

# The adoption and Usage of Digital Library Resources by Academic Staff in Nigerian Universities: A case Study of University of Ilorin

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## ABSTRACT

*This study intends to identify and analyze factors influencing low adoption and usage of Digital Libraries (DLs) to enable a deeper understanding of reasons for the low adoption and usage of DLs among academics in Nigerian universities. Various theories and models aimed at explaining factors that influence adoption and usage of technologies have failed to provide clear reasons for the low adoption and usage of DL services. In order to fill this identified gap, the present study proposes an interpretive qualitative case study research approach using University of Ilorin as a case study. The study further describes research strategy that will serve as a framework for the research design, research setting, data collection instruments and analysis.*

## Keywords

*Digital libraries, DL adoption, DL usage, Digital Resources, Academic Staff, Nigerian Universities,*

## 1. INTRODUCTION

The advent of information and communication technologies (ICT) and corresponding evolution of World Wide Web (WWW) in 1990s have revolutionized the way information is generated and disseminated. For instance, the traditional system of accessing information in libraries is gradually giving way to digital system, where users only require a computer connected to the Internet to access vast DL resources.

Access to scholarly information before the emergence of DLs was characterized by different challenges ranging from distance barrier, inadequate quantity, lost in transit, mutilation, miss-shelved and scarcity (as a result of out-of-print). Academics in the traditional library environment relied heavily on research articles in printed format, which were mostly published by commercial based outlets and made available to individuals, libraries and institutions that can afford the Subscription fees [30].

However, with the advent of digital libraries, academics in both developed and developing countries have been offered opportunity to seamless access to vast digital resources. Majority of universities in the U.S UK, are now operating hybrid library systems, depending on both electronic and print resources which can be accessed via network and physical facilities[6, 13]. The situation is the same in many other developed nations and some developing countries of the world [26, 28]. However, while the developed countries have been leveraging the DL to bridge information gap, there is still low adoption and usage of DLs in developing countries and African countries in particular [19].

According to [7] the success of a system can only be determined by user acceptance. This is the reason why scholars over the years have been researching to understand adoption and usage of new technologies. Researchers have identified various factors that influence adoption and usage of digital technology, ranging from individual, institutional and system characteristics [10, 24].

In the case of studies carried out in Nigeria, there are conflicting reports on the adoption and usage of DLs especially in the academic environments. While [8, 18] reported high level of adoption and usage of electronic resources among postgraduate students and academic staff in Nigerian universities, majority of studies have identified low adoption and use of DL. For example, [9] in his study of use and non-use of Internet facilities by academic staff in ten Nigerian universities found that, Nigerian scientists depended heavily on print sources, and that accessibility, ease of use and cost were the reasons for non-use of internet sources. While the emergence of DL services provided access and removed cost constraints, recent studies still show low adoption and usage of DLs in Nigerian Universities [19, 21].

Although research has identified various factors responsible for use and non-use of technology, the issue of low adoption of technology in particular has not been given adequate attention especially in the developing countries where majority of cases of low adoption have been reported. In addition, studies on technology adoption and usage have mainly employed quantitative approach [14, 33]. For example [8, 11, 19, 21 ] all employed quantitative research approach to investigate use of electronic library resources by academic staff in Nigerian universities with conflicting results on the level of usage of DL resources. The studies, apart from their conflicting results on the level of usage of DL by academic staff in Nigeria universities, only identified factors responsible for adoption and usage without giving an insight into the factors responsible for low uptake of DL.

This mono approach dominated studies on adoption and usage may account for the conflicting results on adoption and usage of DL resources in Nigeria university environment. Therefore, employing alternate approaches could provide a better understanding of adoption and use of DLs [32]. In the light of this, the present study intends to employ a qualitative research approach to investigate possible causes of low adoption and usage of DL among academic staff in Nigeria universities.

### **1.1 Statement of the Problem**

The importance of DL cannot be over emphasized. Globally, institutions of learning are embracing DL because of its support for teaching and learning in the new e-learning academic environment. In line with this global development; Nigerian universities have also embraced DL services through various national and international initiatives. For example in 2012, the National University Commission (NUC) spent N500 Million (about \$3.1 Million) to revive the National virtual library project, which was initiated in 2002 to support teaching and learning in tertiary institutions in Nigeria [27]. Apart from this national project, each university libraries has invested on DL through subscription to various e-sources such as EBSCO Host, Science Direct, MEDLINE, and links to free web based digital libraries [20].

Despite decades of investment in DL services, evidence point to the fact that there is still low level of usage of DLs in the Nigerian academic environment [19, 21]. In a national survey of use of electronic scholarly publication in Nigerian Universities, [19] found that only 2.3% to 15.4% academics used electronic resources frequently, while majority 56.3% to 73.79% never attempt to use the valuable electronic resources provided by their university libraries.

Given the investment in DL and the expected benefits of using the system for teaching and research, the question of low adoption and usage of the technology therefore need urgent attention. This study intends to employ a qualitative research approach to investigate factors responsible for low adoption and usage of DLs by academic staff in Nigerian universities using University of Ilorin as a case study.

### **1.2 Background Information on University of Ilorin, Nigeria**

The University of Ilorin is located in the ancient city of Ilorin, the capital of Kwara State and a geographical and cultural confluence of the Northern and Southern geo political zones of Nigeria.

The University of Ilorin was established by Nigeria Government in August, 1975 with the aim of providing more opportunities for Nigerians aspiring to acquire university education and to generate high level of man-power. As at 2012 academic session, the total enrolment of student in all the twelve faculties in the university stood at 29, 576 while the population of academic staff was 1005 and nonteaching staff 2,084 [29].

The University of Ilorin Library was established in May 1976 to support teaching and learning of the parent institution. In order to meet information needs of the teeming population of the University community, the library has over the years invested both in print and digital resources. The library subscribed to a number of electronic Databases such as Ebscohost, Virtual Library, Agora, Hinari, and JSTOR. The library also subscribed and installed the e-Granary Digital Library for students and staff. The university is set for the implementation of its digitization project. This project is expected to further enhance the teaching, activities of the University community. However, findings of studies carried out in the University point to the fact that there is low usage of DL resources. This study is therefore set to understand why there is low adoption and usage of DL among academic staff in University of Ilorin.

### **1.3 Purpose of the Study**

The purpose of this qualitative research is to carry out an in depth investigation into the factors responsible for low adoption and usage of DLs by academic in the University of Ilorin with a view to develop a model of DL adoption and usage in Nigeria. The study will answer the following research questions:

1. What types of DL resources are available for academic staff in the University of Ilorin?
2. What is the level of awareness of the available DL resources by academic staff?
3. How does academic staff in Nigerian Universities perceive the adoption and use of DL?
4. What are the factors that affect academic staff's adoption and use of DLs?
5. How do the characteristics of DLs affect its adoption and use?
6. How does the academic environment affect adoption and use of DLs?

### **1.4 Significance of the Study**

Given the huge investments in the application of DLs and the proliferation of DL initiatives globally, the issue of low or non usage of the DLs calls for a research to understand why the academics in Nigerian universities are not taking advantage of DLs. The findings of this research will serve as a working guide to organizations and university authorities in particular in their plan to embrace or improve electronic library services. It will equally help the DL designers to design systems that will meet information needs of patrons. The study will be useful as a reference for further studies.

### **1.5 Scope and Limitations of the Study**

The study focuses on adoption and usage of DLs by academic staff in Nigerian universities with a case study of the University of Ilorin. The University was purposively selected for the present study because of certain criteria that fit the present study such as evidence of DL services, record of low adoption of DL services among academic staff [1, 11], location of the university and

convenient to the researcher. The result of this study will be limited to the University of Ilorin.

## 2. THEORETICAL BACKGROUND

The solution to any problem is always embedded in what is known in the area of the problem [17]. In other words, what is known so far in the area of the problem provides the basis for speculating a possible solution. This explains why researchers and practitioners in various fields of studies have employed theories and models in predicting factors influencing the adoption and usage of technologies. Such theories and models include Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM) and Diffusion of Innovation Theories (DOI), [7, 25].

These theories and models of technology acceptance have focused more on adoption variables without giving adequate attention to cases of low adoption as identified in various studies on adoption of technology. However, the comprehensiveness of the DOI compared to other theories and models has allowed researchers to continue to employ the theory to understand how innovation spread among groups of people from various dimensions. Nevertheless, the theory too does not consider the possibility that people reject an innovation even if they fully understand it [31]. The reasons for this type of behavior and others which may be contributing to the record of low adoption are what the present study will be looking at through in-depth case study of academic staff. The conceptual framework for the study as depicted in figure 1 is an adaptation from the Rogers diffusion of innovation Theory (DOI).

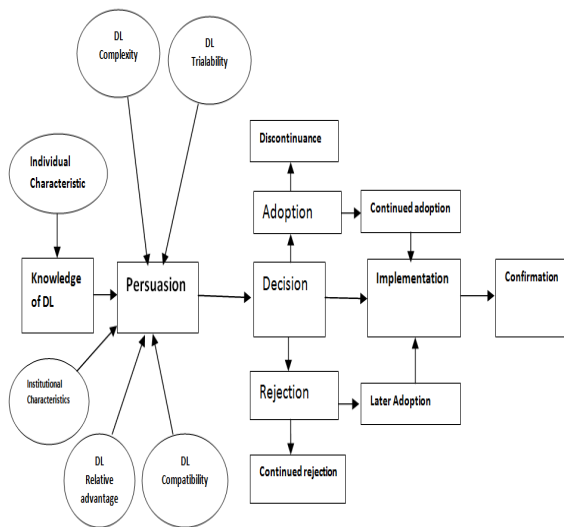


Figure 1. Conceptual framework based on Rogers Diffusion of Innovation

## 3. RESEARCH METHODOLOGY

This chapter discusses the methodology that will be used in this study under the following sub-headings: research paradigm, research design, research setting, population and sample, data collection procedures, method of data analysis, ethical consideration and summary.

### 3.1 Research Paradigm

A paradigm is a worldview, a general perspective or a way of breaking down the complexity of the real world [22]. The two main paradigms that form the basis of research in the social sciences are the positivist and the naturalistic (interpretive) approach [12]. The central theme of positivist paradigm is the proposition that all scientific knowledge is based on experience (empirically observable). While the interpretive paradigm sees the social world as a process which is created by individuals. The choice of which research paradigm to adopt depends greatly on the nature of each research problem.

Given the nature of the present study, whose goal is to understand the factors that cause low adoption of DL among academics, an interpretive research paradigm will be the appropriate philosophical approach to examine the phenomenon under investigation. In line with the interpretive paradigm, qualitative approach will be employed to achieve the objective of the present study. The qualitative research approach is an effective tool when attempting to understand how people perceive and interact with their environment [15, 34].

### 3.2 Research Design

Research design is the process of selecting a method for a particular research problem, tapping into its strengths, while mitigating its weaknesses. There are five major types of qualitative designs which include: Narrative research, Phenomenology, Grounded theory, Ethnography, Case study [4].

In view of the nature of the present study, case study research design will be employed to address the research phenomenon. [2] defined case study as, “a method involving systematically gathering enough information about a particular person, social setting, event, or group to permit the researcher to effectively understand how the subject operate or function” (p.283).

The philosophical approach that guides the present study, as depicted in figure 2 is interpretive. This uses qualitative research approach that is subjective and inductive in nature. This process is applicable to any type of qualitative research methods. For the purpose of the present study case study research method has been selected based on its relevance to the phenomenon under investigation.

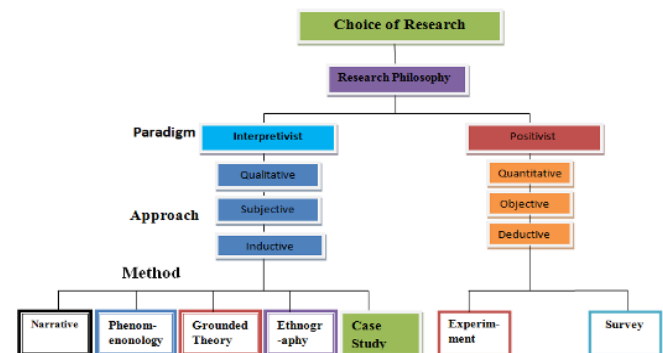


Figure 2. Overview of research approach (developed from various literatures reviewed)

### 3.3 Research Setting

The study as earlier mentioned will adopt case study approach and in line with the qualitative research tradition, the University of Ilorin, Ilorin was purposefully selected as the case study for the

present study. The selection of the University of Ilorin for the present study was based on the following criteria: ICT application, availability of functional DL services, evidence of empirical study on low adoption and usage of DL services and convenience in terms of access to research site and participants.

### 3.4 Population of the Study

The University of Ilorin staff strength as at 2012 stood at 1005 for academic staff across 14 faculties and 2,084 for non-teaching staff. The total number of students both undergraduate and post graduate as at 2012 academic year was 29, 576 [29].

### 3.5 Sample

In selecting the participants for the present study, purposive sampling technique will be employed. Purposive sampling technique enables a qualitative researcher to select individuals and sites that can provide necessary information [3]. The study will select academic staff at the University of Ilorin with two extreme cases that is, those who are using DLs and those who are not using DLs but with special focus on the later. This category of academic staff will be selected and interviewed across various faculties in the university. In line with the tradition of qualitative study, the sample size of academic staff to be interviewed and observed will be determined at the point of data saturation. According to [16] recruitment and interviews of participants should be concluded when data saturation occurred and the information received from the interviewees began to be redundant. The standard used in selecting participants and sites is whether they are “information rich” [22]. The present study will adhere to this sample size standard.

### 3.6 Data Collection

Data collection is the stage where the needed data is solicited from the respondents. Interviews, observation and document collection, and open-ended surveys have been identified as techniques for data collection [5]. For the purpose of this research, in-depth, individual interviews will be used as the primary method of qualitative data collection, direct observation and document analysis will be used to support and confirm the data collected for the in-depth interview.

### 3.7 Data Analysis

This is the stage of the study when data collected from the field will be analyzed. The data that will be generated from interview and observation (Tape recorded interview and observation notes) will be transcribed verbatim and organized with the aim of generating themes and patterns through the use of coding technique. Coding of data enables researcher to summarize and synthesize what is happening in the collected data. This systematic analysis will enable the researcher to make meaning and understanding of the data collected, after which a report will be generated as end product of the research process.

### 3.8 Ethical Considerations

To ensure ethical treatment of participants in this research study, three guidelines will be followed: (a) explain the benefits of the study to the participants, (b) explain the rights and protections of the participants, and (c) acquire a signed Informed Consent Form from each participant of the study acknowledging that each participant has been properly informed of the research study and informed of their rights and protections.

## 4. Preliminary Findings

The research is still ongoing, however, findings from preliminary investigation at the University of Ilorin point to the fact that there is low adoption of digital library services at the University. Records of transaction log analysis also shows that despite the huge investment on digital library resources subscribed to, academic staff are not making good use of the resources. The outcome of the ongoing in-depth interview on digital library services will help to shed more light on the actual factors responsible for the persistent low adoption of digital library in the University of Ilorin and by extension, help to get better understanding of the nature of adoption and usage of digital library in the Nigeria academic environment. It is the hope of the researchers that the final result of the present study will not only add to the understanding of adoption and diffusion of new innovation like digital library, it will equally improve the adoption and diffusion theories.

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