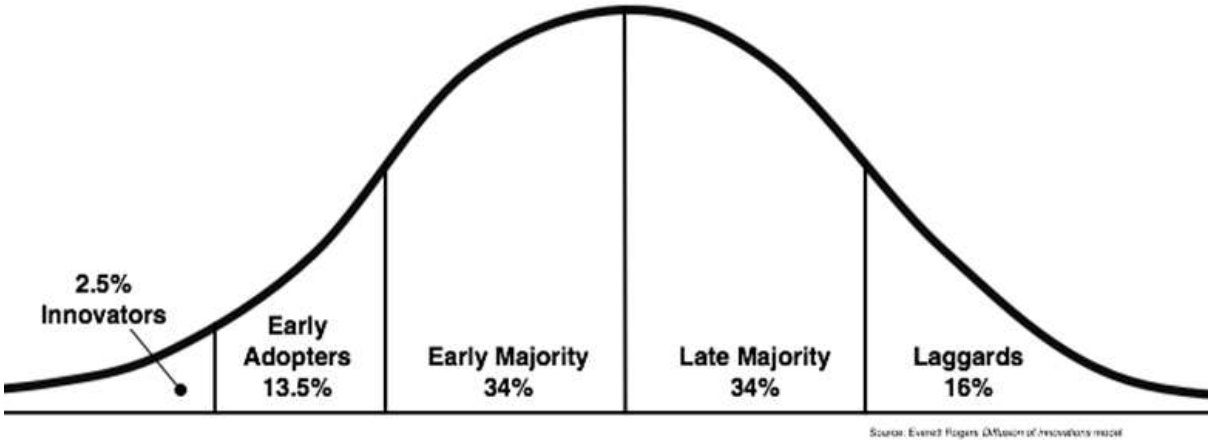
Early Adopters - These are people who represent opinion leaders. They enjoy leadership roles, and embrace change opportunities. They are already aware of the need to change and so are very comfortable adopting new ideas. Strategies to appeal to this population include how-to manuals and information sheets on implementation. They do not need information to convince them to change.

Early Majority - These people are rarely leaders, but they do adopt new ideas before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it. Strategies to appeal to this population include success stories and evidence of the innovation's effectiveness.

Late Majority - These people are skeptical of change, and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully.

Laggards - These people are bound by tradition and very conservative. They are very skeptical of change and are the hardest group to bring on board. Strategies to appeal to this population include statistics, fear appeals, and pressure from people in the other adopter groups.

The stages by which a person adopts an innovation, and whereby diffusion is accomplished, include awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation. Singer, (2022) added there are five main factors that influence adoption of an innovation, and each of these factors is at play to a different extent in the five adopter categories which found in his study.



Relative Advantage - The degree to which an innovation is seen as better than the idea, program, or product it replaces.

Compatibility - How consistent the innovation is with the values, experiences, and needs of the potential adopters.

Complexity - How difficult the innovation is to understand and/or use.

Triability - The extent to which the innovation can be tested or experimented with before a commitment to adopt is made.

Observability - The extent to which the innovation provides tangible results.

There are so many reasons for using theory in research work these include: explain the phenomenon under investigation, understand the phenomenon under investigation, predict the phenomenon under investigation, challenge existing knowledge and extend existing knowledge. This research work uses the theory just to guide use as lenses to understand the phenomenon under investigation. The Adoption of Digital Deposition of Information by National Library of Nigeria is something new or not common in Nigeria due to the fact that open access in tertiary institutions are in early stage of adoption of the innovation while governmental agencies are left behind, similarly inclusion of Digital Deposition of Information in Nigeria is yet to be adopted by National Library of Nigeria as a standard policy at which all national intellectual properties will be legally deposited through Digital Deposition of Information as that applicable in that of developed nations like US, France, UK, Sweden, Finland etc.

There is no doubt of potential benefit of inclusion of Digital Deposition of Information in Nigeria due to nature of information in 21st century, information is now access in all types of digital forms through local area network or world wide area network via internet facilities. Therefore, the innovation and diffusion theory used in this study is to provide the relationships between this study and the constructs that have been studied previously. This corroborate with one of the main uses of theory in quantitative research is for the explanation of attitudes and behaviors. In fact, the usage usually comes up with hypotheses, constructs and variables. Researchers can also use a perspective or a theoretical lens in their research. The lens becomes a determinant or guide on the data collection procedures and methods, types of questions, an approach of data analysis as well as gives direction on what changes should be made or actions to be taken. The application helps the researcher to get the direction on

important issues and areas of focus as well as how to be place himself in the study in a way that will be balanced (Reynolds, 2007).

2.3 Conceptual Review

A conceptual review is an effective tool to structure research and assist a researcher to make meaning of subsequent findings Smyth (2004) emphasises that such a framework should be intended as a starting point for reflection about the research and its context‖. In this study, the concepts of legal deposit are covered in the literature review, and are used throughout the research. Conceptualisation is the process of specifying what we mean by a term which needs to be clarified to draw meaningful conclusions about them (Babbie & Mouton, 2001). Clarification of concepts helps shed light and helps others understand the research better by revealing the various elements that have a bearing upon it. The review of literature places the research report in the context of the general body of scientific enquiry pertaining to the field (Babbie & Mouton, 2001; Smyth, 2004).

Legal deposit, also known as mandatory deposit, is a legitimate provision which compels publishers to deposit copies of their publications in libraries or places of deposit in the country in which they are published (Jasion, 1991; Larivière, et al. 2000; National Library of Australia, 2003: Legal deposit; The British Library, 2005). Larivière et al. 2000) adds that: It is important to make sure that legal deposit legislation covers all kinds of published material, that is, material generally produced in multiple copies and offered to the public regardless of the means of transmission, in order to differentiate from archival‖ which refers to records, either governmental, corporate or personal and which are usually unique items, not available for public distribution and more of a private or personal nature.

Role and nature of legal deposit are very critical, various authors and institutions have provided different descriptions and interpretations of legal deposit and its functions over the

years from which certain core facets relevant to the nature and role of legal deposit can be derived (Penzhorn, & Maritha, 2007). The principle of legal deposit is found in international convention and in the national laws of many countries and underpins the preservation of a nation's published cultural heritage and guarantees access to it (Jasion, 1991; Larivière, et al. 2000; National Library of Australia, 2003). The main functions of an effective legal deposit system are to: Ensure the development of a national collection of published material in a range of formats. Guarantee access to a research collection of the country‘s published material by collecting publications, properly preserving them and making them accessible. Support the compilation and the publication of a national bibliography in order to ensure bibliographic control over a comprehensive deposit collection (Larivière, et al. 2000). Legal deposit has a number of other functions, these include: copyright protection, censorship, provision of exchange material, provision of statistical information, provision of library stock, provision of government and legal publications (Lor, 1995; Larivière, et al 2000)

The Depository in the majority of countries the national library is the main institution responsible for legal deposit but other types of libraries and institutions are also used as depositories, for example, public libraries, university libraries, parliamentary libraries, law libraries, regional libraries, libraries of government ministries and archives (Jasion, 1991; Larivière, 2000). The national library is not always responsible for legal deposit, for example in the USA and Japan the parliamentary libraries are responsible, that is, the Library of Congress and the National Diet Library respectively (Jasion, 1991; Larivière, et al. 2000). Within the guidelines to legal deposit Larivière (2000) states that the national deposit collection is owned by the country and depository should keep all documents received and make sure they are preserved properly and made accessible. In a number of countries several institutions receive deposit material and in some countries audiovisual materials are deposited

with institutions other than the national library, such as a national film and sound archive (Lor, & Elizabeth 1997).

The introduction of electronic legal deposit in UK is arguably the greatest transformation which national libraries have undergone in our professional lifetimes. Jensen, (2021) argues that many institutions have successfully implemented technical, structural, and cultural transformative change, while there is more to do, and challenges remain. When it comes to transfer however, the ability to give users meaningful access to the legal deposit collections, the picture is rather different: much good work is being done, but the Transformative potential of electronic legal deposit has not been realised for our users. His study explores the broader cultural background specifically in the United Kingdom against which the relevant legislation was shaped to understand better what steps could be taken in the future to redress this imbalance.

The British Library Act has two generic statements about the purpose of the British Library It shall operate "as a national centre for reference, study and bibliographical and other information services, in relation both to scientific and technological matters and to the humanities" and it shall make its services "available in particular to institutions of education and learning, other libraries and industry". The Legal Deposit Libraries Act 2003 in turn makes no reference to the British Library Act 1972.No do the regulations, although the purpose of legal deposit if briefly referenced in the governmental guidelines. In other words, the two main acts of Parliament which affect the UK's national library have no explicit linkage. He believes that this lack of joining up has had a significant impact on the British Library's ability to meet its obligations under the1972Act. In this context it is important that the Legal Deposit Libraries Act 2003 Act had formalised the decoupling of the obligation to deposit from the benefits which may flow from it.

The Legal Deposit Libraries Act 2003 reaffirmed existing provisions for the deposit of printed publications whereby a copy of each book or serial or other printed publication which is published in the UK is required to be deposited free of charge, in the British Library (Tibane, 2005). In addition, five other libraries (the National Libraries of Scotland and Wales, and the University Libraries of Oxford, Cambridge and Trinity College Dublin) are each entitled to receive on request, one free copy of any book or other printed publication published in the UK. These libraries together with the British Library are collectively known as the Legal Deposit Libraries. Deposit Laws vary widely with respect to the number of copies required for legal deposit purposes. Instances range from one copy to 18 copies. The time allowed for deposit varies, in present laws from pre-distribution to as much as nine months' post distribution. For example, Italy, Luxembourg and Russia specify delivery of copies before distribution or sale. The Swedish Law directs that copies of books produced during every half calendar year are to be deposited within three months. The period most commonly quoted by most legal deposit laws is one month after publication. Tibane (2005) states that, the earlier the deposit the better; both to meet the expectations of users who assume that the national library is bound to have a copy of a national imprint upon publication, and to permit prompt listing in the national bibliography. Even if the national bibliography is published as frequent as quarterly or yearly, the longer the delay on deposit, the greater the time lag before the appearance of the record on the bibliography. Tibane, (2005) asserts that there is no valid reason for the delay in deposit by commercial publishers. IFLA (2002) suggests that the sooner the item is deposited the better, both to meet the needs of the users seeking new publications and to permit prompt listing in the national bibliography. Except for the Netherlands, where a national deposit collection has been built through voluntary deposit agreements between the national library (Koninklijke Bibliotheek) and the publishers, most countries rely on a legal instrument of some sort in order to ensure

the comprehensiveness of their national deposit collection. In many countries the measure requiring the legal deposit appears in a legal deposit act (France, Greece, Indonesia, Norway, Peru, South Africa, and Sweden), while in other countries it is part of another act, such as the copyright act (Australi a, Great Britain, United States), the national library act (Canada, Japan, Nigeria, Venezuela) or a general "libraries act" (Tasmania). In some jurisdictions, it takes the form of an administrative decree or ordinance (Chile, Cuba, and Nigeria). In all countries with a legal deposit system, published material, often described as library materials (books, periodicals, newspapers, microforms, sheet music, maps, brochures, pamphlets, etc.), constitutes the basis of the national deposit collection. But in many countries, audio-visual material (sound recordings, films, videos, etc.) is also subject to legal deposit (Canada, Finland, France, Germany, and South Africa).

A few countries have already included electronic publications in their legislation, including Canada, Denmark, Finland, France, Japan, Norway and South Africa, among others, but they have done this in different ways. France and Japan, for example, have modified their legislation to include electronic publications, but have specifically excluded on-line electronic publications because of the numerous unsolved technical problems related to the acquisition and preservation of such material. Whereas the national institution chosen to receive the deposit material is often the national library of the country (China, Estonia, France, Lithuania, United Kingdom), it could also be the parliamentary library (Israel, Japan, United States), the national archives (Antigua, Bahamas, Senegal), one of the main government libraries (Chad, Ghana, Hong Kong) or, in a few cases, one of the main university libraries (Kuwait, Liberia) (IFLA, 2002).

Lor & Elizabeth (1997) opined that national libraries have the responsibility of provision of access to publications and information, however distant they may be. According to the author, the IFLA/ UNESCO programme of universal availability of publications (UAP)

confers on every country the responsibility to make copies of its own publications available within and beyond its borders. The National Library of Nigeria as the apex library of the nation and the bibliographic agency is therefore responsible for collection and preservation in a format, the record of intellectual output of Nigerians, and maintains the key objective of making such information accessible to the citizenry and beyond. This is achieved majorly through legal depository practices, which form part of the bibliographic control efforts of the National Library of Nigeria.

Collection of legal deposit and also enhancing compliance of publishers and authors with legal deposit obligations through the enforcement of the law engenders effective legal depository practices of the National Library of Nigeria. Since 1970, the National Library of Nigeria has been responsible for collection of legal deposit of the country's publication output. The National Library of Nigeria equally developed modalities for enhancement of compliance of publishers and authors, as any law that is not enforced cannot be called law in its right sense and cannot also achieve its purpose of enactment. According to Lariviere (2000), legal deposit is defined as 'a statutory obligation which requires that any organisation, commercial, or public, and any individual producing any form of documentation in multiple copies, be obliged to deposit one or more copies with a recognised national institution. Omolayole (2003) opined that section 4 of the National Library Act No.29 of 1970 confers on the library the depository obligation of the nation with the implication that resources published in the country must be deposited in the National Library of Nigeria. The authors also asserted that the legal deposit law prescribes the number of copies of publications to be deposited with the NLN, which comprises 3 copies of commercially produced book, 10 copies of publications by or on behalf of a state government, and 25 copies of Federal government publications. It is stated that two copies of such publications should be kept in the NLN for permanent preservation, while one copy

should be submitted to the University College, Ibadan (presently, University of Ibadan), for continuity.

Legal depository practices can be defined as all the activities carried out by the national libraries in order to ensure comprehensive collection of legal deposit of national publication output. It also encompasses efforts put in place to enhance compliance of publishers and authors to the law/obligation. The practices comprise engaging in sensitization of publishers and authors on the importance/benefits of legal deposit and the need for compliance to the law. This is carried out during assignment of international standard book numbers (ISBNs) and international standard serial numbers (ISSNs), and also at periodic sensitization workshops organised by the bibliographic agency for publishers, authors and other stakeholders in the book trade; and embarking on regular legal deposit drives. Others include creating legal deposit awareness through posters and handbills; using electronic media to sensitize the public on legal deposit law and obligation; ensuring that the international standard book numbers (ISBNs) assigned are commensurate with the number of legal deposit collected; decentralization of collection of legal deposit, which enables State branches to collect at their various States and forward the copies to the National Library of Nigeria Headquarters; and insisting that no publisher or author collects ISBN without presenting acknowledgement letters for the legal deposit made on the previously assigned ISBNs, among others (National Library of Nigeria, 1970).

The advent of the internet and digital technologies has enabled information to be accessed and disseminated far more easily than ever before. Technological developments have swept away a whole range of restrictions that in earlier times impeded or prevented open access to knowledge, such as geographical barriers, time restrictions, delays in distribution of physical materials and barriers that limited the range of sources accessible by any one individual. Improved access to information benefits researchers by enabling them to study their field

more broadly, reducing the amount of duplicative research, and assisting in the production of better informed - and therefore better quality - research. For these reasons, the open access movement aims to promote the dissemination of knowledge broadly and freely across the internet in a timely fashion. Lynch, (2002) explain that the open access movement as we know it today began in the first half of the 1990s. Its origins are associated not with the publication of overarching statements of principles describing the open access movement and its goals but with the launch of several databases and free online peer reviewed journals. Early examples of open access journals include the Electronic Journal of Communication (launched 21 September 1990), the Electronic Journal of Analytic Philosophy (launched August 1993), and the Electronic Journal of Sociology (launched September 1994). The databases include GenBank, a database of all publicly available DNA sequences, launched by the National Center of Biotechnology Information in 1992. Other milestones in the early years of the open access movement include:

Mohammed, (2009) a digital repository is an online archive in which authors and academics can deposit their work, with the intention that it will be openly available in digital form. The term ‘digital repository’ may also be used to refer to the organisation which is responsible for the long-term maintenance of digital resources and for making these resources available to the public or specified communities of users. Lynch, (2002) identifies five different types of repositories:

Institutional repositories: A repository established by a particular university or other research institution is known as an institutional repository. It can be intended to collect and preserve the intellectual output on an institution in digital form.

Departmental repositories: A repository established for the use of a particular academic department or laboratory is properly called a departmental repository, though the term institutional repository is also used.

Subject repositories: A repository established to collect and preserve material in a particular subject is called a subject repository; they can be organized by a government, a government department, or by a research institution, or be autonomous.

National repositories: A repository for general use by scholars working in a particular country is a national repository, but such repositories can also be organized on a more local basis.

Material repositories: A repository can also be intended for a particular type of material, such as a these repository or a newspaper repository.

Lynch, (2002) explain that Digital Repositories offer a convenient infrastructure through which to store, manage, re-use and curate digital materials. They are used by a variety of communities, may carry out many different functions, and can take many forms. The meaning of the term 'digital repository' is widely debated. Contemporary understanding has broadened from an initial focus on software systems to a wider and overall commitment to the stewardship of digital materials; this requires not just software and hardware, but also policies, processes, services, and people, as well as content and metadata. Repositories must be sustainable, trusted, well-supported and well-managed in order to function properly. Digital Repositories are also commonly referred to as ‘institutional repositories’ or ‘digital archives’.

He further outlines some benefits of Digital Repositories as:

• Enables quick, easy, simultaneous and remote access to deposits

• Allows institutions/organisations to efficiently retain and manage their own intellectual assets. Digital repositories are being increasingly seen as a valuable tool for the Research Assessment Exercise (RAE)

• Facilitates re-use of deposited materials for new research, education, and learning

• Minimises physical storage requirements whilst increasing the potential mass of deposits

• Manages both metadata and intellectual objects in the same location

• Enables external validation of research results

• Can enable persistent access to deposits independently of external publishers

• Can be used to store incremental deposits of unique observational data to spatially significant and new collections for developmental analysis

• Increases institutional research visibility

• Raises potential

• Return on Investment from asset creation

• Enables long-term proof of authorship or assurance of credibility for unpublished papers if repository is certified/trusted.

Based on the concept, the review can establish that in most of the countries around the globe national library served with responsibility of legal deposit statutory law, it could also be the parliamentary library like Israel, Japan, and United States, or the national archives in case of Antigua, Bahamas, and Senegal. One of the main government libraries will also served with responsibility of legal deposit statutory law as that of Chad, Ghana, and Hong Kong) or, in a few cases, one of the main university libraries as that in Kuwait and Liberia.

2.4 Types of E-Information Resources Covered With Legal Deposit Statutory Law

The objective of Legal Deposit Statutory Law is at aim to build a strong national collection/literature. This is subsumed in the enabling decrees of National libraries mandatory functions. Legal deposit statutory law grants most National libraries world over, legal right to the nation's intellectual resources, while their enabling decrees mandates these intellectual properties acquired in a National Library are made openly accessible. National libraries take the form of a national public library service, with a central headquarters coordinating branches in various parts of the country. Some of the services rendered by the National Library include legal deposit collections, but in other cases the depository centre might be the national

archives, the national library or a separate bibliographical agency (International Encyclopedia of Information and Library Science, 2003).

Therefore, national libraries are tied to national knowledge assets through the legal depository acts. It also indicates that in order for a nation to compile a national bibliography, there is need for proper documentation. Only a constituted legal act such as legal depository statutes can enable that to happen. In recent times, with the proliferation of digital information resources, some developed countries have recognised the need for amendments in their legal depository statutes. Accordingly, countries such as the UK, Jamaica, New Zealand, France, and China have since reviewed and are harnessing e-knowledge resources.

Nigeria is yet to tow the line, as the last amendment to the National Library Act was carried out in 1970. The extent of coverage in the scope of the legal deposit collection in Nigeria however, may possibly extend to mean that legal deposits are also for non-book materials, videos, films, cassettes, and even electronic publications. There is however need to give this a proper legal backing. Legal deposit statutes are important medium that enable national libraries fulfill their role of ensuring universal and equitable access to information, which continues to be a cornerstone in the development of a knowledge society. A National library however, faces many evolving challenges in ensuring that the published intellectual heritage of its citizenry and country is acquired / preserved for all to use and for posterity. Lariviere (2000) states that Legal Deposit (LD) is a statutory obligation which requires that any organization, commercial or public, and any individual producing any type of information resources in multiple copies, be obliged to deposit one or more copies with a recognized national institution. In addition, it is important to make sure that legal deposit statutes cover all kinds of published material, that is, material generally produced in multiple copies and "offered to the public regardless of the means of transmission," (Lariviere 2000) To buttress Lariviere's position, Gilchrist (2005) found that a number of countries such as the United Kingdom, New Zealand, Canada,

Australia, have already undertaken legal change to bring authors / producers of electronic information resources under equivalent deposit obligations as those borne by traditional print publishers.

According to Ofodile (2007), the increase in the production of print and non-print materials has made it necessary to look at the issues affecting a comprehensive collection of Nigeria's intellectual output via the digital depository statute. Though the National Library of Nigeria's activities in the area of collection of Legal Deposit materials has spanned over five decades, her accomplishment in the area of non-print Legal Deposit collection coverage is yet to be significant. Agreeing with Ofodile's submissions, the researcher is of the opinion that to ensure comprehensiveness in harnessing and preserving Nigeria's intellectual output using the Legal Deposit statute of the NLN, innovative practices have to evolve, one of such is by way of adoption of an Open Access Digital Repository by the NLN. The information resources stipulated by the NLN decree No. 29, 1970 statutory law extends to include a collection of books and non-book materials, periodicals pamphlets, newspapers, maps, musical scores, videos, films, cassettes and recordings (electronic publications) and such other matter as the Board considers appropriate for a library of the highest standing.

The National Library of Nigeria is today one of the largest depositories of knowledge in Nigeria. This is made possible by the Legal depository statute enacted to confer the role upon the NLN. The first NLN Act was passed in 1964; this unfortunately failed to provide for the fulfillment of the function of National depository. However, the Act No. 29 of 1970 mandated the NLN to serve as an intellectual store-house / databank of learning and remembrance process in Nigeria (National Bibliography of Nigeria, 2010). The legal deposit obligations as stipulated in the NLN decree 29 of 1970 Section (4) are as follows:

(1) The publisher of every book published in Nigeria shall within one month after the publication, at his own expense deliver, to the NLN, three copies of the book, two of which shall be kept in the NLN for permanent preservation and one of which shall be sent by the Director to the University of Ibadan.

(2) the copies of the book delivered to the NLN under sub-section (1) above:

a) Shall be perfect copies of the whole book with all maps and illustrations belonging thereto, finished and coloured in the same manner as the best copies of the book are published, and

b) Shall be bound, sewed or stitched together and on the best paper on which the book is printed.

(3) Where any printed matter (other than matter of such descriptions as the Director may specify from time to time) is published by or on behalf of any department of the government of the Federation or state, it shall be the duty of the official in charge of the department to deliver forthwith to the Director for the purpose of the National Library:

a) Twenty-five copies of the publication, if it is published by, or on behalf of a department of government of the federation, or

b) Ten copies of the publication if it is published by, or on behalf of a department of government of a state, or such smaller numbers of copies as the Director may determine in any case.

deposit of digital materials depends on the proper legislative framework and implementation of the Legal Deposit Acts. The advent of new formats, including digital publications, has raised new issues. It is therefore imperative that information made available to the public in digital format be included as part of a national library's heritage collection. It is hoped that with the evolution of electronic formats and information resources and by the adoption of digital

repositories, National Libraries will revise their legal deposit legislation to accommodate digitised materials in all formats.

Despite their value as original works, printed information have traditionally been considered grey literature, but there is need to remove their physical inaccessibility (Chakravarty, 2019) In addition to boosting repository statistics, the inclusion of digital deposition of information in repositories allows original works undertaken by emerging scholars to be visible, accessible and available for used by the wider research community. Statistics indicate that theses that are made available in this way are more widely used and cited in ongoing research (Callan, 2004).

Omekwu (2019) which established that a lacuna exists in comprehensiveness of coverage of legal deposit collected, which consequently affects the comprehensive coverage of resources listed in the National Bibliography of Nigeria. In United States of America, The Library of Congress mandates to have collections that are inclusive and representative of a diversity of creators and ideas. A priority includes acquiring material of underrepresented perspectives and voices in the Library's collections to ensure diverse authorship, points of view, cultural identities, and other historical or cultural factors. The Library also seeks to build a research collection that comprises a globally representative sample of international materials that are diverse in voice and perspective, relative to their places of origin, further supporting the Library's mission to sustain and preserve a universal collection of knowledge and creativity for Congress and future generations (Library of Congress Collections Policy Statements, nd)

The policy added that the Library of Congress is the only library which strives to hold copies of all U.S. doctoral dissertations. This collection of over 2.25 million titles on microfilm or microfiche are in a format long accepted as suitable for long-term preservation. In addition to its extensive microform holdings, the Library provides electronic access via the subscription database ProQuest Dissertations and Theses Global. The Library of Congress collects digital

copies and maintains an extensive collection of doctoral dissertations accepted by universities in the United States. Current non-U.S. dissertations are generally not acquired except on a highly selective basis, with special consideration given to the fields of library science, music, and the history, government, and literature of the United States.

From the above review the researcher can establish that there less review on the adoption of digital deposition of information at national level rather than traditional system of deposition into exists in the system, this gap is also exist in other developing nation especially Nigeria where this research is trying to get more answers. The review also establish that many publications are either under utilize or not aware by the most of the scholars due nature of submission of physical copies in most of the publications in Nigeria. The review observed that there is existing policy of legal deposit statutory law on digital deposition of information at national level in some developed countries like US, UK, France, Finland, Sweden, etc. where information deposited to national library or congress library as the case maybe for open access digital repository services. The adoption of digital deposition of information for open access digital repository by National Library of Nigeria will make Nigerian compete with other developed nations in terms of availability, visibility and accessibility of literary works.

2.5 Types of Digital Repository Available

Globally, according to Registry of Open Access Repository (2024) generated report that there is Four Thousand Seven Hundred and Fifty Three (4850) Repositories across the Globe out of which Three Thousand Eight Hundred and Ninety Five are Institutional Repositories, the report also indicates there is Three Hundred and Fifty Seven (357) E-Thesis Repositories, Four Hundred and Nine (409) in respect to others repositories which include the National Repositories. In Africa there is only twenty two (22) countries with Open Access Digital as report further stated, in Nigeria, despite the population of the country and the huge number of

tertiary institutions in general and universities in particular, the country has only seventeen (17) Registered Digital Repositories out of which only CBN and National Library were registered with Registry of Open Access Repository (ROAR) as at June, 2024 as a governmental repository.

Two decades of immersion in digital worlds have led to the development of various repository solutions, notably the subject-based repository, research repository, national repository system and institutional repository. The relevant literature on scholarly communication, open access and repositories is appreciated. The idea is not to classify each and every repository as belonging unambiguously to a particular type. Rather, the purpose of creating ideal types is to compare and contrast the types so as to generate insight into repository development generally as well as for each individual instance (Armbruster, & Romary, 2010). This implies that the new knowledge thus constituted may enhance the agency of stakeholders and managers in improving and adapting their repository solution.

The following are described as types of repositories:

1. Subject-based repositories (commercial and non-commercial, single and federated) usually have been set up by community members and are adopted by the wider community. Spontaneous self-archiving is prevalent as the repository is of intrinsic value to scholars. Much of the intrinsic value for authors comes from the opportunity to communicate ideas and results early in the form of working papers and preprints, from which a variety of benefits may result, such as being able to claim priority, testing the value of an idea or result, improving a publication prior to submission, gaining recognition, achieving international attention and so on. As such, subject-based repositories are thematically well defined, and alert services and usage statistics are meaningful for community users;
2. Research repositories are usually sponsored by research funding or performing organisations to capture results. This capturing typically requires a deposit mandate.

Publications are results, including books, but data may also be considered a result worth capturing, leading to a collection with a variety of items. Because these items constitute a record of science, standards for deposit and preservation must be stringent. The sponsor of the repository is likely to tie reporting functions to the deposit mandate, this being, for example, the reporting of grantees to the funder or the presentation of research results in an annual report. Research repositories are likely to contain high-quality output. This is because its content is peer- reviewed multiple times (e.g. grant application, journal submission, research evaluation) and the production of the results is well funded. Users who are collaborators, competitors or instigating a new research project are most likely to find the collections of relevance;

3. National repository systems require coordination - more for a federated system, less for a unified system. National systems are designed to capture scholarly output more generally and not just with a view to preserving a record of scholarship, but also to support, for example, teaching and learning in higher education. Indeed, only a national purpose will justify the national investment. Such systems are likely to display scholarly outputs in the national language, highlight the publications of prominent scholars and develop a system for recording dissertations. One could conceive of such a national system as part of a national research library that serves scholarly communication in the national language and supports public policy, e.g. in generating open educational resources for higher education and enhancing public access to knowledge;
4. Digital Repositories contain the various outputs of the institution. While research results are important among these outputs, so are works of qualification, and teaching and learning materials. If the repository captures the whole output, it is both a library and a showcase. It is a library holding an institutional collection, and it is a showcase because the online open

access display and availability of the collection may serve to impress and connect, for example, with alumni of the institution or the colleagues of researchers (Hodge, 2004).

A repository may also be an instrument of the institution by supporting, for example, internal and external assessment as well as strategic planning. Moreover, an institutional repository could have an important function in regional development. It allows firms, public bodies and civil society organisations to understand immediately what kind of expertise is available locally.

Hunter, (2007) some publication repositories may be identified easily as resembling very much one ideal type rather than another. Some of the classic repositories conventionally identified as subject-based, such as arXiv and RePEc, exhibit few features of another type. Yet, one of the more interesting questions to ask is in how far other elements are present and what this means. ArXiv, for example, is also a research repository, with institutions sponsoring research in high-energy physics being important to its development and success. RePEc, by comparison, has a strong institutional component because the repository is a federated system that relies on input and service from a variety of departments and institutes. To continue with another example, PubMed Central (PMC), at first glance, is a subject-based repository. Acquisition of content, however, only took off once it was declared a research repository capturing the output of publicly funded research (by the NIH). Notably, US Congress passed the deposit mandate, transforming PMC into a national repository. That a parallel, though integrated, repository should emerge in the UK (UK PMC) and Canada (PMC Canada) is thus not surprising. Utilisation of the ideal types outlined above would thus be fruitful in analysing the development of PMC and, presumably, be equally valuable in discussing the future potential of PMC, for example the possible creation of a Europe PMC. National solutions are increasingly common (and principally may also be regional in form), but vary especially with regard to privileging either research outputs or the institutions. The French HAL system is powered by

the CNRS, the most prestigious national research organisation, and thus is strong on making available research results (Armbruster, & Romary, 2010).

In Japan, the National Institute of Informatics has supported the Digital Repository Federation, which covers eighty-seven institutions, with mainly librarians working to make the system operational. In Spain, an aggregator and search portal, Recolecta, sits atop a multitude of Digital Repositories, with a large variety of items. In Australia, Digital Repositories are prominently tied to the national research assessment exercise, with due emphasis on peer reviewed publications. Repositories have co-evolved with the Internet and thus are characterised by openness, i.e. open source development of the infrastructure and open access to the content. Yet, ongoing expenditure for repositories can only be justified if they are accepted and utilised by scholars – as researchers and lecturers. Repositories thus compete with other channels of publication and data collecting as well as among each other. Therefore, content and service must be combined in an effort to reciprocally enhance their value in supporting scholars in creating new knowledge, be it in the study, laboratory or classroom.

Crow, (2002) National repository systems may offer tuned services as soon as the collection is large enough (and submission rates high enough) for these services to be valuable. For example, the French system HAL offers a subscription service across the disciplines for articles and bibliographic references. Annual submissions passed the mark of fifty thousand in 2008 (for comparison, arXiv also had more than fifty thousand submission in 2008). By contrast, NARCIS, a national portal incorporating the Dutch repository network (DAREnet), does not offer such subscription services (earlier projects, such as the Agricultural Repository News Exchange, did not lead to the adoption of such services). DAREnet originally understood itself as a network of Digital Repositories (of the Dutch universities), though NARCIS is now a national portal. HAL is backed by large French research organisations and has a track record of collaborating with the subject-based repositories (i.e. exchanging content). Notably,

research repositories have offered services when they are part of (or defined as) a subject-based repository or national system (e.g. CNRS and INRIA within HAL). But if research repositories serve just one institution, there is likely to be neither the critical mass nor a well-defined corpus to merit the launch of any such services.

Hodge, (2004) observed that Archiving and preservation require special metadata elements to track the lineage of a digital object (where it came from and how it has changed over time), to detail its physical characteristics, and to document its behavior in order to reproduce it on future technologies. Below are some of the digital repository systems that involved managing and preserving electronic information resources:

DSpace Digital Repository System

The DSpace Digital Repository System began as a joint project of the MIT Libraries and Hewlett-Packard Co. The architecture for the system is based on a number of preceding projects including those at Cornell, CERN, OCLC, LC and OAIS. DSpace 1.1 was released in November 2003 via an open source license (available from Source Forge). The MIT Libraries' implementation of DSpace defines various levels of support for different input formats. For example, "Supported" means that the format is recognized and the institution is confident that it can make the format useable in the future through whatever technique is desirable (Hodge, 2002).

Digital Information Archive System

The Digital Information Archive System (DIAS) is a commercially available system, originally developed to handle the electronic deposit of electronic documents and multimedia files for the Koninklijke Bibliotheek (KB) (the National Library of the Netherlands) (IBM, 2003). It is based on the results of the various NEDLIB Projects led by the KB over the last

several years. In the current DIAS system, IBM addressed the initial ingest, transformation, storage and metadata creation. The technical issues related to long-term access are being studied by IBM and are not a part of the December 2002 implementation. The DIAS system was implemented as KB's Deposit of Netherlands Electronic Publications (DNEP) system in December 2002, making it the first system of its kind (IBM, 2003b). KB's initial implementation is for e-journal publishers to deposit e-journals, but the plan is to extend this to other types of e-materials such as e-books. In May 2003, the KB announced that it had signed an agreement with Kluwer to archive electronic journals featured on Kluwer Online Web Site. As of May, this contained 235,000 articles from 670 journals.

OCLC Digital Archive

As an outgrowth of the preservation services that OCLC has provided to its member libraries for many years, OCLC has developed the OCLC Digital Archive. It provides long-term access, storage and preservation for digital materials, or "objects." The system is based on the OAIS. Records can also be ingested in batch. Currently the OCLC Digital Archive can ingest text and still images in formats such as PDF, HTML, TEXT, JPEG, BMP, GIF and TIFF. The goal is to accept more input formats in the future. This system is connected to OCLC's Connexion cataloging system, and the cataloger begins by creating a WorldCat record for the object, followed by a record that includes the preservation metadata.

PANDORA Digital Archiving System (PANDAS)

The PANDAS (PANDORA Digital Archiving System) has been operational since June 2001 (NLA 2003). The second version was installed in August 2002. Prior to the development of its own system, PANDORA tried to buy an archiving management system. From the response to the Request for Information, it became apparent that there was no affordable

system on the market that met the requirements and so NLA decided to build the system in-house. PANDAS enabled PANDORA to increase the efficiency of capturing and maintaining the archived Australian online publications and therefore, PANDORA's productivity. It also provides PANDORA's partners, primarily the state libraries, with more effective Web-based software for contributing to PANDORA. The NLA has received a number of requests for access to the PANDAS software, since the current software options to support the creation and management of digital archives are limited. UKOLN recommended use of PANDAS for pilot web archiving projects it proposed for both Welcome Trust and JISC (Day, 2003).

Lots of Copies Keep Stuff Safe (LOCKSS)

LOCKSS (Lots of Copies Keep Stuff Safe) is an automated, decentralized preservation system developed by Stanford University to protect libraries against loss of access to digital materials (LOCKSS n.d.). LOCKSS development is supported by the National Science Foundation, Sun Microsystems, and the Mellon Foundation. LOCKSS software, which is free and open-source, is designed to run as an "Internet appliance" on inexpensive hardware and to require minimal technical administration. LOCKSS has been operational at Stanford for five years and the production version of the software was released in April 2004. LOCKSS creates low-cost, persistent digital "caches" of authoritative versions of http-delivered e-journal content at institutions that subscribe to that content. LOCKSS uses the caching technology of the web to collect pages of journals as they are published, but unlike normal caches, the cached pages are never flushed. The LOCKSS server runs an enhanced web cache that collects new issues of the e-journal and continually compares its contents with other caches via a peer-to-peer polling system. If damage or corruption is detected in an institution's cache it can be repaired from the publisher or from another cache.

(Hodge & Frangakis 2004)

Fedora™ (Flexible Extensible Digital Object Repository Architecture)

The University of Virginia Library has teamed with Cornell University's Digital Library Group to develop Fedora, an open-source digital repository architecture on which a variety of digital library implementations can be based (University of Virginia Library 2003). Similar to DSpace, Fedora is focused currently on repository development and management. However, it will eventually include preservation services. Fedora 1.0 was released as open source software (Mozilla Public License) in May 2003. Release 1.2 was made available in December 2003 (Johnston 2003). The first phase production repository based on Fedora will be launched in 2004. However, all the functionality described in the original design proposal will not be completed until 2005. The largest implementation of Fedora is at the University of Virginia Library's Central Digital Repository. A 2001 Mellon Foundation grant allowed for joint development of a production-quality system by Cornell and the University of Virginia. The system currently includes XML objects, text (full text and page images of e-books) and images in multiple resolutions (Payette 2003).

In Nigeria, this review can establish that only Central Bank of Nigeria (CBN) registered with the Registry of Open Access Repositories as at January, 2023, which is not significance consider due to the large of country and number of government agencies attached to her, National Library as bedrock of national development, in this digital era has to adopt a system that make intellectual resources available, visible and accessible for scholars, researchers, students and any users. The gap exists in this review on Open Access Governmental Repositories specifically in National Library of Nigeria, has warrant this study to find answer and give possible recommendations in respect to adoption of digital deposition of information for open access digital repository by National Library of Nigeria.

2.6 Extent of Relevance of Strategies Employed For Utilization of Digital Repository

National repository systems typically offer a multitude of views, by subject or institution, but have developed few services that would match those of subject-based or institutional repositories. Of course, the deployment of any community services requires a well-defined corpus with critical mass. However, Armbruster, & Romary, (2010) given that HAL has reached an annual deposit rate of fifty thousand items, the French system might be a candidate for rolling out more service. Also, the Dutch collection (NARCIS) features more than 180,000 items, the Australian universities boast more than 200,000 records (though only about 30,000 full texts), and the Spanish aggregator (Recolecta) more than 450,000 items (the number of full texts is not clear). This would suggest that more service is possible. More generally, institutional repositories and national repository systems could do more to support scholarly communities, for example, by sharing metadata and content with subject-based services, or aggregating metadata and content in subject-based services. It would be worth exploring whether the RePEc model of institutional feeds for community services could be adopted for other disciplines, particularly for early access to working papers and preprints. Beyond that, national repository systems may have the same function as institutional repositories in research assessment and for teaching and learning (Crow, (2002). Research repositories have a (potentially) vital function to play by allowing the tracking of the research frontier by scholars (and other interested parties, e.g. research funders (Armbruster, & Romary, 2010). However, this would require addressing the tension between merely holding a record of science and being an up-to-date communication tool. If research repositories primarily hold final research outputs, as peer-reviewed publications, which are only released after formal publication, and possibly only after a publisher's embargo has expired, then this may amount to a public record of science, but the time elapsed between the initially successful funding application (defined which was judged cutting-edge) and the output

available in the repository may be simply too long for the repository to rival subject-based repositories as a community portal. On the other hand, as a research information service this type of repository has value for scholars, for example, with a grant look-up tool, some indication of early results, and measures that allow the tracking of research trends. Notably, UK PMC is developing such services. While UK PMC is also a subject-based repository, these services could be adopted by any generic research repository (Crow, (2002).

Khaparde, & Ambedkar, (2014) explain that there is move by India to strategize submission of thesis and dissertation, the Government Initiatives for the Development of ETDs UGC Regulations 2005, In 2005, the University Grants Commission of India (UGC) drafted a national policy framework entitled "UGC (Submission of Metadata and Full-text of Doctoral Theses in Electronic Format) Regulations, 2005". UGC's Regulatory Framework aims at evolving a mechanism to improve the quality, accessibility and availability of Indian theses and to implement uniform standards for creating metadata of doctoral theses and a system for collecting and collating this standardized data. (UGC Regulation, 2005) Regulation proposed two sets of planned actions, such as:

1) Creation of Indian National Theses Database (INTED)

Proposed Indian National Theses Database (INTED) is an online centralized bibliographic database, where online submission of metadata sets of a PhD thesis is made mandatory when the researcher finally submits his/her PhD thesis to the Research Cell of a university. The PhD supervisor verifies and validates the metadata of submitting PhD thesis. The INTED will be freely accessible worldwide and will have simple and advanced search interfaces. Hence, bibliographic control of all recent PhD theses is assured. Although this online database will be accessible free of charge, its CD-ROM version will be made available at a price.

2) Submission of PhD Theses in Electronic Form

The researcher will submit his/her PhD thesis in an appropriate electronic format, alongside hard copies of his/ her thesis.

According to University Library System - Digital Library and Open Access Office, (2007) state that the PhD thesis submission in IRIS UniGe is a necessary requirement for admission to the final exam, replaces the delivery of the print thesis and fulfills the mandatory legal deposit at the National Libraries of Rome and Florence, according to what provided for by MIUR Circular n. 1746 of 20 July 2007. The PhD theses are published in open access at the end of the career or at the latest within twelve months of the discussion.

The review established that due to the relevance of digital deposition of information for national development numbers of countries have considered and developed the idea of digital submission of information for open access digital repository at national level, the country included US, France, UK, Germany, India, Finland etc. The gap in the adoption of digital deposition of information into national intellectual resources for open access is established, similarly technological access of the content is also exist at national level, this warrant the research to look into the matter in scientific approach.

2.7 Extent of Adoption Legal Deposit on E-Information and Increasing Visibility

National Library plays a key role in the advancement of knowledge which is vital for the development of key economic and social sectors in any country. With advent of open access, the provision of free access to digital information and academic literature, enabling researchers anywhere to access and read it. The major channels to achieve this are through publishing in open access and depositing scholarly materials in digital repository in National library of Nigeria. Evidence suggests that institutions benefit from open access through higher usage of their research and that the greater visibility of their research can result in higher rankings, thus enhancing the profile of the institution.

Open access also has benefits beyond academia through the diffusion of knowledge to other social and economic sectors. Gandel, Katz, & Metros, (2004) today, the availability and utilization of information determines the effectiveness and visibility of any institution - be it academic, commercial, political, religious or cultural. The unrelenting quest for information in this 21st Century can, therefore, be rationalized on this score. This strong desire and eagerness for access to information has led to the establishment of information and media centers which has further restructured the way information is provided, especially, in higher institutions of learning. The sustained move for reorganization of information sources, enhance visibility in academic research outputs and strengthen the degree of information provided led to the establishment of various repositories. Before now, these repositories were known to be mere archives as a result of difficulty in access. Some examples of these repositories, according to Akpokodje and Akpokodje (2015), citing Mellon include: institutional repositories, publisher's repositories, dataset repositories, learning object repositories, cultural heritage repositories, etc.

However, these repositories have now been broadly categorized into three groups. Hence, repositories can either said to be institutional, cross-institutional or discipline-based (Hitchcoc, as cited in Zainab, 2010). Periodicals, seminars, debates and symposia were organized to strengthen and facilitate the adoption of institutional repositories in Africa. Visible among them is the debate between Soo Young Rieh and Kevin Smith in 2009 for the adoption of institutional repositories in all universities. In 2011, Roy, Mukhopadhyay and Biwas (2011) in a research carried out in India, reported the effort of the government through the University Grants Commission in developing a policy document on building university-level institutional digital repository in India. The commission recommended that all the universities should set up theses repositories to facilitate e-submission, archiving, maintenance and access to vital documents and research reports at the university level. These,

among other benefits, strengthen national capability of produce electronic theses and dissertations, and maintain university-level and national level databases of theses and dissertations.

Among the primary purpose of National Library revolves, primarily, on the creation, dissemination and preservation of knowledge. Information are collected through traditional method which has to be adopt new technological system of deposition of information to National Library of Nigeria. Different strategies and technologies are adopted to preserve and disseminate the information-cum-knowledge so created globally. This is where to situate the submission of Davis and Connolly (2007) to the effect that the digital revolution has affected how scholars create, communicate and preserve new knowledge. Hence, digital repositories (DRs) which are essentially online or digitized archives, have been used widely by many institutions to preserve and communicate new knowledge and allied intellectual products of their members but the situation remain unchanged in terms of traditional submission by many publishing institutions, this could be as a result of the lack of full policy of digital deposition of information to National Library of Nigeria. DRs provide an institution with a mechanism to showcase its scholarly output, centralize and introduce efficiency to the stewardship of digital documents of value, and respond proactively to the escalating crisis in scholarly communication (Foster & Gibbons, 2005). These unique roles are responsible for the increasing popularity and pride of place which DRs have been enjoying in the last couple of years.

In this era of electronic publishing, academic institutions, especially universities, research institutes and other community of scholars, have increasingly recognized that an IR is an essential infrastructure of scholarly dissemination. However, an institutional repository, as a receptacle of digitized documents, is defined not by the type of data it stores but by the

overall roles it plays in information handling. In essence, the role of any IR is evaluated based on the breadth of its coverage, security of its content and speed of access and retrieval.

Open Access (OA) softwares like Dspace, Eprints, Fedora and Greenstone makes it much more than an archive. It has become a platform for post-prints and e-prints. A careful analysis of the definitions and clarifications of digital repository reveals that its uses manifests in the following itemized points:

1. Collection of national literary works

2. Preservation in digital form the research output of the institution

3. Dissemination of research output.

4. Generation of new ideas and intellectual best practices relevant to the need of its immediate community, the nation and the world at large.

5. For accessing current and updated information and literature for intellectual work.

6. To advance the frontier of learning and breaking new grounds through quality teaching, research, and dissemination of knowledge of the highest quality

7. Opens up the intellectual outputs of the national literary works to the world;

8. Maximizes the visibility, utilization and impact of these outputs;

9. Collects and curates digital outputs;

10. Manages and measures research and teaching activities;

11. Provides a workspace for work-in-progress, and for collaborative or large-scale projects;

12. Enables and encourages interdisciplinary approaches to research and publication;

13. Facilitates the development and sharing of digital teaching materials and aids;

The review established that only Sixteen (16) Numbers of Nigerian Universities have an opportunity to adopt institutional digital repository in Nigeria, compare the number of

universities in the country, meanwhile, the level of adoption is insignificant, in other word this means the more adoption of digital repository the more visibility likewise the less adoption the less visibility of national content, this trigger the researcher to look into this wide gap of national visibility of thesis and dissertation, and conduct a research that will yield a result that harmonize all the national content in single window to increase visibility and wide access to research output which this research is trying to answer.

2.8 Extent of Adoption of Legal Deposit on E-Information and Facilitating Access

Digital information resources are still not universally available and accessible as their use can be sometimes very expensive. To overcome this barrier, the Open access (OA) initiative was developed. This initiative offers the OA literature that is digital, online, free of charge, and free of most copyright and licensing restrictions. Lynch, (2003) states that a part of the scientific and professional digital information resources used by the academic community is available on the internet without any barriers while the remaining digital resources are available from the fee based (paid) information resources such as full text databases on the internet on site of big publishers and information resources aggregators or in university libraries. Libraries and publishers are still very important as they cater to the varied information needs of students, faculty members, and research scholars by facilitating access to information resources this may not be necessary including the OA information resources, they secure relevant information resources, arrange them, and supply specialised services to the users (Janz, & Wilson, 2008).

However, these efforts of libraries might be insufficient as the quantity of digital information resources on the internet increases and as library users in the academic community continue seeking material for research and education on the internet more than in libraries. In the era of highly commercialized access to information resources, every form of free of charge

access to information resources is welcome. Fee based (paid) information resources have become one of the major barriers in research and teaching primarily because of the high annual journal subscription rates which are far too expensive for many libraries. However, adoption of digital deposition of information for open access will become a remedy to researchers, users, and any scholar who undergo investigation for research and innovation, similarly will also serve as easiest way for legal deposition of information into National library of Nigeria.

The internet has profoundly and permanently changed the ways in which information can be disseminated and utilized. Haug, (2013) explain that commercial publishers have also very clear business goals: they seek profit in dissemination of information to exploit its sale value and does so on the assumption that there will be sufficient demand for the information (because it has potential use value for others). Crawford, (2003) as the financial conditions at universities and in libraries around the world deteriorated, the OA imitative presented itself as a possible solution to these problems. Two factors helped the success of the OA: the role of the internet for easy dissemination of information and the traditional publishers' long history of the production, dissemination, and archiving of the huge volume of the peer reviewed scholarly articles (Liesegang, 2013)

Open access digital repository is development of open access, is an open database of governmental information resources or institutional which is freely accessible. Open access is a concept of free and unrestricted access to content of information resources (Pinfield, 2005). The need to provide alternative form of access to research literature by taking advantage of the versatility of the internet led to the creation of open repositories (Fayaz, 2014). The apparatus of an open access digital repository include the hardware devices, software applications, electronic information resources and the human resources who are drive the

process. Nevertheless, the status of the software application as open source software is what makes a repository an open digital repository.

Kim, (2007) in his study found that growth in the number of open access digital repository has been rapid in the last few years; the increase has not been well distributed in Africa. Many countries are still not contributing to open digital repositories and some countries like Nigeria contributing below their capacities. The aim of OADR is to disseminate knowledge and scholarly publications broadly and freely across the globe through use of internet, and in doing so remove most of the traditional access restrictions to these resources, such as expenses and geographical barriers (Roy, Biswas, & Mukhopadhyay, 2012)

Open access amplifies free access to the scholarly publications. Now is has become a universal campaign in recent time. Open access platform for information sharing of research output which now a global concern about free access of information resources across the nations (Abrizah, Noorhidawati, & Kiran, 2010).

The story is not ended only of making resources available, there is need in Nigeria to make or create a window whereby thesis and dissertation of the entire Nigerian institutions will be freely available and accessible in one mega station at regulatory body like national library of Nigeria as legal deposit obligation. The logic behind conducting of this research is to create an avenue between National Library of Nigeria and others stakeholders through the use legal deposit obligation. Many researches were conducted on open access digital repository but there is no single research that attempt on legal deposit statutory law on digital deposition of information to National library of Nigeria. There is numerous institutional digital repository in Nigeria but few governmental repository were reported, this in agreement with Ufuoma, (2015) who clearly explains that among the various types of repositories, governmental repositories are still less although their number has considerably increased. This in turn signifies that governmental institutions must try to provide greater support for creating and

maintaining OA repositories. On the other hand, Digital repositories are highest in number which can be attributed to the fact that majority of institution promote research based activities which leads to develop a system for knowledge generation and dissemination.

Open Access Digital Repository can be said to be the axis for the OA initiative. According to Lynch (2003), the development of IRs is a strategy that allows institutions to apply serious, systematic leverage to accelerate changes taking place in scholarship and scholarly communication by the licensing of digital content, scaling up partnerships, and exploring more transformative new uses of the digital podium. Typically, Open Access Digital repositories are:

1) components of the technical infrastructure in research intensive institutions and are favored option for providing Open Access to research output
2) essential infrastructure for scholarship in the digital age
3) support the principle of OA via self-archiving copies of already published research articles and make the knowledge resource(s) available for free
4) aim to be in the networked information landscape, and thus, for example, they support the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH).
5) built in support for standards related to harvesting and cross-repository searching
6) make use of software to support their content acquisition; the EPrints software, and DSpace are most notably used
7) research libraries play the leadership role in their operations and policy formulation
8) used and contributed to voluntarily or mandatorily
9) commonly contain: doctoral dissertations, master's theses, working papers, preprints, journal articles, conference proceedings, e-Books, , primary data sets, digital videos/Audios/images, digitised musical scores , learning objects, Course material e.g.

syllabi, University publications, lectures and other Digitized institutional assets from library / museum special collections

10) contributed to by: Librarians, Faculty members, Graduate students, Research scientists, Archivists, Undergraduate students, Institution administrators, Academic support staff, Institution's central computer services staff, Institution's press, Institution's news service and external contributors
11) contents tends to be freely available to anyone with access to the Internet, although there are sometimes access restrictions or embargos placed on material.
12) drafted policies in the following areas: Defining collections, Intellectual property, determining what is acceptable content, determining who is authorized to make contributions to the IR, acceptable file formats, metadata formats and authorized metadata creators
13) property rights mostly managed by library staff by basically asking contributors/Authors to ensure they clear any copy right issues, then sign a license agreement that says they have, before posting their materials
14) support and guarantee mainly the PDF file format, for perpetuity
15) typically funded through a special initiative fund of the library or by absorbing its cost in routine library operating costs.

From the review, the research established that those countries with high numbers of digital repositories have more access to digital contents than those that have less privilege for the adoption of digital repositories for open access. The study also established that due to the nature of traditional deposition of information that makes the research output digitally absent on scholarly platforms including open access digital repositories. The above situations also justify the need for this study, in order to look at situation scientifically.

2.9 Extent of Adoption of Legal Deposit on E-Information and Facilitating Use

The transformation proffered by OADRs going by the various characteristics mentioned above, where adopted, can proffer both short-term and continuing benefits for the academic circles, scholarly communication and knowledge assets such as national publications in their electronic or digitized formats. OADR can transform the literary works from one of isolation and marginalization, to one of inclusion and international cooperation (Abrizah, Noorhidawati, & Kiran, 2010). Through OADR s, the visibility of and accessibility to national works from all angles can be made easily accessible and without restrictions. Removal of information access restrictions through OADR implies that developing countries scholars' problems of access to scholarly work may greatly be eased. According to Chan, Costa & Anurachalam (2005) the benefits of open access particularly OADR s to developing countries will include: improved access to literary works, research output, improved citation and research impact, and cost effectiveness in information dissemination on the part of the institutions. Rao, (2001). have summarize the advantages of OADRs, which include:

1. Increases a library's role as a viable partner in the research enterprise
2. Enables long time preservation of an institution's digital output
3. Increases the accessibility to knowledge assets such as numeric, video, audio, and multimedia data sets
4. Provides better service to contributors
5. Advances better services to an institution's learning community
6. Proffers a solution to the problem of preserving an institution's intellectual output
7. Exposes an institution's intellectual output to researchers around the world who would not have access to them through traditional channels
8. Enables new services to learning communities beyond a singular institution
9. Boosts an institution's prestige

10. Captures the intellectual capital of an institution

11. Maintains control over an institution’s intellectual property

In view of the above, it can be deduced that OADR s execute similar roles to that of a typical library. They acquire, process, store, and disseminate knowledge resources. In an OADR , the acquisition of knowledge resources takes a digital format while the processing, storage, and disseminating stages conform to the dictates of the policies and protocols set down for data harvesting, depositing or archiving. However, the essence of OADR to research presupposes that the knowledge resources that are to be publicly disseminated or accessed are electronic; therefore, OADR s are essential to provide the digital architecture for the OA schema. Lynch's working definition of an Digital Repository, is often cited as it is broad enough to encompass a large number of roles within an institution: '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). Crow (2002) explains the potential of Open Access Repositories. For Crow, Digital 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 to 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).

Several researches carried out about Digital Repositories and archiving report problems in encouraging author participation and use. Apprehension towards repository deposit (and Open Access publishing in general) seems to centre around three key issues: lack of motivation to self-archive; concerns surrounding intellectual property, copyright and plagiarism; and

negative attitudes toward open access publication and archiving as legitimate modes of academic communication.

Mandatory digital deposition policies have been adopted by many countries to boost repository content and create a sustainable, accessible collection of research outputs (Sale, 2006). These policies may apply to specific types of literary works, research output, to academic staff outputs, or to postgraduate theses. While mandates take time to be embedded in staff work processes they have been shown to be an effective way to achieve growth and guarantee the sustainability of OADR collections (Sale, 2006). However, other repository developers propose that mandates damage goodwill toward the repository as an integral service and that staff buy-in is more important to sustainability than any guarantee of regular submissions of content, (Palmer, Teffeau and Newton, 2008).

The principle and intended benefits of Open Access publishing and archiving do receive widespread support among the majority of published works (Kingsley 2008 ; Pickton & McKnight, 2006). Archiving allows for greater exposure of a work, thus a greater potential for research impact (Cullen & Chawner 2009). In addition, archiving literary works allows research output to be preserved in digital form, making them easier to retrieve in preparation for funding or promotion rounds. Within the literature, academics are reported to be concerned about the same set of risks or barriers associated with repository deposit.

Usability of digital information depends heavily on the availability, visibility and accessibility of digital content as the review established, huge amount of information including remain non-use and some are not even aware by many scholars and academics in Nigeria. Mandatory od digital deposition of information into open access system will remove all information access restrictions through Open Access Digital Repositories as studies established.

2.10 Challenges Faced While Adopting Digital Deposition of Information

Evidences from literatures and interviews conducted by the authors revealed that about 94% of publishers comply with International Standard Book Numbering and Legal Deposit, hence they cannot deposit materials without ISBN/ISSN. Mmejin (2018), Akidi (2012) and Tabane (2005) agreed that a good number of authors and publishers comply with the legal deposit law and that they get the awareness and encouragement through seminars, workshops. Abdullahi, (2018) reported that some publishers who claimed ignorance of the deposit Law showed outright refusal to comply even when handed with the copy of the law. This group reported in 1999 are still in existence till date, who decides to follow shortcut in publishing. Mmejin (2018) who agreed that majority of the publishers comply stated that most of them comply only when visited by National Library taskforce, during book fair or when demand letters are served. Lariervere (2000) asserted that a very important question related to the implementation of legal deposit legislation is the issue of enforcement. He added that for the law to be effective it must be enforceable, and to be enforceable a law must include penalty if contravened. Abdullahi, (2018) states that section 4(4) of the Act which provides for the penalty clause for noncompliance, has never been enforced and should be reviewed and vigorously enforced in a more stringent way by prosecuting defaulters to serve as deterrent to others. Gbadamosi (2005) Lariervere (2000) and Mmeji (2018) conclude that the low level of compliance to legal deposit law and by extension ISBN/ISSN in Nigeria is caused by the non-enforcement of penalty on publishers and authors non-challant attitude about the legal deposit law.

Challenges of legal deposit have been identified by many authors. Adimorah in Akidi (2008) observed that from available statistics, it is very obvious that not all the information resources published in Nigeria are deposited with the National Library of Nigeria. In corroboration, Aina (2017) during a sensitization programme on legal deposit/ ISBN, and ISBN, revealed that the

statistics of legal deposit received by the National Library of Nigeria cannot be compared with the number of ISBN assigned, as the legal deposit collected is far less than the ISBN issued to publishers and authors, owing to the level of compliance to legal deposit law. Iwuji (2000) maintained that the extent of collection of legal deposit depends on the enthusiasm, dedication and perseverance of the national library rather than on the willing compliance of the publishers. The author however, lamented on poor management and administration of legal deposit provision and the inability of the publishers to give proper account of their publications. In the same vein, Ogundipe (2005) study revealed that the present National Library of Nigeria legal deposit law is defective, and has not contributed to effective legal deposit system in Nigeria, and therefore requires re-examination of its purpose with emphasis on comprehensiveness of acquisition.

Adio (2006) study revealed among others ineffectiveness of legal deposit laws in Nigeria; that resources deposited are mainly books neglecting other information resources; that publishers are nonchalant in fulfilling the depository obligations; and that public awareness of this law is poor and also that the depository agency is poorly funded. Sulistyo-Basuki (2005) affirmed that various deposit acts in Southeast Asia regions are limited to print resources, which affects the contents or coverage of the national bibliography. The study equally revealed poor compliance to legal deposit owing to the negligence of the publishers, incomplete deposition, weak legal deposit law, regional autonomy which made the publishers stop depositing. This study confirms that lack of comprehensiveness of legal deposit collection is not peculiar to Nigeria. Kakpor (2011) study also revealed low frequency of deposit of non-print information resources by government agencies and individuals that produce them.

Gbaje, (2012) explain that lack of awareness and other challenges surrounding National Library and National Archives such as: digital preservation, equipment, technical skills, funds

and skilled staff for digital preservation were some of the problems they encountered in the preservation of their digital objects. As such open access is deeply concern with technology related skill for capturing, processing, storing, dissemination, access and use. Open access repository has the advantage of providing immediate access upon publication. Published knowledge is scientific information that powers the search for new knowledge, the timeliness of open access matters for usage.

Size, quality and service matter in open access digital repository. The large subject-based repositories, as they draw content from top researchers in the field, have few problems with the voluntary deposit of high-quality content. Alternatively, deposit mandates are attractive if implemented by research funders, research organisations (e.g. national academies) and prestigious universities. By contrast, national systems struggle without an articulated strategy that is backed up by a collection policy, subject-based services and, preferably, some mandates from research funders and national organisations. Moreover, institutional repositories would seem dependent on either being integrated with one of the other types of repository (e.g. a national system, feeding subject-based services) or, else, on collaboration with publishers who deposit either the final peer-reviewed manuscript or the final published version. If access is subject to an embargo, however, then a publishers' repository could be the more efficient solution as a one-stop shop with authoritative content (Laurent, & Armbruster, 2010).

Just because an item has been deposited, it should not be assumed that users find and use it. It is well known that search and find is a problem for repository items because the coverage of specialist search services is limited and in generic search engines repository items will often appear some way down the list. Obviously, the quality and visibility of repository content is crucial to access. An external measure of access is available through the Ranking Web of World Repositories, performed by the Cybermetrics Lab of the Spanish Research Council

(CSIC). The ranking provides a good indicator of the visibility and quality of the repository content (e.g. external inlinks, number of full-text items, scholarly quality). Overall, it is evident that quite a number of the large repositories have difficulties making their content visible, particularly to search engines. Too often, the rich files (texts, data, pictures) are not visible because they lack standard suffixes, for example atCiteSeer X, PubMed Central and RePEc. Beyond that, the large-subject based repositories are ranked highly, as is HAL, as a national system with its institutional domains (Armbruster, & Laurent, 2010).

However, performance capacity is a challenge to any repository. Unlimited high-speed access at any time requires powerful computing facilities, particularly if the repository is to grow and access increases accordingly. Moreover, services for users and authors need to be scaled. Particularly repositories designed as subject based or national systems face issues of scalability and performance, whereas institutional repositories are limited by design. However, the smaller repositories can therefore also not reap any economies of scale, which indicates that strategy of a repository for each institution is probably the most expensive one overall.

Long-term preservation and access is an unsolved issue for repositories, but not an urgent one. To date, probably only some subject-based repositories are worth preserving. More generally, national repository systems might count on the national libraries, and research repositories likewise, moreover, as their content is recognized as an essential part of the record of science. Of course, efforts at digital preservation are ongoing, and publishers and librarians have, for example, already established CLOCKSS as a joint venture for the preservation of content, particularly when content is no longer available from a publisher.24 Repositories must attend to the issue of sustainability as a priority, this being primarily about service, usage and cost. The above discussion would suggest that all types of repositories must consider how they can

improve services, possibly by collaboration and consolidation to increase the efficiency of provision (Anne, & Kingsley, 2009).

We may conclude that it is principally possible to build a repository infrastructure that scales globally and is of value in scholarly communication, but we must also recognize that the above discussion suggests that some path breaking change is required, particularly in upgrading and repurposing institutional repositories, and in the collaboration among repositories and with service providers to enhance access and usage. Whether this will happen remains to be seen, but in any case the ideal types developed and the subsequent discussion may be used to review and discuss developments in future (Armbruster, & Laurent, 2010).

The study established that law enforcement, penalty and compliance of legal deposit statutory law are challenges been observed in this review. Inclusion and coverage of all intellectual resources that published in digital deposition are also left behind especially for open access digital repository. Comprehensive policy for submission of digital deposition in digital age especially at national level is also missing from the review of this study which is warrant the researcher for look at better solution of the existing gap. The review also establishes that repository size, long-time of digital preservation and system upgrade are reported as part of the challenges. Equipment, technical skills, funds and skilled staff for digital preservation are also been observed in the review. Henceforth, the adoption of digital deposition of information for open access will fill the gap exists with inclusion and coverage of literary works into digital deposition.

2.11 Review of Empirical Studies

Akidi, & Omekwu, (2019) conducted a research on Assessment of Legal Depository Practices of The National Library of Nigeria and Compliance of Publishers and Authors With Legal Deposit Obligations, The objectives of the study are to: find out the legal depository practices available in the National Library of Nigeria (NLN), ascertain the effectiveness of National Library of Nigeria (NLN) legal depository practices and establish the effectiveness of the NLN in enhancing compliance of publishers and authors to legal depository obligations. The research method adopted for the study was descriptive survey design. Instruments for data collection involved structured questionnaire, observation checklist, and documentary evidence. The population of study comprised 736 staff of the National Library of Nigeria. A combination of purposive and complete census sampling technique were used to select and administer questionnaire to four professional departments that are majorly involved in bibliographic control practices, which involved 178 respondents as the sample size used for the study. I78 copies of questionnaire were distributed by the researcher with the help of research assistants. 162 copies were returned, giving 91% response rate.

The findings revealed that the effectiveness of the National Library of Nigeria legal depository practices is on a low as only five of the sixteen items studied were rated highly effective. The findings on legal depository practices are low because the practices lack of comprehensiveness of collection, as only books are collected in large numbers, few serials and government publications are collected, while other resources are either minimally collected or not collected at all. This lack of comprehensiveness could be attributed to the challenge of coping with the ever-increasing growth of e-resources as a result of information explosion and the new pattern of publishing in the digital age; identification and collection of e-resources in the legal deposit

effort; lack of cooperation or synergy with academic and research institutions in order to collect copies of their research output, among others.

The study recommends that The National Library of Nigeria should make adequate efforts to record comprehensive collection of more serials, government documents, theses, dissertations, e-resources, and other non-print resources, which form part of legal deposit. The National Library of Nigeria should embark on regular legal deposit drives and also provide the State branches with adequate logistics to enhance effective legal deposit drive at the States and grassroots levels. It is also important to visit academic and research institutions in order to collect their research output and thereby help in avoidance of duplication of research efforts.

Nsibirwa, (2012) investigates the preservation of, and access to, legal deposit materials in South Africa. The study examines the challenges faced by legal deposit staff including their skills and knowledge in preservation management. The whole population was used in this case of study. Methodological triangulation was used to look at the problem from different angles using different tools in order to get a more accurate result. The study used both quantitative and qualitative methods, using self-administered questionnaires and interview schedules to collect data. A response rate of 78.6% was achieved for the questionnaire and results were analysed using SPSS. The qualitative method of conceptual content analysis was used to analyse the open-ended questions for the interview schedule. Descriptive statistics were used to summarise data in graphs, tables and pie charts. The major research findings indicate that preservation is not carried out properly at present due to the combined lack of preservation policies, funding, staff training and expertise. Most of the legal deposit libraries do not have preservation policies to improve preservation conditions, develop conservation facilities or to train and recruit staff. Furthermore the study concludes that various critical issues surrounding and affecting all facets of legal deposit stem from a lack of policy.

Thomas, (2012) conducted a research on: Staff Needs and Training Programmes of the National Library of Nigeria in the Information Age. The design employed for the study is descriptive survey. The found that the relevant skills/competencies needed by staff of National library of Nigeria in the information age are: ICT- typesetting using word processing e.g. MS word, saving and storage devices (CD-Rom, Flash drive etc.), skills in marketing library services, networking, web development, receiving and sending e-mails, cataloguing &classification skills, public relations management, a strong service orientation with dedication to quality, among others. The study recommends that both professional and para-professional staff should acquire adequate skills in ICT. This should be developed as an integrated part of the Library staff training policy.

Umoh (2017) Management of Information Resources in National Library of Nigeria, The study aims at finding out if the National Library of Nigeria has collection development policy; the types of information resources available and how they are managed. Methodological Reviewed was use for the study. The study found that the collection of Nigeria is done by the National Library of Nigeria under the legal deposit obligations. However, legal deposit is the requirement, enforceable by law, to deposit with a specified institution a specific number of copies of publications produced within the limits of the jurisdiction and is applicable to all forms and media of publications. The study recommends that: The National Library of Nigeria should strive to ensure that legal deposit law which is still under review in the National Assembly is being attended to as quickly as possible and also awareness of it should be created to the people. There is the need for proper public awareness of this policy and adequate funding of the agency for effective management of information resources in National Library of Nigeria. The National Library of Nigeria should sensitize and enlighten the general public on the legal deposit as one of the means of making information resources available in the

library and its function so that those concerned can take note and become aware, if really there is the need to sustain the system.

Akiko. (2007) conduct empirical study on Utilization of indicators in the National Diet Library (NDL): Efforts for Activity Evaluation, the study tested the utilisation of draft ISO performance indicators, including an indicator for building the national collection. For books published in 2005, the study found and reported the following degrees of coverages of Government Publications: 89.8% and that of Private Publications: 88.0%. Although he did not elaborate on the methodology used to trail evaluation, but acknowledges that especially the selection of the bibliographic sources caused problems as that in Belgium.

Jang, Hong, Noh, & Oh (2009) National Collection Comprehensive Measurement Study: On Sales Books in National Library of Korea, In 2009, the study was undertaken to determine the coverage of the book collection of the National Library of Korea. The English abstract of an article in Korean summarises the method and findings as follows: Bibliographies for the year 2007 and 2008 publications are obtained from the Kyobo Book Centre and sampled 10% systematically to be used as checklists. Coverage was determined by searching the citations against the OPAC of the National Library of Korea. Results indicate 92.25% of coverage for the books published in 2008, 78.10% coverage for the books published in 2007. Reasons for the unpossessed books, such as delay of deposit and publisher characteristics, are identified. Recommendations for the coverage improvements and future research are suggested.

The National Library of Nigeria (NLN), Meanwhile, in Nigeria, a study from Nwagwu, & Fabunmi, (2011) on Awareness and pattern of compliance of authors and publishers in Nigeria with the Nigerian national legal deposit. “adopted a sample survey design” to question 799 academic authors by mail and 25 commercial publishers by a personally administered questionnaire about their awareness of and compliance with the Nigerian national legal

deposit, and it also included “a physical examination of records of legal deposit in the library” for the period 1990–2007.

Among the respondents only 24.7% of authors and 78.0% of publishers reported complying with legal deposit. By examining the records of deposit in the National Library, it was established that during the period 1990–2007 the library received 105,770 items, with a peak of deposit in 1991 (26.57%) and the lowest percentage of deposits in 1995 (1.37%). However, these percentages only inform about the fluctuations in deposits throughout the years; they give no indication at all about the degree of coverage of the legal deposit collection. In other words, the levels of compliance reported by the respondents are not crosschecked with the empirical research.

The Austrian National Library (ONB), In an intellectual capital report published in 2016, the Österreichische Nationalbibliothek (2015) referred to ISO/TR 28118:2009 and mentioned two percentages for the coverage of the Austrian national collection: 91,3% in 2010 and 97,7% in 2015.37 Apparently, in 2015, the ONB did apply the first method of the ISO standard: they took a sample of 26 publishers from 198 Austrian art and culture publishers and checked their titles in the catalogue of the Austrian National Library, but the report does not mention any further details about the study.

2015: The National Library of Pakistan (NLP), In Pakistan, as well, the feasibility study of Iqbal, Qutab and Soroya used the ISO/TR 28118:2009 method of list checking and the sampling method (A1.1.4.2) to measure the coverage of commercial publications in the National Library of Pakistan during a period of four years, from 2010 to 2013: Convenience sampling38 was used to select 200 commercial publishers from Lahore and Rawalpindi in equal proportion. Publishers were categorized as per their annual publications: smaller publishers with less than 50 publications, medium with less than 100 and large publishers

publishing more than 100 titles. Publications printed during 2010–2013 were examined to determine if they had been received under the copyright ordinance by the National Library of Pakistan. More recent years were avoided due to delayed depositing experience reported by the depository library. Published catalogues of the selected 200 publishers from the years 2010–13 were collected through personal visits in order to prepare a true representative and authentic list of publications, in the absence of a union database or information bank of the publishers and online catalogues of publication in Pakistan. The study exposed an alarming level of compliance in Pakistan, where legal deposit was adopted in 1962 and implemented since 1968: It revealed a compliance rate of 18% to 30% which is very low. The compliance of larger publishers is better as compared to medium and smaller publishers. The compliance rate of English books is comparatively better but Urdu books and especially Islamic books' compliance rate is not up to the mark.

Wani, (2019) conducted a study on Open Access Electronic Thesis and Dissertation Repositories: An Assessment, the Objectives of the study is to explore and identify different types of Open Access Electronic Thesis and Dissertation (OAETD) repositories available at global level. The scope is intended to the study of select OAETD repositories in the field of General Sciences, Arts and Humanities and Social Sciences available at (www.oatd.org). Methodology used was survey method coupled with online visits was carried to identify various OAETD repositories available at www.oatd.org (OATD is a richest platform of theses and dissertation repositories holding 592 OATD repositories contributing form diverse institutions all over the globe). The study found that most of the OAED repositories are hosted by institutions like universities and research centers and few belong to government establishments. Faculty members and research scholars are actively involved in depositing their content to the repositories in all the three subject areas chosen for the study.

Stanton, & Liew (2011) conducted study on Open access theses in institutional repositories: an exploratory study of the perceptions of doctoral students, the study examine doctoral students' awareness of and attitudes to open access forms of publication. Levels of awareness of open access and the concept of institutional repositories, publishing behaviour and perceptions of benefits and risks of open access publishing were explored. Mix method was used (qualitative and quantitative) data were collected through interviews with eight doctoral students enrolled in a range of disciplines in a New Zealand university and a self-completion Web survey of 251 students, Interview data were analysed thematically, then evaluated against a theoretical framework. The interview data were then used to inform the design of the survey tool. Survey responses were analysed as a single set, then by disciple using Survey Monkey's online toolkit and Excel.

The Results reveals that the awareness of open access and repository archiving is still low, the majority of interview and survey respondents were found to be supportive of the concept of open access. The perceived benefits of enhanced exposure and potential for sharing outweigh the perceived risks. The majority of respondents were supportive of an existing mandatory thesis submission policy. The study concluded that there is low levels of awareness of the university repository remains an issue, and could be addressed by further investigating the effectiveness of different communication channels for promotion.

From the empirical study, the research establishes that little has been observed in respect to governmental digital repositories in Nigeria, with special case to National Library of Nigeria. Though there is much review on Legal Deposit Statutory, but there is no attempt on digital deposition of information for open access initiatives with special reference to National Library of Nigeria. The review also established much of the review were on law enforcement, penalty, compliance of legal deposit statutory which are not much similar to this study. Institutional

repositories were also reported in the review as against number of governmental repository which makes this study unique for making conclusion.

2.12 Summary of the Review

The chapter identified similar studies to the current investigation, from the reviewed literature, it is evident that the existing types of information resources obligated by the Legal depository statute of the National Library of Nigeria do not yet include digital deposition of information neither the Digital Repository register with Registry of Open Access Repository. Various surveys that investigated how readily accessible the information resources contained that in digital information indicative of the fact that they are largely accessible, while facilitating factors that can enable information to be visible, available and accessible is the adoption of Open Access Digital Repository (OADR) as well as enable access to information remotely.

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CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology adopted for this study. The chapter is presented under the following Sub-headings:

3.2 Research Method adopted for the Study

3.2.1 Research Design

3.3 Population of the Study

3.4 Sample Size and Sampling Technique

3.5 Instrument for Data Collection

3.6 Validity of the Instrument

3.7 Reliability of the Instrument

3.8 Procedure for Data Collection

3.9 Procedure for Data Analysis

3.2 Research Method Adopted for the Study

Research method is a system of explicit rules and procedures in which research is based. It is the process used to collect information and data for the purpose of making decision. For the purpose of this study, the research method adopted is quantitative research method. Quantitative research methodology is a scientific investigation of observable phenomena via statistical, mathematical or computational technique. It is appropriate for this study, because the data that was generated from the study is in numeric forms. This in agreement with Plano & Creswell (2015) who explained that quantitative research is a type of research in which the researcher studies a problem that calls for an explanation about variables; decides what to study; asks specific, narrow questions; collects quantifiable data from participants; analyzes

these numbers using statistics and graphs; and conducts the inquiry in an unbiased, objective manner.

3.2.1 Research Design

A cross-sectional survey design is used to collect data from a population at a single point in time. This design allows researchers to study the prevalence, distribution, or relationships between variables within a defined group. Cross-sectional surveys are widely utilized in various fields, including social sciences, public health, and education, due to their efficiency and ability to provide a "snapshot" of a particular phenomenon. Cross-sectional survey design has efficiency in Data collection occurs at a single point in time, making it faster and more cost-effective than longitudinal studies (Levin, 2006). It is provide descriptive capability in provides valuable descriptive data about population characteristics, such as prevalence rates of diseases or behaviors (Setia, 2016). It gives a room for versatility application of to various fields, including healthcare, education, marketing, and social sciences (Fowler, 2014). It provides large-scale feasibility for studies involving large sample sizes, offering a broad overview of the population (Sedgwick, 2014). It accommodates multiple variables that allow the simultaneous measurement of multiple variables, helping researchers explore correlations and identify trends (Mann, 2003). It gives foundational insights serves as a preliminary study for identifying areas that require deeper investigation through longitudinal or experimental research (Setia, 2016).

3.3 Population of the Study

Population is the total number of objects in an area of interest and that they must be countable and may be finite. Regmi, (2016) added that population is a means of identifying a member of a particular group. Population is made up of specific conceivable traits, events, elements, people, subjects or observation, which relate to the situation of interest in the study to be

conducted. The population for this study consist of all the staff of National Library of Nigeria, the management team, and other staff. The study also covered all 33 State library branches including headquarters.

The study comprises 297 management staff, including nine (9) staff members each at the headquarters and branch levels. The management team consist of the head of National Librarian/CEO/Head of State Branch, Eight (8) head of departments (Legal Deposit Department, Public Service Department, International Standard and Programs Department, Virtual Library Services Department, Planning Research and Statistic Department, Human Resource and Administration Department, Finance and Account Department, and Collection Development and Technical Services Department).

Population Table

S/N	State	Librarian	Head of Departments	Total
1	Headquarters Garki, Abuja	1	8	9
2	Kano City, Kano State	1	8	9
3	Akure, Ondo State	1	8	9
4	Yaba, Lagos State	1	8	9
5	Enugu, Enugu State	1	8	9
6	Yenegoa, Bayelsa State	1	8	9
7	Abakaliki, Ebonyi State	1	8	9
8	Asaba, Delta State	1	8	9
9	Ado Ekiti, Ekiti State	1	8	9
10	Port Harcourt, Rivers State	1	8	9
11	Kaduna, Kaduna State	1	8	9
12	Damaturu, Yobe State	1	8	9
13	Jos, Plateau State	1	8	9
14	Ibadan, Oyo State	1	8	9
15	Minna, Niger State	1	8	9
16	Sokoto, So koto State	1	8	9
17	Katsina, Katsina State	1	8	9
18	Umuahia, Abia State	1	8	9
19	Yola, Adamawa State,	1	8	9
20	Bauchi, Bauchi State,	1	8	9
21	Makurdi, Benue State,	1	8	9
22	Maiduguri, Borno State,	1	8	9
23	Calabar, Cross Rivers State,	1	8	9
24	Benin City Edo State,	1	8	9
25	Gombe, Gombe State,	1	8	9
26	Owerri, Imo State,	1	8	9
27	Dutse, Jigawa State,	1	8	9
28	Ilorin, Kwara State,	1	8	9
29	Lafia, Nasarawa State,	1	8	9
30	Sapon-Abeokuta, Ogun State	1	8	9
31	Osogbo, Osun State	1	8	9
32	Uyo, Akwa Ibom State,	1	8	9
33	Jalingo, Taraba State	1	8	9
	Total	**33**	**264**	**297**

Source: Official Website of National Library of Nigeria (https://nln.gov.ng/statebranches.php)

3.4 Sample Size and Sampling Techniques

Sampling Techniques is the process of selecting a subset of individuals, groups, or elements from a larger population to represent the entire population in a study. It is a critical component of research design, as it allows researchers to draw conclusions about a population without examining every member, saving time, cost, and effort. Effective sampling ensures that the findings are generalizable, valid, and reliable. The entire population (297 management staff) of the study was used as sample of the study. Henceforth, the technique use for the study is sensor sampling.

3.5 Instrument for Data Collection

The Instrument for data collection was questionnaire. Questionnaire is a useful option to consider when conducting a survey. They can be cheaper than personal interviewing and quicker if the sample is large and widely dispersed. Questionnaires are a very convenient way of collecting useful comparable data from a large number of individuals. However questionnaires can only produce valid and meaningful results if the questions are clear and precise (Mathers, Fox, & Hunn, 2009). The questionnaire was developed and it has two sections; the section A was developed to obtain Individuals Demographic-Data, while section B consists of research content that set to address the research questions raised by the researcher. The close-ended questionnaire comprised of a set of simple questions constructed to elicit information on the Adoption of Digital Deposition of Information Resources for Utilization of Digital Repository of National Library of Nigeria, the questionnaire consist: types of information resources are covered with legal deposit statutory law by National Library of Nigeria, types of digital repository technologies available for adoption Digital Deposition of Information Resources for open access by National Library of Nigeria, strategies employed by National Library of Nigeria that make the adoption of Digital Deposition of Information successful, how the adoption of Digital Deposition of Information

resources increase visibility of Digital Information for Open Access, how the adoption of Digital Deposition of Information resources by National Library of Nigeria facilitate access of Information resources in Digital Repository, how the adoption of Digital Deposition of Information facilitate use of Information resources in Digital Repository and the challenges encountered will adopting Digital Deposition of Information resources for utilization of Digital Repository.

3.6 Validity of the Instrument

In order to ensure that the instrument is valid, the data is subjected for validation, the face and content validation entails experts in the department in the subject area checking and making necessary observations, corrections and amendments to strengthen the instrument. Face validity refers to the extent to which a test, survey, or measurement instrument appears to measure the intended construct at face value. It is a subjective assessment made by experts or stakeholders. While content validity evaluates whether a test or measurement instrument comprehensively covers all aspects of the construct it aims to measure. This involves a systematic review of the test items by experts to ensure full representation of the domain.

The validity of the instrument was ascertained by the supervisors of this work and other two academic staff of the Department of Library and Information science, ABU, Zaria, as Plano & Creswell (2015) remarked that validation by others (experts in the field) is an effective method of validation of a research instrument.

3.7 Reliability of the Instrument

Reliability refers to the repeatability of a measure, the degree of closeness between repeated measurements of the same value. Reliability addresses the question, if the same thing is measured several times, how close are the measurements to each other? (Mertens, 2003).

According to Creswell (2009) reliability of instrument is very important as it deals with consistency, stability and detail treatment of issues using appropriate techniques. The reliability of the instrument was established by conducting a pilot study within two week at the National University Commission (NUC), Abuja, Nigeria. The choice of this commission is made because all are regulatory bodies under Federal Ministry of Education of Nigeria and it is also not form part of the scope of the study. To ensure that the instrument was reliable, a pre-test was conducted using the staff in the National University Commission, Abuja, Nigeria, which was not included in the study. Internal Consistency Reliability Measures was used whether the items within a test or survey are consistent in measuring the same underlying construct. It is often used when the instrument consists of multiple items or questions. It is a common method for assessing internal consistency in Cronbach's Alpha, which computes the average correlation between items in the instrument. The result of Cronbach's Alpha Formula Reliability Test was computed for the total of 20 participants. The Cronbach's Alpha reliability coefficient result was 0.7 which found evidence at satisfactory level for the full conduct of this research.

3.8 Procedure for Data Collection

A letter of introduction was obtained from the Head of Department which enable the researcher to obtain access to information from the participants in National Library of Nigeria. The researcher administered the 297 copies of the questionnaire with the help of the three staff of National Library of Nigeria in the Headquarters. Online survey using Google forms was used to 33 states library branches' staff across the country including the headquarters.

3.9 Procedure for Data Analysis

Data analysis involved organizing data, breaking them into manageable units, coding them, synthesizing them and searching for patterns. The data captured for this study analyzed using statistical methods. The data collected was analyzed using descriptive statistics in the form of simple percentages, frequency distributions for the research questions 1,2,3,&8 using SPSS package with decision benchmark of 50 and above as positive while bellow 50 as negative, the research questions 4,5,6,& 7, were analyzed using Likert Scale of Five (5) in the same package. Meanwhile, the decision mean for the research questions 3,4,5,& 6 is (3.0).

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CHAPTER FOUR
DATA PRESENTATION ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis results. The nominal variables were presented in frequency and percentage distributions. These include gender, name of library, department, years of experience etc. The next section presents findings of research questions raised for the study. The results presents in tabular form using frequency of options and mean and standard deviations were presented for the analysis. Research questions 4, 5, 6, & 7 were cumulated for their mean and compared with a standard /decision mean of 3.000 since the items are in 5 Liker scale options. Carrying points of 5, 4, 3, 2 and 1 respectively, computed thus: (5+4+3+2+1)/5 = 3.000 while questions 1, 2, 3, & 8 were analyzed in nominal variable using frequency and percentage, 50% and above were used for a positive decision while anything below 50% regards as negative decision.

4.2 Response rate

Table 4.1 Gender

Gender	Frequency	Percent	Distributed Q.	Returned Q.	Cumulative Perc.
Female	91	56.5	297	161	56.5
Male	70	43.5			100.0
Total	161	00.0			

The above table reveals the gender of the respondents in National Library of Nigeria. It shows that 70 of them representing 43.5% are males while the remaining 91 representing 56.5% are females. This implied that at the point of data collection most of the respondents that voluntarily participated in this research work are female.

Table 4.2 Name of Library

Name of Library		Frequency	Percent	Cumulative Percent
	Headquarters	58	36.0	36.0
	State Branch	103	64.0	100.0
	Total	161	100.0	

The name of the library used for this study is given in the above table. 103(64.0%) are from the state branch whereas 58(36.0%) are from the headquarters. Considerably, the most of the respondents are come from state branch library due to fact that the numbers of state library as per 2023 are 32 in number.

Table 4.3 Department

Department	**Frequency**	**Percent**	**Cumulative Percent**
Office of the National Librarian/Office of the State Librarian	21	13.0	13.0
Legal Deposit Department	33	20.5	33.5
Public Service Department	11	6.8	40.3
International Standard and Programs Department	25	15.5	55.8
Virtual Library Services Department	16	9.9	65.7
Planning Research and Statistic Department	9	5.6	71.3
Human Resource and Administration Department	13	8.1	79.4
Finance and Account Department	15	9.3	88.7
Collection Development and Technical Services Department	18	11.2	100%
Total	161	100%	

The department of the research respondents is revealed above. A majority of 33(20.5%) were from the legal deposit department, this is closely followed by those from the international standard department who were 25(15.5%) and the least number of 1 respondent (0.6%) was from the development and technology department.

Table 4.4: Geo-Political Zone

Geo-Political Zone		Frequency	Percent	Cumulative Percent
	North Central	59	36.6	36.6
	North East	21	13.0	49.7
	North West	27	16.8	66.5
	South East	19	11.8	78.3
	South South	14	8.7	87.0
	South West	21	13.0	100.0
	Total	161	100.0	

From the above table, most of the respondents, 59 (36.6%) belong to the north central geo-political zone, followed by 27(16.8%) of them belonging to the North West geo-political zone, another set of 21(13.0%) of the respondents belong to the north east geo-political zone and the least amount of respondents numbering 14(8.7%) are from the south geo-political zone.

Table 4.5: Present Rank/Cadre/Position

Present Rank/Cadre/Position		Frequency	Percent	Cumulative Percent
	Deputy Director	14	8.7	8.7
	Director	13	8.1	16.8
	Head of Department	53	32.9	49.7
	Head of State Bra	19	11.8	61.5
	National Librarian	1	0.6	62.1
	Others	61	37.9	100.0
	Total	161	100.0	

The present rank of the respondents is shown in the above table. the majority of 60(37.9%) have other ranks not listed among the options. 53(32.9%) are heads of department, 19(11.8%) of them are heads of state branch. Also 1(0.6%) of the respondents are national librarians.

Table 4.6: Qualification

Qualification		Frequency	Percent	Cumulative Percent
	Bsc/BLIS/HND	88	54.7	54.7
	Diploma/NCE	27	16.8	71.4
	Msc	35	21.7	93.2

	Others	2	1.2	94.4
	PhD	2	1.2	95.7
	SSCE	7	4.3	100.0
	Total	161	100.0	

Respondents' educational qualifications are revealed in the above table. 88(54.7%) of them possess Bsc/BLIS/HND as their highest educational qualification, followed by 35(21.7%) having their Msc as their highest educational qualification, 27(16.8%) of the respondents possess Diploma/NCE degrees as their highest educational qualification, 7(4.3%) of them have SSCE as their highest educational qualification. Equal numbers of 2(1.2%) respondents each either had their highest educational qualifications as PhD or possessed other educational qualifications not listed in the options.

Table 4.7: Years of working experience

Years of working experience	Frequency	Percent	Cumulative Percent
11-20 yrs	101	62.7	62.7
21-30 yrs	54	33.5	96.3
31 and over yrs	6	3.7	100.0
Total	161	100.0	

Information regarding the respondents' years of experience is given in the above table.101(62%) of them have between 11-20 years experience, 21-30 years experience is possessed by 54(33.5%) respondents and the rest 6(3.7%) of them have 31 years and over years of experience.

4.3 Descriptive Analysis

Types of Electronic Information Resources Covered With Legal Deposit Statutory Law in National Library of Nigeria

Table 4.8: Type of Electronic Information Resources Covered with Legal Deposit

S/N	Type of Information Resources	A	NA	Freq	Perc.	Decision
1	E-Audio visual materials	√		161	100	Positive
2	E-Almanacs	√		159	98.8	Positive
3	E-Annual reports	√		159	98.8	Positive
4	Electronic Books	√		161	100	Positive

5	E-Compendium of Conferences Workshops	√		158	98.1	Positive
6	E-Conference Papers	√		157	97.5	Positive
7	E-gazettes	√		157	97.5	Positive
8	E-Maps	√		156	96.9	Positive
9	E-Musical Materials	√		160	99.4	Positive
10	E-Non- peer-reviewed articles published in a journal	√		158	98.1	Positive
11	Online Periodical Resources	√		161	100	Positive
12	E-Peer-reviewed articles published in a journal	√		158	98.1	Positive
13	E- Periodicals (Year Books, Monographic series)	√		160	99.4	Positive
14	E-Research Reports	√		158	98.1	Positive
15	Metadata Repository	√		160	99.4	Positive
16	Electronic Serials (Journals, News papers, Magazines)	√		159	98.8	Positive
17	E-Teaching materials / Lectures note	√		153	95.0	Positive
18	E-Theses/Dissertation	√		153	95.0	Positive

From the above table the Type of Information Resources Covered with Legal Depository Statutory Law with view of respondents are positive, the entire Information Resources listed above with variable scored 50% and above, this implied that there is comprehensiveness coverage in the compliance with the legal deposit statutory law. As the policy implied all the published work of national literature should deposited to national library of Nigeria, in case of deposition of thesis and dissertation as a research reports the policy is more concern with published work although respondents are in the opinion of the coverage of thesis and dissertation, that can be due to the unclarified statement "all intellectual resources" this statement encompasses all information including thesis and dissertation served as most intellectual documents of the nation. Although delay and some irregularity were attached to the traditional deposition which this research is incorporate digital deposition of information to National Library of Nigeria, henceforth, in order the authority for collection to ease their responsibility and fast track for the collection adoption digital deposition of information served as lasting solution for the challenges. The finding is in agreement with Akidi and Omekwu (2019) which established that a lacuna exists in the coverage of legal deposit collection, which consequently affects the comprehensive method of coverage of resources listed in the National Bibliography of Nigeria.

This implies that the coverage and compliance remain hindrances which may result as lack of multiple method of deposition of information resources to National Library of Nigeria.

Types of digital repository available for adoption of legal deposit statutory law on electronic information resources by National Library of Nigeria

Table 4.9: Type of Repository Technologies Available

S/N	Type of Repository Technologies Available	A	NA	Freq.	Perc.	Decision
1	Dspace			10	6.2	Negative
2	Open Registry	√		1	.6	Negative
3	National Repository @powered by Eko-Konnect	√		144	89.4	Positive
4	Digital Information Archive System (DIAS)	√		2	1.2	Negative
5	Eprints	√		1	.6	Negative
6	PANDORA Digital Archiving System (PANDAS)		X			Negative
7	Lots of Copies Keep Stuff Safe (LOCKSS)		X			Negative
8	Fedora™ (Flexible Extensible Digital Object Repository Architecture)		X			Negative
9	Digital Asset Management Repository		X			Negative
10	Preservation Repository	√		2	1.2	Negative
11	Dark Archive		X			Negative
12	Consortial Digital Repository		X			Negative
13	Discipline-Oriented Repository		X			Negative
14	Metadata Repository		X			Negative
15	AquaDocs		X			Negative
16	Biodiversity Heritage Library OAI Repository		X			Negative
17	CSIRO Data Access Portal	√		1	.6	Negative
18	Digital Commons @ Michigan Tech		X			Negative
19	eScholarship - University of California Repository		X			Negative
20	fedOA (Federico II Open Archive)		X			Negative
21	FULIR		X			Negative
22	Digital Repository of South China Sea Institute of Oceanology, CAS (scsio-IR)		X			Negative
23	National Research Foundation IR: South African Institute for Aquatic Biodiversity		X			Negative
24	NERC Open Research Archive		X			Negative
25	NOAA Digital Repository		X			Negative
26	Scholars Archive@OSU		X			Negative
27	SERPENT Media Archive		X			Negative
28	SPREP Virtual Library		X			Negative
29	Texas ScholarWorks		X			Negative
30	DiVA: Digital Scientific Archive of SMHI		X			Negative

The question of what types of digital repository technology are available for adoption of digital deposition of Information for open access digital repository was answered in the above

table, a total number of 144(89.4%) which represent the highest set gave National Repository @power by Eko-Konnect as the available digital repository technology for adoption of digital deposition of Information for open access, a set of 11(6.8%) respondents revealed DSpace as the available digital repository technology, Preservation Repository is given by 2 respondents as the available digital repository technology available, 1(0.6%) respondent each revealed Open Registry, CSIRO Data Access Portal, Digital Information Archive System (DIAS) and E-Prints as the type of digital repository technology available for adoption of digital deposition of Information for open access. As decision percentage regarding the availability of open access digital technology only National Repository @power by Eko-Konnect is available 144(89.4%) which is above 50% decision variable while all the rest are below 50% respectably.

This implies that there is growth of domestic governmental digital repository in Nigeria, the finding is in agreement with the study of Ufuoma, (2015) who clearly explains that among the various types of repositories, governmental repositories are still less although their number has considerably increased.

Types of strategies are available for the adoption of legal deposit statutory law on electronic information resources

Table 4.10: Types of Strategies available in National library of Nigeria

S/N	Strategies employed	A	NA	Freq.	Perc.	Decision
1	Collecting books published in Nigerian	√		156	96.9	Positive
2	Collecting books by Nigerian researchers published abroad	√		160	99.4	Positive
3	Issuing books a legal deposit number	√		158	98.1	Positive
4	Issuing books with International Standard Book Number	√		161	100	Positive
5	Including Information as part of the country publications	√		158	98.1	Positive
6	Introducing e-Policy for submitting books to National Library	√		160	99.4	Positive

7	Collection base of quality of Information publications	√		158	98.1	Positive
8	Digital deposits of Information through dedicated National Library Information Systems	√		160	99.4	Positive
9	Digital registration of the incoming deposits of Information	√		159	98.8	Positive
10	Search of Best Practices In Other Countries on Information	√		153	95.0	Positive
11	Integration of other digital repositories with National Repository for open access	√		153	95.0	Positive
12	Collecting publications without the legal deposit number	√		161	100	Positive
13	Collecting books without ISBN	√		159	98.8	Positive
14	Collecting of tripates Information (University, government & industry)	√		159	98.8	Positive
15	Collection of Information base of year of publication	√		161	100	Positive
16	Awareness of depositing Information for legal deposit statutory law	√		158	98.1	Positive
17	Formal communication among legal deposit department, Universities, publishers, and authors	√		157	97.5	Positive
18	Compliance with Legal Deposit Act on digital Information	√		157	97.5	Positive
19	Accessibility of legal deposit document to stakeholders	√		156	96.9	Positive
20	Method of check list in publisher catalogues	√		160	99.4	Positive
21	Database control method	√		158	98.1	Positive
22	publishers database search	√		161	100	Positive
23	Clarification of legal deposit statutory law	√		158	98.1	Positive
24	Collaborations with publisher through information centres	√		160	99.4	Positive
25	Optimise internal repository for greater efficiency and effectiveness	√		158	98.1	Positive
26	Improve Scholars Archive	√		160	99.4	Positive
27	Enhance interdisciplinary and transversal collaboration	√		159	98.8	Positive
28	Invest in innovation and resources management	√		153	95.0	Positive
29	Strategy for digital transformation	√		153	95.0	Positive
30	Introduce a policy of open and linked data	√		161	100	Positive

The strategies available for the adoption of the legal deposit statutory law on electronic information resources have been positively assessed, with all variables scoring above the benchmark of 50. This demonstrates the effectiveness of the National Library of Nigeria's (NLN) strategic approaches in achieving its goals, including modernizing services and

aligning with global standards. The NLN has implemented a comprehensive set of strategies addressing the needs of a modern library system. Key focus areas include digital transformation, capacity building, policy development, stakeholder engagement, and awareness programs. These initiatives position the library as a pivotal institution for preserving and disseminating Nigeria's intellectual heritage. The consistent performance above the benchmark underscores the effectiveness and relevance of these strategies.

The findings highlight the library's robust strategic planning and implementation, particularly in digital transformation, compliance enforcement, and stakeholder collaboration. These efforts not only enhance the library's operational efficiency but also ensure its continued contribution to national development. The ongoing refinement of these strategies will further strengthen the NLN's role as a cornerstone of Nigeria's knowledge economy.

Extent at which the strategies employed are relevant for the adoption legal deposit statutory law on electronic information resources by National Library of Nigeria

Table 4.10: Relevant of Strategies Employed for Adoption of Digital Deposition

S/N	Strategies employed	VR	R	LR	NR	U	Mean	STD
1	Collecting books published in Nigerian	94	64	2	1	0	4.559	0.688
2	Collecting books by Nigerian researchers published abroad	74	83	3	1	0	4.429	0.765
3	Issuing books a legal deposit number	72	84	5	0	0	4.416	0.687
4	Issuing books with International Standard Book Number	61	92	5	3	0	4.311	0.555
5	Including Information as part of the country publications	52	97	7	5	0	4.217	0.811
6	Introducing e-Policy for submitting books to National Library	77	81	3	0	0	4.460	0.674
7	Collection base of quality of Information publications	69	80	10	2	0	4.342	0.671
8	Digital deposits of Information through dedicated National Library Information Systems	76	76	5	4	0	4.391	0.571
9	Digital registration of the incoming deposits of Information	84	70	1	6	0	4.441	0.615

10	Search of Best Practices In Other Countries on Information	88	64	6	3	0	4.472	0.711
11	Integration of other digital repositories with National Repository for open access	92	62	3	4	0	4.503	0.672
12	Collecting publications without the legal deposit number	75	79	2	5	0	4.391	0.643
13	Collecting books without ISBN	82	68	5	6	0	4.404	0.721
14	Collecting of tripates Information (University, government & industry)	86	68	2	5	0	4.460	0.741
15	Collection of Information base of year of publication	85	65	6	5	0	4.429	0.557
16	Awareness of depositing Information for legal deposit statutory law	90	62	6	3	0	4.484	0.615
17	Formal communication among legal deposit department, Universities, publishers, and authors	94	59	3	5	0	4.503	0.721
18	Compliance with Legal Deposit Act on digital Information	87	62	9	3	0	4.447	0.641
19	Accessibility of legal deposit document to stakeholders	75	78	6	2	0	4.404	0.643
20	Method of check list in publisher catalogues	77	70	10	4	0	4.366	0.731
21	Database control method	77	65	9	10	0	4.298	0.718
22	publishers database search	62	81	11	7	0	4.230	0.577
23	Clarification of legal deposit statutory law	78	75	5	3	0	4.416	0.615
24	Collaborations with publisher through information centres	105	47	3	6	0	4.559	0.711
25	Optimise internal repository for greater efficiency and effectiveness	95	56	5	5	0	4.497	0.672
26	Improve Scholars Archive	79	72	4	6	0	4.391	0.643
27	Enhance interdisciplinary and transversal collaboration	92	60	4	5	0	4.484	0.767
28	Invest in innovation and resources management	102	51	3	5	0	4.553	0.742
29	Strategy for digital transformation	82	74	2	3	0	4.460	0.748
30	Introduce a policy of open and linked data	104	49	4	4	0	4.571	0.689
	Cumulative Mean						**4.430**	

Decision Mean =3.000

Key: VR=Very Relevant □ R= Relevant □ LR=Less Relevant □ NR=Not Relevant □ U=Undecided □

Extent at which the strategies employed were relevant for the adoption of digital deposition of Information for open access digital repository by National Library of Nigeria is very high

and positive. This is because their cumulative mean response on relevance was 4.430 which is greater than the decision/standard mean of 3.000. Specifically majority asserted that Introduce a policy of open and linked data as this item attracted the highest mean response of 4.571 as a total of 104 consider this very relevant while 49 consider it relevant with only 4 that termed it less relevant and undecided. Also they believe that in the relevance of Collecting books published in Nigerian, as this had the second highest mean response of 4.559 with details showing that while 94 consider it very relevant, 64 consider it relevant as against only 2 that consider this less relevant and only 1 was consider it as not relevant. In summary, the extent of extent the relevance of strategies employed for the adoption of digital deposition of Information is very high and positive especially, as IT Introduce a policy of open and linked data and in the Collecting books published in Nigerian Universities. The finding is in agreement with Khaparde, & Ambedkar, (2014) who explained that there is move by India to strategize digital submission of published information, the Government Initiatives for the Development of ETDs UGC Regulations 2005, In 2005, the University Grants Commission of India (UGC) drafted a national policy framework entitled "UGC (digital submission of published information in electronic format) Regulations, 2005.

This implies that the strategies employed are practicable for the success and maintaining the sustainability of the operation of digital deposition of information resources for utilization of digital repository remotely.

Extent at which the adoption of legal deposit statutory law on electronic information resources facilitate visibility of digital repository of National Library of Nigeria

Table 4.11: Adoption of legal deposit on e-information and facilitating visibility

S/N	Facilitating Visibility of Digital Information	HV	V	LV	NV	U	Mean	STD
1	The adoption of digital deposition of information increase intellectual visibility of Information if the National Library	76	82	1	0	2	4.429	0.755
2	Digital information facilitates the wide dissemination of knowledge of original research results, scholarly articles, raw data and metadata	71	83	3	1	3	4.354	0.699
3	The adoption of digital deposition of information increase the principle of free and equal access to information	66	89	5	0	1	4.360	0.877
4	The adoption of digital deposition of information increase rapid scientific development, which benefits the community at large for use	74	81	2	0	4	4.373	0.615
5	The adoption of digital deposition of information offer the opportunity to exchange information globally, immediately and effectively	67	89	4	0	1	4.373	0.713
6	The adoption of digital deposition of information increase coverage of Information for wider use among the research community	93	64	2	0	2	4.528	0.872
7	The adoption of digital deposition of information increase the citation rate of intellectual visibility of Information in the NLN	76	77	6	0	2	4.398	0.643
8	The adoption of digital deposition of information increase global sharing of knowledge and learning	72	81	3	0	5	4.335	0.717
9	The adoption of digital deposition of information increase visibility of rate of plagiarism on Information in the NLN	83	71	3	0	4	4.422	0.725
10	The adoption of digital deposition of information increase the research impact for wider recommendations among the research community	96	58	3	0	4	4.503	0.881
	Cumulative mean						**4.407**	

Standard mean = 3.000

The table 4.11 revealed that the extent, at which the adoption of digital deposition of Information by the National Library of Nigeria facilitates Visibility of Information for Open Access Digital Repository, is very high and positive. This is because their overall response of 4.407 is higher than the 3.000 mean response. Specifically the most visible is the adoption of digital deposition of information increase coverage of Information for wider use among the research community as this had the highest mean of 4.528 as details showed that while 93 consider this very visible, 94 consider as visible as against 2 that consider this less visible and the rest as undecided. The Extent, at which the adoption of digital deposition of Information by the National Library of Nigeria will facilitate Visibility of Information for Open Access Digital Repository, is very high and in the positive especially as majority believes that the adoption of digital deposition of information can increase coverage of Information for wider use among the research community. The finding is aligned with Abrizah, Noorhidawati, & Kiran, (2010). Through digital deposition of information, the visibility of information resources from researchers, professional and academics can be made easily accessible and without restrictions.

This implies that visibility of information resource is key for access and use of information resources in today digital community as much information related industries are moving towards digital services as part of enhancement of better services is that of what National Library of Nigeria is considering.

Extent at which the adoption of legal deposit statutory law on electronic information resources facilitate access of digital repository of National Library of Nigeria

Table 4.12: Adoption of legal deposit on e-information and facilitating access

S/N	Adoption Legal Deposit Facilitating Access of Information	HA	A	LA	NA	U	Mean	STD
1	The adoption of digital deposition of information in the National Library of Nigeria enhances access to	82	73	4	0	2	4.447	0.722

	information confined to publishers' archives							
2	The adoption of digital deposition of information in the National Library of Nigeria facilitate access to researchers and scholars are willing to share their work	68	88	1	0	4	4.342	0.610
3	The adoption of digital deposition of information in the National Library of Nigeria facilitate access, support for any moves by research funders to promote open access to the published output of research	76	76	6	0	3	4.379	0.578
4	The adoption of digital deposition of information in the National Library of Nigeria facilitate access to intellectual resources that open and freely accessible to all researchers at no cost	82	65	8	0	6	4.348	0.614
5	The adoption of digital deposition of information facilitate access to information through website accessible to researchers	68	82	7	0	4	4.304	0.721
6	The adoption of digital deposition of information provide open access to knowledge interoperable with search engines and other archives	59	88	7	0	7	4.193	0.673
7	The adoption of digital deposition of information encourage authors to retain copyright in their work where possible	82	62	11	0	6	4.329	0.655
8	The adoption of digital deposition of information advocacy increases awareness about digital repository and its corresponding open access policy	73	70	8	0	10	4.217	0.707
9	The adoption of digital deposition of information facilitate access to information that enable to carry out more extensive comparative studies	73	75	4	0	9	4.261	0.714
10	The adoption of digital deposition of information facilitate access to information which supports multilingual metadata related to reference resources	66	80	8	0	7	4.230	0.754
	Cumulative mean						**4.305**	

Decision Mean = 3.00

Key: HA=Highly Accessible □ A=Accessible □ LA=Less Accessible □ NA=Not Accessible □ U=Undecided □

The extent at which the adoption of digital deposition of Information by the National Library of Nigeria facilitates Access of Information for Open Access Digital Repository is relatively high and positive. Reason being that the cumulative mean response of 4.305 is greater than the 3.000 decision mean. Specifically, the adoption of digital deposition of information in the National Library of Nigeria can facilitate access to information that stationed in publishers houses as this attracted the highest mean response of 4.447 with details showing that while

82 said high access, 73 said access as against 4 that consider it less access and the rest 2 as undecided.

The Extent at which the adoption of digital deposition of Information by the National Library of Nigeria facilitate Access of Information for Open Access Digital Repository especially The adoption of digital deposition of information in the National Library of Nigeria facilitate access to digital information that stationed in publishers house, the finding is aligned with Abrizah, Noorhidawati, & Kiran, (2010). Through OADRs, the accessibility of published works and research output from the scholars and researchers can be made accessible and remove access barrier.

Extent at which the adoption of legal deposit statutory law on electronic information resources facilitate use of digital repository of National Library of Nigeria

Table 4.13: Adoption of legal deposit on e-information and facilitating use

S/N	Facilitating Use of Information	SA	A	MA	D	U	Mean	STD
1	The adoption of digital deposition of information facilitate utilization of Information through remote access via online requests	97	61	1	2	0	4.571	0.577
4	The adoption of digital deposition of information facilitate utilization of Information through digital deposition from all publishers in Nigeria	66	87	6	2	0	4.348	0.615
3	The adoption of digital deposition of information facilitate utilization of Information through digital deposition which improves visibility of citation with the removal of open access restrictions	71	80	4	4	1	4.323	0.711
4	The adoption of digital deposition of information facilitate utilization of Information through digital deposition from different parts of the country as open access policy	95	57	4	4	0	4.491	0.672
5	The adoption of digital deposition of information facilitate utilization of Information through digital deposition which exposes literary works in a large potential readership	93	61	4	3	0	4.516	0.643
6	The adoption of digital deposition of information facilitate utilization of Information which allow	89	64	2	6	0	4.466	0.707

	the depositor to grant the repository the right to enter into licensing arrangements with end-users							
7	The adoption of digital deposition of information facilitate utilization of Information allow the depositor to grant to end-users the right to print copies of the work for non-commercial use	98	51	7	5	0	4.503	0.725
8	The adoption of digital deposition of information facilitate utilization of Information allow the depositor to attach a Creative Commons licence to the work	87	62	5	7	0	4.422	0.755
9	The adoption of digital deposition of information facilitate utilization of Information allow uploading an article to a digital repository that is available for access via the internet	89	59	7	6	0	4.435	0.748
10	The adoption of digital deposition of information facilitate utilization of Information grant the repository the non-exclusive right to reproduce materials available to end-users	65	86	3			4.298	.714
	Cumulative mean						4.437	

Decision mean =3.000

The Extent at which the adoption of digital deposition of Information Nigeria facilitate Use of Information for Open Access Digital Repository, is very high and positive, especially as the cumulative mean level of 4.437 being higher than the decision mean of 3.000, specifically most asserted that The adoption of digital deposition of information facilitate utilization of Information through remote access via online requests as this had the highest mean response of 4.571 with details showing that while 97 strongly agreed, 61 agreed as against 1 that moderately agreed and the rest 2 disagreed with this view. Also, they asserted that the adoption of digital deposition of information facilitate utilization of Information through digital deposition which exposes literary works in a large potential readership as this item had the second highest mean response of 4.516 with details showing that while 93 strongly agreed, while 61 agreed as against 4 that moderately agreed while the rest 3 disagreed with this view.

The Extent at which the adoption of digital deposition of Information Nigeria facilitate Use of Information for Open Access Digital Repository, is very high and positive, especially as most

agreed that The adoption of digital deposition of information facilitate utilization of Information through remote access via online requests and the adoption of digital deposition of information facilitate utilization of Information through Legal Deposits which exposes literary works in a large potential readership. The finding is in agreement with Abrizah, Noorhidawati, & Kiran, (2010) who explained that Removal of information access restrictions through OADR implies that developing countries scholars' problems of access to scholarly work may greatly be eased.

The implication is that maintaining the traditional system of deposition will no longer be the priority way of depositing information rather than to coexist with the digital deposition of for the resources to be visible, accessible and useable without access barrier.

Challenges faced by National Library of Nigeria while adopting legal deposit statutory law on electronic information resources for utilization of digital repository

Table 4.14: Challenges faced while adopting deposition of e-information resources

S/N	**Challenges**	**CH**	**N CH.**	**Freq.**	**Perc.**	**Decision**
1	Lack of Clear Policy for digital deposition of information	√		30	18.6	Negative
2	Lack of Awareness Surrounding digital deposition Policy	√		34	21.1	Negative
3	Lack of Equipment for Adoption of Open Access digital deposition Policy	√		33	20.5	Negative
4	Lack of Technical skill for Adoption of Open Access	√		44	27.3	Negative
5	Lack of Technological Hardware for Digital Repository	√		43	26.7	Negative
6	Lack of Dedicated Operating Systems for Digital Repository	√		44	27.3	Negative
7	Lack of Funds	√		43	26.7	Negative
8	Lack of Skilled Staff for Adoption of Open Access	√		100	62.1	Positive
9	Lack of System for Acquiring information in Digital Format	√		44	27.3	Negative
10	Lack Authority and Responsibility for Acquiring digital information	√		49	30.4	Negative
11	Lack of Clear Policy for Access and Use of digital information	√		139	86.3	Positive
12	Lack of Knowledge of Converting	√		41	25.5	Negative

	information from Print to Digital Form					
13	Lack of Digital Preservation Policy Strategy on digital information	√		159	98.8	Positive
14	Lack of Implementation Standards	√		159	98.8	Positive

The major challenges as indicated by respondents which scores (50%) and above were represent to Lack of Skilled Staff for Adoption of Open Access, Lack of Clear Policy for Access and Use of digital information, Lack of Digital Preservation Policy Strategy on digital information and Lack of Implementation Standards respectively. The rest variables (options) were in negative response, due to the fact that the score was less than (50%).

The finding is aligned with Adimorah in Akidi (2008) observed that from available statistics, it is very obvious that not all the information resources published in Nigeria are deposited with the National Library of Nigeria. Similar report from Adio (2006) study revealed among others ineffectiveness of legal deposit laws in Nigeria; that resources deposited are mainly books neglecting other information resources; that publishers are nonchalant in fulfilling the depository obligations; and that public awareness of the law is poor and also that the depository agency is poorly funded.

This implies that most the respondents are in the opinion of lack of clear policy for digital deposition of information which resulted in neglecting other information resources as well as other methods in which deposition is made.

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CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The Chapter presents summary of the study, findings, contribution to knowledge, limitation of the study, conclusion, recommendations and suggestions for further study.

5.2 Summary of the Study

The aim of this research is to establish a comprehensive framework for the coverage of information resources and ensure compliance with deposition policies through the adoption of legal deposit for electronic information resources. This initiative aims to provide a transparent and accessible platform where researchers and users can freely access and utilize information resources via the Digital Repository of the National Library of Nigeria. Chapter one highlights introduction of the study, research problem, objectives of the study. The main objective of this research is to create connection between National library of Nigeria and other relevant stakeholders through the use of digital deposition of information as means of legal deposit statutory law which eventually a visible window will be created where information will be freely access and use by researcher/user as all the information provided will be in open access system. To achieve the aim of the study seven research questions and objectives were raised which sought to: Find out the types of intellectual resources covered with legal deposit statutory law by National Library of Nigeria, Identify the types of digital repository technologies available for adoption of digital deposition of information for open access by National Library of Nigeria, Explore the extent in which the strategies employed are relevance for the adoption digital deposition of Information for Open Access Digital Repository by National Library of Nigeria, Examine the extent in which the adoption of digital deposition compatibly increases visibility of Information for Open Access Digital

Repository by the National Library of Nigeria, Ascertain the extent in which the adoption of digital deposition compatibly facilitates access of Information for Open Access Digital Repository by National Library of Nigeria, Explore the extent in which the adoption of digital deposition compatibly facilitates use of Information for Open Access Digital Repository by the National Library of Nigeria and Identify the challenges complexly faced by National Library of Nigeria while adopting digital deposition of Information for Open Access Digital Repository

Chapter two deals with the reviews of scholarly literature on the conceptual issues on this study and provides a theoretical framework for the research. The purpose of the chapter is to provide an overview of a discourse domain in inclusion and coverage of Digital Deposition of Information for Open Access Digital Repository were reviewed under the following sub-headings: theoretical framework, conceptual review, types of intellectual resources covered with legal deposit statutory law, types of digital repository technologies available, extent of relevance of strategies employed for digital deposition of information, extent of adoption compatibly increase visibility of information, extent of adoption compatibly facilitate access of information, extent of adoption compatibly facilitate use of information, challenges complexly faced while adopting digital deposition of information for open access, review of empirical studies and summary of the review.

Chapter three consists of research methodology that are adopted for the study. the chapter is presented under the following sub-headings: research method to be adopted for the study, research design, population of the study, sample size and sampling technique, instrument for data collection, validity of the instrument, reliability of the instrument, procedure for data collection and procedure for data analysis.

Chapter four presents the data analysis results and discussion of the findings. The nominal variables were presented in frequency and percentage distributions. These include gender,

name of library, department, years of experience etc. The next section presents findings from the research questions raised for the study. The results presents in tabular form using frequency frequency and mean and standard deviations were presented for the analysis.

Chapter five presents summary of the study, findings, contribution to knowledge, limitation of the study, conclusion, recommendations and suggestions for further study.

5.3 Summary of the Findings

The research found that:

1) The types of information resources covered with legal deposit statutory law by National Library of Nigeria among others were e-audio visual materials, e-almanacs, e-annual reports, electronic books, e-compendium of conference papers, resources e-gazettes, e-maps, and e-musical materials
2) The type of open access digital technology available in National library of Nigeria is National Repository @powered by Eko-Konnect
3) The type of strategies available among others were introducing e-policy for submitting books to national library, collection base of quality of information publications, digital deposits of information through dedicated National Library information systems, digital registration of the incoming deposits of information, search of best practices in other countries on information and integration of other digital repositories with national repository for open access
4) The extent in which the strategies employed is highly relevant for the adoption of digital deposition of Information resources for utilization of digital repository of National Library of Nigeria.

5) The extent in which the adoption of digital deposition of information resources is highly facilitates visibility of information resources for utilization of digital repository National Library of Nigeria.
6) The extent in which the adoption of digital deposition of Information resources is highly facilitates access of information resources for utilization of digital repository of National Library of Nigeria.
7) The extent in which the adoption of digital deposition of information resources is highly facilitates use of information resources for utilization of digital repository of National Library of Nigeria.
8) The challenges faced while adopting digital deposition of information resources for utilization of digital repository of National Library of Nigeria among others were Lack of Skilled Staff for Adoption of Open Access, Lack of Clear Policy for Access and Use of digital information, Lack of Digital Preservation Policy Strategy on digital information and Lack of Implementation Standards respectively.

5.4 Contribution to Knowledge

The study established that:

1) The legal deposit systems enhancing the accessibility of digital resources for research and national development, supported by the adoption of Eko-Konnet digital repository that facilitate the digital deposition of information resources for optimal utilization of the National Library of Nigeria.

2) The implementation of practical strategies for leveraging digital repositories has significantly enhanced the usability of deposited electronic resources. These strategies

ensure alignment with global practices, thereby increasing the visibility, accessibility, and utilization of information through the digital repository

5. 5 Limitation of the Study

The study is limited to only digital deposition of information resources to National Library of Nigeria specifically the information covered with deposition, technology deployed, strategies use, visibility, access, utilization and challenges for the adoption of digital deposition of information resources for utilization of digital repository. The study is not cover some of the states that there is not National Library branch such as Anambra, Kogi, Zanfara and Kebbi states. The study didn't cover the period beyond 2021/2024 academic session due to the fact that the period was used solely for the conduct of this study, similarly the study deals only with the system of operation of National library of Nigeria not the users the of Library. National Library of Nigeria as regulatory body for deposition information related records, the study focuses only with leveraging technology to co-exist with traditional deposition of information; therefore, the study is not deal with the publishers rather than facilitate the simplification of the entire process of traditional deposition through use of technology for open access initiatives.

5.6 Conclusion

The study concluded that the adoption of the Legal Deposit Statutory Law on electronic information resources has significantly advanced the utilization of the Digital Repository of the National Library of Nigeria. This initiative has expanded the scope of information coverage, ensuring that electronic publications and intellectual resources are systematically preserved and made accessible for national and international research purposes. The policy facilitates seamless access to electronic resources, enhances the visibility of Nigerian scholarly outputs, and supports compliance with global standards for digital repository

management. Despite these achievements, challenges such as unclear policy frameworks and limited awareness among stakeholders regarding the digital deposition process remain. Addressing these issues through targeted policy clarification, capacity building, and public awareness campaigns is critical to maximizing the benefits of the legal deposit system. By continuing to refine its strategies and embrace digital innovations, the National Library of Nigeria can solidify its role as a cornerstone of national intellectual preservation and global knowledge sharing.

5.7 Recommendations

Based on the findings, it was recommended that,

1) Develop a clear, comprehensive, and actionable policy framework for the legal deposit of electronic resources, with robust enforcement mechanisms.
2) Conduct nationwide awareness campaigns targeting publishers, authors, and institutions to increase compliance with the legal deposit law.
3) Invest in training programs for library staff and stakeholders to enhance their skills in managing digital repositories and electronic resources.
4) Upgrade the technological infrastructure of the National Library of Nigeria to support seamless digital deposition, storage, and retrieval of resources.
5) Foster partnerships with publishers, academic institutions, and international organizations to streamline the deposition process and promote best practices.
6) Introduce incentives for compliance with legal deposit requirements, such as recognition for publishers and authors contributing significantly to the repository.
7) Develop and implement robust disaster recovery and preservation strategies to safeguard digital resources from data loss or technological failures.
8) The thesis and dissertation should be included in the digital deposition to national library to bust scholarly outputs and use by the general public in Nigeria

5.8 Suggestions for Further Studies

1) Evaluation of long-term impact of the Legal Deposit Statutory Law on the preservation of Nigeria's intellectual heritage and its contribution to the global knowledge economy.

2) Exploring the emerging of artificial intelligence and blockchain in enhancing the management, preservation, and security of electronic information resources in digital repository.

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Appendix I
Introductory Letter



DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE
FACULTY OF EDUCATION
Ahmadu Bello University, Zaria
PMB 1045 Zaria

VICE CHANCELLOR:
Professor Kabiru Bala
B.Sc. (Hons) Building, M.Sc.(Bldg. Serv.), MBA, PhD (Const. Mgt.) (ABU), FNIOB, MAPM, MCABE, C. Bldg E, MCIArb

HEAD OF DEPARTMENT:
Dr. Mohammed Habibu
NCE, BLS, MLS, Ph.D (A.B.U)

23rd January, 2022

The Librarian/CEO,
National Library of Nigeria,
Headquarters, Abuja, Nigeria.

Dear Sir/Ma,

INTRODUCTION LETTER FOR SANI MURTALA RIDWAN

I delightfully wish to introduce the above named student with **REG. No P21EDLS8138**. He is postgraduate scholar (M.Phil. Information Science) conducting a research on "**ADOPTION OF DIGITAL DEPOSITION OF INFORMATION FOR OPEN ACCESS DIGITAL REPOSITORY BY NATIONAL LIBRARY OF NIGERIA, ABUJA**" with Department of Library and Information Science, Ahmadu Bello University, Zaria. I write to request for a necessary assistant for the student to carry out his research responsibility.

Thanks.
Yours sincerely,

Mohammed Habibu, PhD
Head of Department

Appendix II

Request Letter for National Library Staff

Department of Library and Information Science
Ahmadu bello University, Zaria
24th January, 2023

Dear Respondents,
National Library of Nigeria, Abuja

REQUEST FOR FILLING QUESTIONNAIRE

I am postgraduate student (M.Phil. Information Science) undertaking a research on the "**Adoption of Digital Deposition f Information Resources for Utilization of Digital Repository of National Library of Nigeria, Abuja"** with Department of Library and Information Science, Ahmadu Bello University, Zaria. The study intends to provide a clear insight of coverage inclusion of digital deposition of information as regards the adoption of Open Access Digital Repository in the National Library of Nigeria. Results from this study may provide very important input in recommending policy formulations in ensuring digital deposition of information inclusion and compliance through use of Open Access Policy in the National Library of Nigeria.

Therefore, Information provided will be treated confidentially and used for research and academic purpose only.

Thank you



Sani Murtala Ridwan
08068877574
sanimridwan@gmail.com

Appendix III

Background Information:

A1. Gender:

Male □

Female □

A2. Name of Library:

State Library Branch □

Headquarters □

A3. Geo-Political Zone:

North Central □

North West □

North East □

South South □

South West □

South East □

A4. Department:

Office of the National Librarian/Office of the State Librarian □

Legal Deposit Department □

Public Service Department □

International Standard and Programs Department □

Virtual Library Services Department □

Planning Research and Statistic Department □

Human Resource and Administration Department □

Finance and Account Department □

Collection Development and Technical Services Department □

A5. Present Rank/Cadre/Position:

National Librarian/CEO □

Deputy National Librarian □

Director □

Deputy Director □

Head of Department □

Head of State Library □

Others □

A6. Qualification:

PhD □

MPhil □

Msc/MA/M.Tech/M.Ed □

BLIS/Bsc /B.ED/HND □

Diploma/NCE □

SSCE □

Others □

A7. Years of working experience:

1-10yrs □

11-20yrs □

21-30yrs □

31yrs+ □

What types of information resources covered with legal deposit statutory law by National Library of Nigeria? (Kindly indicate *by ticking against as many boxes as appropriate):*

Audio visual materials (E.g. CD Rom / Diskettes / recordings)	□
Almanacs	□
Annual reports	□
Print and Electronic Books	□
Compendium of conferences / congresses / Workshops	□
Conference Papers	□
Government resources (E.g. gazettes)	□
Maps	□
Musical scores	□
Non- peer-reviewed articles published in a journal	□
Online periodicals resources (E.g. E-Serials)	□
Peer-reviewed articles published in a journal	□
Print Periodicals (E.g. Year Books, Monographic series)	□
Research Reports	□
Print and Electronic Serials (E.g. Journals, News papers, Magazines)	□
Teaching materials / Lectures note	□
Theses/Dissertation	□

Types of digital repository technologies available for adoption of digital deposition of information resources

S/N	Type of Repository Technologies Available	Available	Not Available
1	Dspace		
2	Open Registry		
3	National Repository @powered by Eko-Konnect		
4	Digital Information Archive System (DIAS)		
5	Eprints		
6	PANDORA Digital Archiving System (PANDAS)		
7	Lots of Copies Keep Stuff Safe (LOCKSS)		
8	Fedora™ (Flexible Extensible Digital Object Repository Architecture)		
9	Digital Asset Management Repository		
10	Preservation Repository		
11	Dark Archive		
12	Consortial Digital Repository		
13	Discipline-Oriented Repository		
14	Metadata Repository		
15	AquaDocs		
16	Biodiversity Heritage Library OAI Repository		
17	CSIRO Data Access Portal		
18	Digital Commons @ Michigan Tech		
19	eScholarship - University of California Repository		

20	fedOA (Federico II Open Archive)		
21	FULIR		
22	Digital Repository of South China Sea Institute of Oceanology, CAS (scsio-IR)		
23	National Research Foundation IR: South African Institute for Aquatic Biodiversity		
24	NERC Open Research Archive		
25	NOAA Digital Repository		
26	ScholarsArchive@OSU		
27	SERPENT Media Archive		
28	SPREP Virtual Library		
29	Texas ScholarWorks		
30	DiVA: Digital Scientific Archive of SMHI		

Extent in which the relevant strategy employed for digital deposition of information for utilization of digital repository

S/N	Strategy to be employed	VR	R	LR	NR	U
1	Collecting Information published in Nigerian Universities					
2	Collecting Information by Nigerian researchers published abroad					
3	Issuing Information a legal deposit number					
4	Issuing Information with International Standard Book Number					
5	Including Information as part of the country publications					
6	Introducing Policy for submitting Information to National Library					
7	Collection base of quality of Information publications					
8	Digital deposits of Information through dedicated National Library Information Systems					
9	Digital registration of the incoming deposits of Information					
10	Search of Best Practices In Other Countries on Information					
11	Integration of institutional repositories with National Repository for open access					
12	Collecting publications without the legal deposit number					
13	Collecting Information without ISBN					
14	Collecting of tripates Information (University, government & industry)					
15	Collection of Information base of year of publication					
16	Awareness of depositing Information for legal					

	deposit statutory law					
17	Formal communication among legal deposit department, Universities, publishers, and authors					
18	Compliance with Legal Deposit Act on Information					
19	Accessibility of legal deposit document to stakeholders					
20	Method of check list in convocation proceedings					
21	Database control method					
22	Graduate schools database search					
23	Clarification of legal deposit statutory law					
24	Collaborations with Universities through National University Commission					
25	Optimise internal repository for greater efficiency and effectiveness					
26	Improve Scholars Archive					
27	Enhance interdisciplinary and transversal collaboration					
28	Invest in innovation and resources management					
29	Strategy for digital transformation					
30	Introduce a policy of open and linked data					

Key: VR=Very Relevant □ R= Relevant □ LR=Less Relevant □ NR=Not Relevant □ U=Undecided □

Extent in which the adoption of legal digital deposition of information facilitate visibility of information resources

S/N	Facilitating Visibility of Information	HV	V	LV	NV	U
1	The adoption of OADR can increase intellectual visibility of Information if the National Library adopt the open access policy					
2	Open access facilitates the wide dissemination of knowledge of original research results, scholarly articles, raw data and metadata					
3	The adoption of OADR can increase the principle of free and equal access to information					
4	The adoption of OADR can increase rapid scientific development, which benefits the community at large for use					
5	The adoption of OADR can offer the opportunity to exchange information globally, immediately and effectively					
6	The adoption of OADR can increase coverage of Information for wider use among the research community					
7	The adoption of OADR can increase the citation rate of intellectual visibility of Information in the NLN					

8	The adoption of OADR can increase global sharing of knowledge and learning encourages social unity					
9	The adoption of OADR can increase visibility of rate of plagiarism on Information in the NLN					
10	The adoption of OADR can increase the research impact for wider recommendations among the research community					

Key: HV=Highly Visible □ V=Visible □ LV=Less Visible □ NV=Not Visible □ U= Undecided □

Extent in which the adoption of digital deposition of information facilitate access of information resources

S/N	Facilitating Access of Information	HA	A	LA	NA	U
1	The adoption of OADR in the National Library of Nigeria can facilitate access to Thesis and Dissertation for information that stationed in universities					
2	The adoption of OADR in the National Library of Nigeria can facilitate access to researchers and scholars are willing to share their work					
3	The adoption of OADR in the National Library of Nigeria can facilitate access, support for any moves by research funders to promote open access to the published output of research					
4	The adoption of OADR in the National Library of Nigeria can facilitate access Theses and Dissertations to intellectual resources that open and freely accessible to all researchers at no cost					
5	The adoption of OADR can facilitate access to Theses and Dissertations through website accessible to researchers					
6	The adoption of OADR provide open access to knowledge interoperable with search engines and other archives					
7	The adoption of OADR encourage authors to retain copyright in their work (Thesis and Dissertation) where possible (by not assigning copyright to the publisher)					
8	The adoption of OADR advocacy to increase awareness about our digital repository and its corresponding open access policy					
9	The adoption of OADR can facilitate access to Theses and Dissertations that enable to carry out more extensive comparative studies					

10	The adoption of OADR can facilitate access to Theses and Dissertations which supports multilingual metadata related to reference resources					

**Key: HA=Highly Accessible A=Accessible LA=Less Accessible NA=Not Accessible U=Undecided **

Extent in which the adoption of digital deposition of information facilitate use of information resources

S/N	**Facilitating Use of Information**	**SA**	**A**	**MA**	**D**	**U**
1	The adoption of OADR can facilitate utilization of Information through remote access via online requests					
4	The adoption of OADR can facilitate utilization of Information through Legal Deposits from all degree awarding tertiary institutions in Nigeria					
3	The adoption of OADR can facilitate utilization of Information through Legal Deposits which improves visibility of citation with the removal of open access restrictions					
4	The adoption of OADR can facilitate utilization of Information through Legal Deposits from different parts of the country as open access policy					
5	The adoption of OADR can facilitate utilization of Information through Legal Deposits which exposes research findings in a large potential readership					
6	The adoption of OADR can facilitate utilization of Information which allow the depositor to grant the repository the right to enter into licensing arrangements with end-users					
7	The adoption of OADR can facilitate utilization of Information allow the depositor to grant to end-users the right to print copies of the work (reproduce the work) for non-commercial use					
8	The adoption of OADR can facilitate utilization of Information allow the depositor to attach a Creative Commons licence to the work, and state which Creative Commons licence for use					
9	The adoption of OADR can facilitate utilization of Information allow uploading an article to a digital repository that is available for access via the internet					

10	The adoption of OADR can facilitate utilization of Information grant the repository the non-exclusive right to reproduce materials available to end-users in the digital repository					

Key: SA=Strongly Agree □ A=Agree □ MA=Moderately Agree □ D= Disagree □ U= Undecided □

Challenges complexly faced by National Library of Nigeria while adopting digital deposition of information resources

Lack of Clear Policy for Legal Deposit Statutory Law on Thesis and Dissertation □
Lack of Awareness Surrounding Thesis and Dissertation Policy □
Lack of Equipment for Adoption of Open Access Thesis and Dissertation Policy □
Lack of Technical skill for Adoption of Open Access □
Lack of Technological Hardware for Digital Repository □
Lack of Knowledge of File Format for Digital Repository □
Lack of Dedicated Operating Systems for Digital Repository □
Lack of Funds □
Lack of Skilled Staff for Adoption of Open Access □
Lack of System for Acquiring Thesis and Dissertation in Digital Format □
Lack of Clear Policy Statement on Due Time for Acquiring Thesis and Dissertation □
Lack Authority and Responsibility for Acquiring E-Thesis and Dissertation □
Lack of Clear Policy for Access and Use of E-Thesis and Dissertation □
Lack of Implementation Standards □
Lack of Knowledge of Converting Thesis and Dissertation from Print to Digital Form □
Lack of Digital Preservation Policy Strategy on Thesis and Dissertation □

Thank you for your participation

Appendix IV

RELIABILITY OF ALL THE SIXTY (6O) VARIABLES COMBINED

RELIABILITY

SCALE: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded[a]	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.523	4.000	4.900	.900	1.225	.032	60

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.757	.855	60