Institutional Support, E-Readiness and Digital Reference Service Delivery by Librarians in University Libraries, Oyo State

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Certification

This is to certify that this thesis was carried out by Toyosi Rachael AFOLABI with Matriculation Number LCU/PG/001283**,** a student in the Department of Information Management under my supervision in the Faculty of Communication and Information Science, Lead City University, Ibadan, Nigeria and that this work has not been previously submitted.

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Dedication

This project work is dedicated to God Almighty, the author and finishers of our faith who in His mercy has kept me thus far.

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Abstract

The advent of Technology has brought changes in the provision of university library services one of which is Digital reference services (DRS). However, effective Digital reference services (DRS) delivery may be difficult to achieve without digital readiness and an adequate level of institutional support for academic libraries. The study, therefore, examined the influence of institutional support and e-readiness on the delivery of Digital Reference Services (DRS) by University Libraries in Oyo state. The study adopted a mixed method approach, the population of the study is 65 comprised of librarians in 10 universities, Oyo State Nigeria and a total enumeration sampling method was used. A structured questionnaire and structured interview guide were used to gather data. Descriptive and inferential statistics were used for quantitative data analysis while the interview was also analysed and interpreted using thematic content analysis. The test of hypotheses shows that e-readiness (ß=0.414, t=3.612, $p<0.05$) and institutional support (ß=0.654, t=6.858, $p<0.05$) respectively influence effective DRS delivery. However, it was found that only institutional support (ß=0. 925, t=5.467, $p>0.05$) has a joint influence on DRS delivery while e-readiness of librarians (ß=0.203, t =1.224, $p<0.05$) does not have a joint influence. The findings of the qualitative discussion showed that the libraries render both asynchronous and synchronous digital references. However, there is a lack of adequate staff to provide DRS, irregular power supply and internet connection. The study concluded that digital reference service delivery is still at the elementary stage in the libraries studied but there are signs of further progress due to the availability of institutional support and the e-readiness of librarians. The study, therefore, recommended continuing personnel development to ensure effective digital reference services.

Keywords: Academic Libraries, Digital Reference Services, E-readiness, Institutional Support, Reference Services.

Word Count: 275

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Chapter One

Introduction

1.1 Background to the Study

Technological development in this era has brought about many changes in libraries and their service provision[1]. Many university libraries are trying to refine their services by moving from face-to-face interactions to digital reference services (DRS). However, this can only be done when they have the requisite institutional support and the positive attitude of e-readiness which are meant to equip them to render digital reference service seamlessly as embraced by university libraries in different parts of the world. Today, the emerging trend of information and communications technology (ICT) has been seen as an added value to libraries and information centers as well as information professionals. The use of technology in various library activities including reference services enhances the effectiveness of libraries ensuring wider reach for their resources and services through services like digital reference service (DRS).

Digital Reference Services (DRS) is simply defined as real-time personal assistance to users via web technology, where patrons employ computers or other Internet technology to communicate with reference staff without being physically present in the library. In the same vein, digital reference service is also described as a service that provides computer-mediated delivery of reference information provided by librarians to users who cannot access or do not want face-to-face communication[2]. Digital reference service delivery is most often an extension of a library's existing reference service program. It facilitates interaction between librarians and library users over a computer network to meet the reference information need of the user. This implies that reference services rely on digital communication systems which allow users to communicate

with librarians remotely. Communication channels used frequently in digital reference include video-conferencing, Voice over IP, e-mail, and instant messaging.

Its main objective is to provide pin-pointed, exhaustive, expeditious service to users whenever they have a query through a computer network. Similarly, before the advent of information and communication technology (ICT), reference service was done traditionally by having physical contact with the librarian in a building sited at a location that can be accessed only during official operating hours. Indeed, the reference service is old as the library itself. It is one of the core services that promote the relevance of the library. As earlier said, traditional reference service enables users to come in contact with information professionals when a need arises for more clarification on an issue at the reference desk. In this era, librarians have to bridge the gap to reduce the uncertainty of the users and connect them to the right information needed[3].

The library's goals have not changed in any dramatic manner. However, the way and manners to execute these goals have been transformed with the advent of technology. Sitting behind a desk may no longer be the best way to provide high-quality reference services; this traditional way of providing reference services must be complemented with available digital tools[5]. This has also been made more imperative by the evolution of library collection from predominantly printed to digital resources and with the advent of the internet which enables information resources from libraries and other sources to be available on cyber space[4]. Also, the advents of the COVID-19 pandemic have left university libraries with no choice but to embrace the principles of digital reference service delivery. Also, it is only apt that university libraries expand their reach beyond the four walls of the library and offer information resources in the cyberspace. Similarly, there is the need to have a presence within cyberspace to assist users who may experience one challenge or the other in using various library resources.

In assisting in getting appropriate information using digital channels, university libraries have the option to choose from various available communication channels each of which offers different features regarding how they facilitate the librarian-user interaction. The constructs normally used to measure digital reference service delivery by scholars include asynchronous and synchronous digital reference service delivery. An Asynchronous Digital Reference Service (DRS) refers to a mode of digital reference service that does not take place instantaneously or 'at real time'[5]. This means that information is sent and received at different times which usually include reference answers via channels like Web forms, electronic mail (e-mail), frequently asked questions (FAQs), and several Short Message Services (SMS), among others. The most widely used tool in asynchronous DRS is the e-mail as the patron sends an email with a reference query to the library, providing whatever information the patron deems necessary, and the library responds to the patron's query by email [6].

Email uses one or more email addresses to provide the user(s) with required reference information[7]. It is a cheap, simple, oldest, and cost-effective service that includes the to and fro switch of information. The query is sent by the user in the form of a message via their email or university email and the reference librarian can reply at a particular time after receiving the message. Web forms are forms placed on the website of a library that apt user to provide the details of the information required by him/her[8]. The web form usually includes personal and contact details, and several optional fields that enable the user to present their query. Frequently ask question services are another form of Asynchronous Digital Reference Service (ADRS) that are usually subsumed in library websites that allow users to ask questions and receive answers for free from networks like the World Wide Web or expert systems.

Synchronous Digital Reference (SDR) on the other is rendered in real-time through tools such as telephone (landline and mobile); instant messaging apps; social media applications and websites; video conferencing tools, etc. It refers to any real-time computer-mediated communication between a patron and an information professional. The transaction of reference help is real-time with an instant reply to the query of the patron. The communication between the reference librarian and the user is life which is a core principle of DRS. It is also known as an instant messaging reference, chat reference, e-reference, live reference, or live-virtual reference. Which is an immediate form of virtual reference; some of the digital reference services are real-time and use synchronous communication. Some of the real-time reference services provided in modern libraries are chat reference using simple technologies; chat reference using web contact software; video conferencing or web camera services; phone calls; Voice over Internet Protocol (VOIP) and digital reference robots[9].

Voice over Internet Protocol (VOIP), sometimes termed IP telephony, is a method and group of technologies for the transmission of voice conversations and multimedia sessions via Internet Protocol (IP) networks, such as the internet[10]. Videoconferencing is a method of communicating between two or more locations in which sound, video, and data signals are sent over the internet to allow for simultaneous interactive communication[11]. Real-time chat is a chat over the Internet that enables the user to communicate with the reference librarian through brief written messages in real time. One of the most frequent kinds of digital communication is instant messaging or online chat. It's faster than using an email reference service[12]. Social media are social networking sites that allow users to meet online via the internet and communicate on a social network, such as Facebook, WhatsApp, Twitter, Telegram, etc., by sharing news, photo, ideas, information, and thoughts[13]**.** Indeed, Digital reference service has become one of the essential services in the

modern library and it is being driven by various elements which make it acceptable to all libraries across the world[14].

The frequency of digital reference service delivery signifies how often the librarians provide digital reference services to meet the users' queries in their university libraries[14]. Librarians can use electronic systems to track their users online for consultation and guidance. Also, the frequency of delivering digital reference services determines their effectiveness and efficiency[15]. This will be measured in this study by metrics such as daily, weekly, monthly, and never[16]. University libraries have adopted digital reference service delivery for the dissemination of information to their respective users across the globe without any restriction so it is expected that the service will be delivered seamlessly and uninterruptedly.

Digital reference services delivery is a form of public relations service to university libraries so this service must show a significant improvement over the traditional reference services that are made available by librarians to promote their services and answer users'queries[17]. However, the delivery of the services cannot be the same in all university libraries. Some librarians in the university libraries might find it difficult to operate round the clock in providing digital reference services due short of staff, inadequate technology facilities, and an overload of designated assignments. This makes it important to examine the frequency of digital reference service delivery by librarians in university libraries in Oyo state. Available literature has shown that four main elements influence the adoption and, ultimately, the delivery of DRS. These elements are; innovation, communication channels, time, and social system[18].

Innovation can be defined as the application of new ideas to products, processes, or other aspects of institution activities to bring greater "value". The broad definition of "value" includes greater

added value for enterprises and benefits for consumers or other enterprises. A process of innovation is a new way of making or delivering goods or services. Digital reference service delivery is an innovation that brings something new to the field of Librarianship in improving the quality of services offered. In librarianship, just as it is in other areas, innovations are either accepted or rejected based on several considerations such as; relative advantage, compatibility, and relative risk. For DRS, the relative advantage is obvious because of the user's expectations; COVID-19, and the social distance system. In the same vein, DRS has a wider reach than the traditional; desk-bound reference services which stop once the library door closes.

It is also compatible with the new trend which is the adoption of technology and digital information resources to supplement print resources. Library users are flocking to the digital arena so DRS enables the library to be visible on the domain where its users mostly operate. Finally, the relative risk for the modern university library lies in not adopting DRS. By rejecting the innovation represented by DRS, the library is risking irrelevance and the under-utilization of its expensively assembled electronic information resources and facilities. A majority of our clientele are Generation Z or iGen who are born into technology and they preferred library reference services provided to them in real-time on the global landscape. Having embraced innovation, which is an innovation that is pertinent to this particular generation. The next element to promote DRS is the right communication channel.

A communication channel is how messages move from one individual to another. For DRS, different communication channels must be adopted as they suit the objectives and purpose of the library. As mentioned earlier, DRS is divided into synchronous and asynchronous services. The type of communication channel available to the library determines its ability to render any of the services. The communication channel is also closely linked to the element of time. Time is an

important aspect of the global diffusion of DRS. In this context, it denotes the period that communication will be transmitted between the users and the librarian; either the real-time or offline library user information needs can be met in real-time, this current era (time) is called the information age. This means that users want information for various purposes and they want it seamlessly, this is the best period for digital reference services as our present reality as an information professional is mandating us to adopt the principle DRS in attending to our users. So diffusion of digital reference services also depends on the existing social system in which the library is situated.

A social system is defined as a set of interrelated units that are engaged in joint problem-solving to accomplish a common goal. The members or units of a social system may be individuals, informal groups, organizations, and/or subsystems. Many librarians, libraries, and library associations have realized the need for DRS. Most importantly several library users have indicated the need for expert guidance in navigating the ocean of information available online and offline. The library and its various users, therefore, constitute a distinct social system that plays a significant role in the adoption of DRS. Libraries are institutions responsible for the acquisition, organization, storage, retrieval, and dissemination of recorded knowledge by a professional librarian for reading, studying and consultation toward the creation of new knowledge. There are different kinds of libraries such as academic libraries; school libraries; public libraries and special libraries. In this study, the focus is on university libraries. These are libraries attached to tertiary institutions to support the teaching, learning, and research activities of the parent institution. Globally universities are acknowledged as centers of production, accumulation, and transfer of knowledge[19]. The library's roles are to provide a variety of

information resources and services that will be of assistance to the community of the academic institution.

Tertiary institutions are expected to be information-rich environments because the information is central to all academic activities. University Libraries as the institution tasked with providing the information resources and services to support the academic activities in tertiary institutions therefore must give their all to ensuring that users can make effective use of available resources. In the information age, this entails making available and guiding users through the use of electronic information resources[20]. The advancement of technology has brought a paradigm shift to library and information services exemplified by the shift from manual routines to technology-aided services. Information and reference services are continuously developing as is the library itself. The new normal era has made it mandatory for libraries to adopt the principles of digital reference service and literature has shown that they cannot achieve this without institutional support and e-readiness on the part of the library and librarians. E-readiness is defined as the degree to which librarians are ready, willing, or prepared to obtain benefits that arise from information and communication technologies[21]. While institutional support is a general reflection of the supports, such as implemented policies, programs, financial support, technical support, and other support from the parent institution[22].

The concept of institutional support refers to the extent to which an organization, government, and its agencies give support to their sub-units in their bid to carry out specific projects or achieve certain objectives which contribute to the achievement of the overall institutional objective. The extent to which the government and its agencies guide in developing to reduce the negative effects of insufficient institutional infrastructure is referred to as institutional support[23]. Institutional support can come in form of technical support, financial support, emotional and

moral support, mentoring, and professional socialization from the organization, government, and its agencies[24]. In the context of this study, institutional support is conceptualized as all the assistance provided by the parent institution to their university libraries to promote innovation based on the institution's goals. Institution supports that can be provided to university libraries are of a wide range but this study would delimit this concept towards digital reference services. In line with this, the measures for institutional support are taken as the extent to which the parent institution provides technical support, financial support, emotional and moral support, and mentoring to the academic library and librarians to encourage the provision of digital reference services delivery.

Technical support is the provision of information and communication facilities and solving some common problems in addition to providing training on how to use the product[25]. Establishing digital reference services is a complex project which demands the commitment of a significant amount of resources and expertise. Libraries must acquire computer hardware and software, internet infrastructure, electronic resources, social networking, and others. It does not stop there; the entire acquired infrastructure needs regular maintenance to ensure they remain functional. In addition, financial support is one of the supports that the institution must be ready to make provision for. The institution management must be able to support their university library with funds that will enable them to acquire the necessary facilities and resources, organize the necessary training programs for existing staff or recruit new staff with the required skills for DRS.

Emotional and moral support is another form of institutional support; this is when people express their emotional or psychological support to others by offering genuine encouragement, comfort, and compassion. This can include sympathetic verbal expressions or emotional physical

movements. When library management provides librarians emotional and moral support, it energizes them to overcome various challenges they may encounter in the course of transitioning from traditional to digital reference services[22]. Mentoring is a guide for potential mentors and mentees who are interested in participating in professional development relationships[26]. Mentoring is the act of delegating an experienced librarian to guide and support librarians who do not have sufficient experience and experience in providing digital reference services. A "mentor" is usually an experienced person who shares knowledge, experience, and advice with a "mentee." Mentors can be trusted advisors and role models who are "being there" and "successful." Mentors are people with the expertise to support mentee career development. However, institutional support may not necessarily lead to effective digital reference service delivery until the librarians who are to implement the services attained a particular level of e-readiness.

E-Readiness refers to the ability of a department, organization, or workgroup to successfully adopt, use and benefit from information and communication technology in their journey to achieve organisational objectives. As used in this study, e-readiness refers to how prepared librarians are to make efficient use of information and communication technology to perform certain routines that were hitherto performed manually. There is also the organizational dimension of e-readiness which measures organizations' capacity and state of preparedness to participate in the digital environment. The state of readiness is usually measured by the organization's information and communications technology (ICT) infrastructure and the ability of its management and employees to utilize ICT for sustainable development. For DRS to be a success in any academic library, its staff must be quite ready and able to adopt and integrate information technology into their operation[27]. Several organisations have discovered rather too

late that it is inadvisable to embark on an automation project without considering the readiness of the staff that would make use of the new technology[11].

Readiness to use technology (e-readiness) is a mental and psychological issue[28]. That is why experts often use words such as technophobia, technostress, self-efficacy, etc when examining the adoption or rejection of technology. As a result, e-readiness in this study will be measured by attitude, subjective norms, and perceived behavioural control towards the usage of ICT in providing digital reference services delivery. Attitude is an individual's disposition to react with a certain degree of favourableness or unfavourableness to an object, behaviour, person, institution, or events[29]. This can be described as inclination feelings and beliefs that prompt how someone behaves. The attitude of a person goes a long way to demonstrate character. Attitude is what determines whether a librarian is ready to go beyond the ordinary to perform extraordinary feats. The librarian's attitude towards technology will determine their readiness to accept it and make use of it in their work. Another factor related to attitude toward ICT is the ICT skills possessed by the librarians in question.

The attitude and subsequent behaviour of librarians regarding digital technology can also be affected by subjective norms. Subjective norms refer to an individual's perception of a particular behaviour, which is influenced by the judgment of significant others. It relates to a person's beliefs about whether peers and people of importance to them think they should engage in the behaviour. Attitudes and subjective norms are highly correlated with behavioural intention; which is in turn correlated with actual behaviour. Simply speaking environmental and social factors can influence librarians' e-readiness. However, in order not to feel coerced or forced to adopt the technology, librarians must have some sort of control over their behaviour which is perceived behaviour control.

Perceived behavioural control involves the perception of the individual's ability to perform the behaviour. In other words, perceived behavioural control refers to the level of ease or difficulty the librarian assumes to be able to perform digital reference service. That perception varies by environmental circumstances and the behavior involved. This aspect is all about librarians' self-belief that they are capable of making use of technology tools because they recognize their usefulness and the advantages or privileges it confers on them. All of these are necessary for a rapidly changing library and information science environment where practitioners have to reorient themselves away from traditional services and shift toward the digital environment[30]. University libraries especially are making a substantial investment in electronic information resources and infrastructural facilities to deliver them to the users. The success of this depends on the library transferring its professional touches to the online environment and guiding users to the most relevant, authoritative, and organized resources different from the jumbled world of the open internet laced with information glut. Achieving this requires solid institutional support and a crop of librarians who are ready, willing, and able to adopt as well as adapt technology to modern library services. One of the most notable benefits of ICT is the ability to provide ICT-based information services like digital reference services to meet the needs of users[31]. Therefore, the study seeks to investigate Institutional Support, E-Readiness, and Digital Reference Services delivery by Librarians at University, Oyo State.

1.2 Statement of the Problem

The advent of technology has brought a paradigm shift in library service delivery which have transcended from the traditional mode of providing reference service to embracing the principles of the digital reference services (DRS). Existing literature has shown that this have been well adopted by librarians in developed countries because their librarians are technologically ready

knowing that they live in an era of digital connectivity which library need in order to provide uninhibited access to real time information. The researcher's preliminary investigations of some university libraries in Oyo State, Nigeria exposed that most of the university libraries have not adopted digital reference services; instead, they are still battling with the traditional form of rendering reference services. Furthermore, through observation, it was discovered that some of the libraries that have attempted to adopt DRS failed due to myriads of challenges such as lack of institutional support, complacent attitude of librarians, and e-readiness among others. Meanwhile, the outbreak of the COVID-19 pandemic has thrown more light to the importance of digital reference services in the world over, especially the university libraries. Digital reference services delivery is a form of public relations service. It is a method of disseminating information to the respective information seekers (university library users) across the globe without any restriction. This means that libraries that are not offering such services are missing great opportunities.

However, the lack of support from the institutions management and lack of e-readiness among library personnel means that any digital reference services established may be substandard or non-functioning which can further dent the image of the library and portray librarians as inefficient. However, few studies have explored the role of e-readiness and institutional support on digital reference services in Nigerian university libraries. It is in line with this background that this study seeks to examine institutional support, electronic readiness for effective delivery of DRS among university libraries in Oyo State, Nigeria.

1.3 Aim and Objectives of the Study

The aim of this study is to investigate the influence of institutional support, e-readiness, and digital reference services delivery by librarians in university libraries, Oyo State, Nigeria. The objectives are to:

i. examine the available mode of digital reference service delivery by librarians in university libraries in Oyo State.

ii. determine the frequency of digital reference service delivery in university libraries in Oyo State.

iii. examine the level of institutional support received by librarians in university libraries in Oyo State.

iv. determine the level of electronic readiness of librarians in university libraries in Oyo State.

v. identify the challenges to digital reference service delivery in university libraries in Oyo State.

vi. determine the influence between institutional support and digital reference service delivery in university libraries in Oyo State.

vii. find out the influence between electronic readiness and digital reference service delivery in university libraries in Oyo State.

viii. establish the composite influence of institutional support and electronic readiness of librarians on digital reference services in university libraries in Oyo State.

1.4 Research Questions

The research questions of the study are derived from the objectives of the study as stated below:

1 What is the mode for delivering digital reference service in university libraries in Oyo State?

2 How frequently are digital reference services delivered in university libraries in Oyo State?

3 What is the level of institutional support received by librarians in university? libraries in Oyo State?

4 What is the level of electronic readiness of librarians in university libraries in Oyo State?

5 What are the challenges to digital reference service delivery in university libraries in Oyo State?

1.5 Hypotheses

The following null hypotheses were tested at a 0.05 level

$H_0$1 There is no significant influence between institutional support on digital reference service delivery by librarians in university libraries in Oyo state.

$H_0$2 There is no significant influence between electronic readiness on digital reference service delivery by librarians in university libraries in Oyo state.

$H_0$3 There is no composite influence of institutional support, and electronic readiness on digital reference service delivery by librarians in university libraries in Oyo state.

1.6 Significance of the Study

In addition to its impact on society, the study findings would make significant contributions to the theory and practice of librarianship. The findings of the study would be useful to several stakeholders such as librarians, and policymakers in Nigeria academic libraries in Nigeria. Librarians would benefit from the findings to understand more of digital reference services mode to disseminate information to users, it would earnest them to be ready for the innovation and they wouldl know more skills required for effective digital reference service.

The study would be of benefit to policymakers and library management by having empirical information to make decisions about library services in the digital environment. The findings of the study reveal the functionality of the theory to digital reference service from a developing country perspective and also the conceptual model that is going to be developed will contribute to the body of literature within the discourse of DRS. The study is also expected to be of benefit to the larger society as it would lead to improved digital reference services by highlighting the current state of university libraries and suggesting a way forward.

Finally, this study would contribute to the productivity of university libraries, in which the librarians would be knowledgeable of their readiness towards the services to be provided by them, and the institution would recognize the need for their support to promote the effectiveness and efficiency of digital reference service.

1.7 Scope of the Study

The main focus of the study is digital reference service (DRS) delivery, institutional support, and the E-readiness of the librarian. DRS was measured in this study by includes such as synchronous and asynchronous. The frequency of digital reference service delivery was examined as daily, weekly, monthly, and never. The institution support indices are technical support, financial support, emotional/moral support, and mentoring. Also, the E-readiness indices are attitude, subjective norms, and perceived behavioural control. The study covered ten universities in Oyo state, Nigeria, both public and private which are the University of Ibadan; Ladoke Akintola University of Technology, Ogbomoso; Lead City University, Ibadan; Ajayi Crowther University, Oyo; The Technical University, Ibadan; Kola Daisi University, Ibadan; Atiba University, Oyo; Precious Cornerstone University, Ibadan; Dominican University, Ibadan and Dominium university, Ibadan because the ten universities will bring a unique result from the findings. The respondents of this study were professional librarians who have a minimum master's degree in library and information sciences Interviews was conducted with the university librarian or any other nomenclature that was used to describe whoever heads the unit; they presumed to have professional training to embark on DRS.

1.8 Limitations of the Study

The time factors for retrieval of data gathering, the responsiveness of respondents, and financial implications served as constraints to this study. However, the research was able to scale through by engaging the librarians in each of the selected universities for needed support in questionnaire administration and retrieval.

1.9 Operational Definition of Terms

Digital Reference Services (DRS) is reference services provided with the aid of ICT which allow the librarian to communicate with users remotely in university libraries in Oyo State.

Synchronous digital reference service delivery: refers to the mode of digital reference service which enables transaction of reference help in real-time with an instant reply to the query of patron by the librarian in university libraries in Oyo State.

Asynchronous digital reference service delivery: refers to the mode of digital reference service which does not take place instantaneously or 'at real time to the query of patron by the librarian in the university library in Oyo State.

Frequency of digital reference service delivery: signifies how often the librarians provide digital reference services to meet the users' queries in university libraries in Oyo State.

Institutional Support (IS): is defined as the extent to which a parent institution assists such as technical support, financial support, emotional and moral support, and mentoring towards the innovation of digital reference services delivery in university libraries in Oyo State.

Technical Support: refers to the provision of information and communication facilities by the parent institution to aid digital reference services in university libraries in Oyo State.

Financial support: is **the** provision of the fund by the institution for university libraries to facilitate digital reference services delivery and related activities such as training and retraining for librarians in Oyo State.

Emotional/Moral Support: this is the support provided for librarians in increasing their emotional intelligence in order to improve digital reference service delivery in university libraries in Oyo State.

Mentoring: is the support provided to librarians from time to time by library management to help, guide, and encourage the provision of digital reference service delivery in university libraries in Oyo State.

E-Readiness: is referred to how prepared librarians are towards the use of electronic technology appliances to substitute the present ways of doing things in university libraries in Oyo State.

Attitude: is the librarians' beliefs that influence their behavioural intention of using technology to provide digital reference service delivery by the librarian in university libraries in Oyo State.

Subjective Norms: are the environmental factors capable of influencing the acceptance of DRS by librarians in university libraries in Oyo State.

Perceived behavioural Control: this describes as the perception of the librarian about their ability to perform digital reference services in university libraries in Oyo State.

Librarian: a professional who works in a library, providing users with access to information as well as social or technological programming and information literacy instruction in university libraries in Oyo State.

Information Communication Technology (ICT): the information and communication tools that help in transferring information in university libraries in Oyo State.

Oyo State: is one of the states in southwest Nigeria with its capital in Ibadan. The state has a total of 33 local government areas. The three major cities are Ibadan, Oyo, and Ogbomoso from which the universities for this study will be selected.

Endnotes

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Chapter Two

Literature Review

2.1 Conceptual Review

2.1.1 Advent of Digital Reference Service Delivery in University Libraries (DRS)

2.1.2 Concept of Institutional Support

2.1.3 Overview of Electronic Readiness (e-readiness)

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2.3 Review of Empirical Studies

2.3.1 Institutional Support and Digital Reference Service Delivery

2.1 Conceptual Review

This chapter assesses the available literature concerning the current study critically. The review is crucial to the research because it places the current study in the context of other scholarly works in the field of technology adoption to be used in digital reference services, accessing the institutional support, and E-Readiness of the librarians.

2.1.1 Advent of Digital Reference Service Delivery in University Libraries (DRS)

Digital Reference Services delivery is an advancement of the traditional reference services that are emerging as a natural solution to meet the user's information needs in the changing environment. Information technology has changed every aspect of our personal, social, and professional life. In every aspect of information services, information technology has brought about incredible changes. The Internet is becoming a more and more popular source among reference librarians and users. It allows them to search, retrieve, request, receive, and download information from the internet, and it has instantly become one of the web's hallmarks. The heart of any university's development and implementation of digital information services is the library[1]. A library has been much peculiar to an academic environment. Libraries are considered experts in collecting and organizing published information[2]. Libraries acquire information, organize that information in a way it can be retrieved, and disseminate the information the library

has acquired. A university library must make update its resources and make them easily accessible.

An academic environment engages in learning and teaching. This can be done in Universities, Polytechnics, and Colleges, which have also known as a tertiary institution higher place of learning where several fields of courses are undergone to obtain a certified certificate. Almost every library in an academic environment set up collections related to the fields of study of their parent institution for user consultation. Every individual might not be able to acquire every resource needed at all the times that is why the Library has been the heartbeat of every institution because Libraries generally capture, preserve and disseminate information resources of scholarly interest to respective users. University libraries are experiencing numerous changes in their services due to high demands for digital resources and changes in users' information needs and expectations[3]. Acquiring resources is not enough without an information professional that will facilitate easy access to the resources. An information professional (librarian) matches the right resources to the right users at every point of need.

A library offers several services among which is a reference service. The core service of traditional libraries is the Reference Service for clarifying the information needs of users[4]. Better still, we can say that a reference service is personalized service by library reference staff to an individual users in making maximum utilization of library resources[5]. It serves as a bridge between library resources and users[2,5]. It ranges from simply directing users toward sources of information to the retrieval and synthesis of the information to meet the information needs of a particular user[6]. Reference service is as old as the library itself as librarians have always found it necessary to provide expert support to library users in one form or the other. The library and information professional is also facing the challenges of the electronic age. All these innovations

gave way to a new range of reference services. It is been discovered that innovation of digital reference is the current trend of the digital era improving from time to time. Tradition reference service is adequate and useful before the Internet era, present realities have shown that print resources stacked on a shelf and an expert librarian sitting behind a desk waiting for the users to come into the library are no longer enough[3].

Digital reference service (DRS) is the innovation of traditional reference service in this digital age. The terms “electronic reference” and virtual reference are often used synonymously with “digital reference”, although virtual reference is limitless by distance and physical space. Digital reference service delivery is a service by which a library reference service is provided online and the reference transaction is a computer-mediated communication between the user and the librarian[7]. This can also be defined as the provision of personal librarian help to users through collaboration between library users and librarians in a computer-based medium known as a digital reference service. It entails the use of numerous mediums such as email, web forums, and video chats, among others. The involvement of information technology has made respective information seekers operate in electronic environments and this prompt every information provider to the paradigm shift of ways of providing their users' information needs electronically for them to be satisfied. During this time of the information explosion, many people depend on the internet for information and fewer people seek help from the reference desk. Therefore, reference librarians need to provide information to come up with initiatives on how to close the gap.

The library seems to remain relevant, getting ahead of the competitive edge of this present time and its objective is to provide various types of services to users to meet their various information needs. In the changing technological world, digital reference services have become an important

aspect of library services. A digital reference service is a personal assistance provider to information seekers at any point of need via the internet. This period is when a librarian and an information user are been connected remotely to provide an answer to any query presented by the user. They make materials accessible by electronic means and by demonstrating the assistance of librarians in navigating and analyzing huge amounts of information using a variety of digital tools. In every advanced country, digital reference service has been adopted globally with the use of information and communication technology (ICT) as a way of meeting the information needs of the new breed of library users who are referred to as digital natives[8].

Due to an ICT-based environment, the reference service is no longer limited to giving personal support to users, but also includes delivering information services to users/remote users whenever and wherever they need it, all while being digitally accessible[6]. However, with the advent of information communication technology devices enable access to the information within the comfort zone of the users. Librarians are upgrading to provide users with information needs without the physical presence of users in the libraries. Library perspectives make them to acquire all kinds of ICT devices such as computer system, scanners, printer, electronic databases, e-books, and e-journals and even subscribe to the Internet to again network coverage in order to improve the quality of libraries from various aspects[9]. Likewise, several studies have shown that users are comfortable with use of electronic devices and having seamless access to information sources and services. Users no longer make physical presences in libraries before accessing information. Boundless and timeless access to information is credited to internet facilities. However, some information needs still require human touch. Thus, there is a need for digital reference services.

In traditional form reference service is been operated physically, i.e., face to face in a designated location in a building to provide service to the user, but digital reference service engages via several platforms to connect to each other via internet[1]. In almost every aspect of information services, information technology has brought about incredible changes. Reference librarians and users are increasingly turning to the internet for information. They can use it to find, retrieve, request, receive, and download data from sources all around the world on the internet. To provide digital reference service it requires creating an avenue for connectivity such as links, web page or applications that will engage the parties to be connected to each other through internet[10]. This must be known to each other in order to achieve the objectives of service to be provided.

Through this the librarian and the information seeker get contact to each other. They are able to provide information services, bibliographic verification and documentation services, inter-library loan and document delivery services, current awareness services (CAS), user education, and selective dissemination of information (SDI) services, reprographic services, and computerized reference sources. They make more use of electronic materials, databases to answer all queries even if the library has not been digitalized; the librarian must have the internet skills to search across the continental database provided online. Moreover, digital reference service has enabled all round clock service delivery to the users; this has served for many purposes. As a publicist, he helps market reference materials, supports internet searches, and supports professional activities for development and growth. User behaviour is shifting, necessitating new delivery methods for information. As a result, there are new delivery modes for digital reference services. The mode for digital reference services can be divided into two broad categories. They are namely synchronous and asynchronous

Synchronous reference transaction is one that occurs at one period of time. It involves communication that takes place in real time. Live interaction between the user and the librarian occurs in this reference transaction and the user's question is answered immediately. It is also called live reference or real-time reference. Synchronous DRS can be offered through the following means: Voice over Internet Protocol (VoIP), chat references using simple technologies, chat references using web contact software, video conferencing services or web cameras, and digital referral bots. Voice over Internet Protocol (VoIP) is a technology that allows you to make voice calls using a broadband Internet connection instead of a regular (or analog) phone line[11]. Users with interconnected VoIP connections can also make and receive calls to and from traditional landline numbers for a fee. Some VoIP services that need a computer and a dedicated VoIP telephone use this type of adaptor. VoIP is a distinct solution that allows voice signals to be transmitted over an internet connection rather than the traditional phone line.

In presently VoIP implementations, the voice analog signals are sampled and encoded using codec then encompassed into a Data packet and carried over data cables or the internet infrastructure in the same way that data packets are carried[12]. The term refers to making telephone calls over the Internet with, for example, a laptop or tablet, most commonly today smartphone is used and it is possible to make use of several applications on any devices like Nextiva, Aircall, Zoiper, Skype, WhatsApp, Google Hangouts, Viber, Facebook Messenger. Some VoIP services may only allow you to call other people using the same service, but others may allow you to call anyone who has a telephone number - including local, long distance, mobile, and international numbers. Also, while some VoIP services only work over your computer or a special VoIP phone, other services allow you to use a traditional phone connected

to a VoIP adapter. Another mode of synchronous digital reference service is Voice over Internet Protocol (VoIP).

Voice over Internet Protocol (VoIP), sometimes termed IP telephony, is a method and group of technologies for the transmission of voice conversations and multimedia sessions via the internet Protocol (IP) networks, such as the internet. The terms internet telephony, broadband telephony, and broadband phone service all refer to the delivery of communications services (voice, fax, SMS, and voice-messaging) over the Internet rather than the public switched telephone network (PSTN), also known as regular phone service (POTS). In its early phases, the VoIP technology was not fully developed and there were many loopholes. One of such is that the VoIP required a headset to be plugged into the computer, and the speaker and receiver could only speak with others who had a similar set up. They had to inform each other ahead of time, in order to signal the user at the other end of the incoming call and the time of call. There was a big gap between the marketing structure and the technological reality. This can be concluded that technical shortages stopped any major development or changes in VoIP. However, lately VoIP has continued to make technological and viable progress. Signaling protocols are used to set up and tear down calls, carry data required to locate users and negotiate capabilities[13].

Voice over Internet Protocol (VoIP) technology is gradually replacing traditional landline networks and is quickly gaining popularity as a viable alternative to mobile phone calls. VoIP transforms analogue voice communications into digital data that is transmitted over the internet or a private internet protocol (IP) network. You can use VoIP to make phone calls to landlines, mobile phones, and even computer-to-computer calls from anywhere in the globe with an internet connection. VoIP can be used for video calls, instant messaging, and file sharing in

addition to voice conversations. Many VoIP programs are accessible as stand-alone applications or as part of popular web browser bundles[14].

There are many benefits to using VoIP for business. For example: Cost savings - with VoIP, you pay only for your internet connection. Calls between individuals with VoIP equipment - even international calls - are free; Rich features - VoIP offers a wide range of features: from call forwarding, blocking, caller ID and voicemail, to remote management, automatic call distribution and interactive voice recognition; Collaboration - VoIP integrates easily with other systems and helps staff collaborate through voice, video, web conferencing or instant messaging, usually from a single user interface; Improved productivity - staff can use your communication system remotely and flexibly, with access to your data and network whenever and wherever they need it. While VoIP is often cheaper and more flexible than the traditional phone systems, it is worth keeping in mind potential problems. For example: Audio quality - depending on your broadband, hardware and services, quality and reliability of VoIP connections may not be as good as the standard phone connections.

It is not unusual for users to experience calls delays, noise and echo intervention etc. the quality of a VoIP call also depends on the strength of internet bandwidth available to the user. Users have complained that call quality fluctuates according to the strength of bandwidth. Similarly, insufficient bandwidth will likely cause quality issues with the service; Security - as with other internet technologies, security is a major consideration with VoIP. Possible threats include identity and service theft, phishing, viruses and malware, spamming over internet telephony, call tempering and denial of service attacks. In addition to these using VoIP to call someone whose phone does not have VoIP capabilities can often lead to additional charges. Another mode of synchronous digital reference service is Video conferencing.

Videoconferencing is a method of communicating between two or more locations in which sound, video, and data signals are sent over the internet to allow for simultaneous interactive communication[15]. All parties involved can see the facial expressions and body language that are so important to the way we communicate, making it much more personal and effective than audio conferencing[16]. Videoconferencing works by using a few different technologies. Some of these technologies are hardware while others are software related. A videoconference can be held between two sites, i.e., locations that are connected via videoconference or it can be held between multiple sites. This connection can take place in a dedicated videoconferencing studio, on a regular home computer with a webcam, or even over a video call on a current 3rd generation mobile phone[17]. This deployment has make life more meaningful and convenient, reduce costs and dangers of travelling as well as reduce the number of hands needed to execute meeting.

It is a video based virtual reference service. It is also called as video help. This type of digital reference includes a visual component, which is the antidote to communication problems in text services. For reference transactions, librarians and users employ both text and speech. While conducting a face-to-face interview, librarians and users can see each other through a window. Videoconferencing is useful in distance learning, online lectures, research and reference applications[19]. It is also useful in off campus library services of university libraries. These days, examinations and interviews are conducted via videoconferencing. Staffing, training, time to implement the service, lack of mobility for service staff, and cost are all issues with this service. It also allows pushing web or electronic sources through another window. Videoconferencing helps to provide distance education, research and reference services.

Videoconferencing has three essential components: the hardware, the intervening network that carries the signals between sites, the conference environment or room. The implementation of videoconferencing technology have been integrated across the social doing be education, information transfer and so on. Among all Videoconferencing accommodates a variety of different learning styles through several modalities; It enables accesses to information from primary sources; Videoconferencing affords opportunity for irrespective individual to develop and improve various communication skills such as videos, animations audio and graphics; it gives development to presentation and speaking skills; it provides avenue for communication, questioning and promote management skills; it maximizes time and resources; easier than an actual trip.

Also, it has disadvantage as stated, it makes the participants to become lazy as a result of being able to attend meetings/asking query while at their convenience, resulting in a lack of self-control; There is a lack of interpersonal relationships between speaker and listener; The received images and sound may be degraded by the technology. If image movement is jerky, body language can be lost. The sound may also be delayed; A face-to-face meeting's atmosphere is lost; Videoconferences are more effective for meetings when the participants are already acquainted; the security may be jeopardized because a private VC session can be hacked[16]. Before the evolution of video conferencing, organisations and institutions have been using internet based chat application for synchronous communication. This has also been adopted in digital reference services by libraries across the world.

Chat over the Internet enables the user to communicate with the reference librarian through brief written messages in real time. Is one of the most frequent kinds of digital communication is instant messaging or online chat. It is faster than using an email reference service. The exchange

of information between the user and the reference librarian occurs in real time, i.e., the user and the reference librarian are in constant communication. In this case, the same scenario as in a real reference desk is used to answer the question which a separate window appears on the computer screen for typing and sending written messages. The chat is considered to be valuable for reference service as it helps remote users to communicate with the reference librarian in real time. Web-based electronic resources or electronic resources are preferred by digital reference librarians because they are simple to access, maintain, and share with users. This service is quicker than e-mail because customers are not required to wait for a response. This service can be provided at any time. To avoid the system logging out and users becoming bored while introducing themselves, the reference librarian strives to keep the contact short. Because the typical length of an interview in a digital setting is ten minutes, the reference librarian should take this into account.

In order for this service to work, users and librarians must have instant messaging software installed on their computers. This service also necessitates the installation of instant messaging software on the users' and librarians' computers in order for them to connect with one another.

A virtual reference interview can be conducted with the help of a chat reference. Following the completion of the reference procedure, the user may be given a copy of the entire dialogue. Another copy of the text can be saved in an archive database for statistical data about the referencing process, such as the length of the chat, the topics discussed, the users' locations, and so on. Chat reference, on the other hand, has significant drawbacks. For some questions or people, typing messages can be inconvenient and unpleasant. The chat reference transaction does not include nonverbal communication. It is not appropriate for complex or research-based questions[20]. Advantages of using chat for online reference: it makes reality as live reference

interaction; which enables you to chat directly with the patron; you can conduct a reference interview by exchanging series of short messages to get a better and clear idea of what is asked for; It reduce issues of misconception of what is said; It is helpful for those with hearing or speaking impediment; the chat session can be kept for future reference use. However, it has some disadvantages.

The effectiveness of chat is limited. While librarians can exchange queries and responses with the patron and tell her to go to a specific address on the Web to find information, it is difficult to actually take them there or guide them through a database search. Furthermore, it is time consuming compared to regular voice call and the communication could be distorted by typographic errors which cannot be ruled out when making hurried exchanges. Most basic chat software packages do not allow to queue and route questions easily, nor do they offer scripted messages to handle routine functions and requests; the user may not have the same level of patience with the librarian's efforts to help - users expect everything to be instant, convenient, and efficient; if the user logs off prematurely, it may not be immediately apparent to the librarian, especially if the librarian is busy looking something up in a book or on a computer for the user. Today, the chat has been built on to develop a more integrated, real time communication channel; the social media.

Social media can be defined as a website and applications that support users in creating and sharing content. This has enabled electronic communication which improves every aspect human living[21]. Information technology has brought a wide implementation to diverse tools and application that enable people to connect together over internet. The expectations of users and their information seeking behaviour have prompted the library to adopt the innovation. University libraries are quickly becoming the major players in adopting and incorporating Web

2.0 applications into their services. In order to provide every ways to meet their users needs. It also refers to the means of interaction among people in which they create, share, and/or exchange information and ideas in virtual communities and networks.

Social media can be referred to as Web 2.0 innovation not because it enables user-generated content, but because it extends the focus to the users by allowing them to curate other contents to share among their networks. That is centered on easy-to-use platforms that allow generating content. More so, social media have encompassed an improved ways of education base on opinion level and academic perspectives. The subject of this have not rule out the traditional ways of knowledge delivery but serves as compliment to the system, irrespective of the society crisis education still continue. Geographical location has nothing to do with the adopted use of social media but it require the provision of internet of thing, people and connection.

Moreover, social media are social networking sites which allow users to meet online via the internet and communicate in social network, such as Facebook, WhatsApp, Twitter, Telegram, etc., by sharing news, photo, ideas, information, and thoughts[22]. Social media involves the use of mobile and web-based technologies to design highly interactive platforms; this means is an internet-enabled application or platform which makes possible for users to share information between them[23]. It enables the creation, sharing and exchange of information and ideas among people who know themselves personally.

On social media, a person must connect with another person or join a certain group to obtain information. This made known that connections among people is called social capital which only provide a specific type of information, opinions, advices and recommendations. Social media have a super usage where it provides specific information through social connection[129]. The act

of students connects with one another, they form a network where they learn new knowledge and solve their problems. It has been realized that a person on social media regards other people as information sources in form of relationships, knowledge, communication behaviour, communication style and cognitive ability. A social media play an important role because of its low cost, easy accessibility and the provision of specific information in comparison with search engines and face-to-face interactions[24]. While synchronous digital reference services are highly relevant in various instances, there are times and situations where synchronous reference services are the most appropriate.

An asynchronous reference transaction is one in which a question is submitted in some form and its answer is provided at a later time. It involves communication with an information professional with no expectation of receiving an immediate response to the question asked. It can also be defined as a type of virtual reference service in which a user, patron, or customer sends a request for information. After some time, the librarian responds to the query. In other words, there is a time lag between the user's enquiry and the librarian's response. This is noted that there is a time delay between the question and answer in this transaction. Asynchronous DRS can be provided through the following media: e-mail, web forms, Ask a Librarian services, etc.

This is an asynchronous form of digital reference service delivery that does not operate at real time whereby the librarian and the users are not getting contacted to each other online at same time. It requires a short specified amount of time to reach one another. Digital reference services started in 1984 with an electronic mail (Email) service and it was called electronic access to reference services. It enables users to send in their queries in form of messages. Over a period of time, they received their answers[25]. This entails some features which make several people to

utilize it, because it is cheap, fast, and simple[26]. It enables additional to plain text, images and more extensive word or data files can be attached to the answer.

Also, the email can be sent directly from users email or from the email address on the library or institution webpage. Advantages of E-mail based reference are: it helps the psychological barrier of users from face to face communication; It is helpful to users that possess poor oral communication skills; It eliminates physical boundaries; It is simple to use and does not require extra software; It can be operated with little skill without training; It helps reference librarians to get time to think, plan out strategy and then search and formulate answers to query that will satisfy their users; it is not restricted to a particular time of usage by the users; the cost is bearable to manage[27]. On the other hand, disadvantages of E-mail based reference are the urgent need of the information cannot be determined; there may be lower band-width or technical problem; delay in receiving and answering query may depend on communication link over internet; it denies physical interaction; the reference librarian will not be able to get of the user's satisfaction. The clarification process that is often necessary through reference interviews is compromised and sometimes impossible. Therefore, referral via email does not achieve the quality of topic-oriented services. Answer only the questions posed by the user and ignore the possible differences between the questions asked and the actual information required. Another disadvantage is the loss of any non-verbal communication elements that can help identify the specific context of the user. While e-mail service requires some back and forth communication which can go in any direction, other forms of synchronous services such as websites d are rather straight forward.

Most libraries developed country and some in Africa have upgraded to digital environment. The library website is a reflection of the library. Library websites play an important role in promoting

and disseminating information to all users. The World Wide Web has had a huge impact on the operation of university libraries[28]. In the current Internet age, it has brought tremendous changes to information technology. Internet has become an invaluable asset to learning, teaching and research in academic institutions. This gives libraries change from traditional way of rendering service to digital form. Libraries are one of the fastest growing areas of the modern education system. University libraries in this day and age provide high-quality digital information to the user community. Most university libraries have their own library websites or have integrated it into the home page of the parent institution.

They are channels that connect library patrons to its resources and services, and provide unique opportunities for patrons to judge its relevance to them. The digital library has integrated all the resources into its website and most of its services are accessible online. To provide users with the best service, the library website must be full of vibrancy and the content must meet the information needs of users[29]. A website (also written as web site) is a collection of web pages and related content that is identified by a common domain name and published on at least one web server. The library website exemplifies the library as well as the richness of the parent organization to the world via World Wide Web (WWW)[30]. They are the direct portal to showcase library activities to users. It allows users to interact with library catalogs. It is a portal to electronic resources, provides remote access to databases, and provides virtual reference services and a blog to promote new resources and services[31]. Hence the library website should be systematically developed with accurate and up-to-date information to fulfill the information requirements of the clients. Parent institution must provide a library page on the university website in order to promote and give publicity of library reference service[32].

The e-mail reference experience enables librarians to replace this unstructured digital reference form with a web form to alleviate some of the problems. The web form must be accessed from the library homepage or reference web page. The user must complete the field and finally submit the form to the library. The response is usually sent by email, phone or post. The web form usually consists of several mandatory categories, such as personal and contact, and several additional optional fields. These instructions provide guidance on the type of information required and warn users that the more relevant details provided, the higher the success rate and the faster the response time. In this way, the library tries to copy at least part of the reference interview without forcing users to fill in too many detailed fields, which can cause to prevent them from completing the entire process. Referral via web form allows users to provide more structured and detailed information about their information needs.

However, the shortcomings of asynchronous communication can only be partially compensated for, so the digital reference form is not suitable for more complex requirements, such as a detailed study of queries[33]. In addition, the user's form is where users can enter questions on the web by clicking the button on their library's website. Other specific information (for example, name, e-mail address) must be completed with the questions. The completed form is "send" (or "submit" or "submitted to the library by clicking on the "Send" button or "Submit" to libraries. The library can be read with email, telephone, fax, fax, or letter. Web forms provide a structured format facilitates the framing of the question[34]. In some libraries, the library website has a section called "Ask a Librarian" used to collect requests, suggestions and queries from users.

In addition, incorporating library page on the university website would have help everyone that accesses the university website having sense of recognizing library service and reaching the library platform through the 'Ask a Librarian' feature for information when need arises. A

variety of 'Ask A.' services exist from Ask-An-Antarctic Expert to Ask-A-Reporter. A library can have a stand-alone website on its own. A library website is a designed interactive interface that allows the user to access the library homepage or the reference webpage to communicate their queries and engages the librarian to respond to their needs[35]. The reference librarian usually provides an answer to the users' question through email, phone, fax or post. Web forms usually contain some compulsory fields, for example for personal information and contact details, which need to be filled in by the users in order to provide them with answers[36]. Website serves as online access of getting information details about products and services of any organization and serves as means of marketing any organization that intend to promote their services globally. The library website serves as it digital home from where it can relate with clients who prefers to seek remote access to its collections. This has been an added value to the both the library and its users. Advantages of having a library website include giving users 24/7 accessibility to checking and having information exchange. Helping the library to reach a wider audience irrespective of their location. It also serves as means of publicity and advertising for the library. The website can also be a disadvantage for been at risk to library especially when there is no staff to regularly update the content. A poorly managed Website is a dent on the image of a library. If the frequency of digital reference delivery meets the expectation of the users, this will enhance the image of a library and facilitate effective service delivery.

There is a need to examine the frequency of digital reference service delivery and how it benefits users and their stakeholders. Frequency of digital reference service delivery signifies how often the librarians deliver digital reference services to meet the users query in university libraries in Oyo State. This can be examining by daily, weekly, monthly and never. The frequency of DRS

among the new generation of people is unquantifiable. Indeed digital reference resources help to promote access, increase usability and efficiency of delivery, and create new ways for librarians and users especially our modern information seekers to use the available information resources in and outside the library premises. Digital reference service delivery gives users prompt access to information at anytime. In addition, the use of digital reference service helps the users and librarian to be well-informed and to contact each other all the time unlike traditional way that is limited to the library environment[37]. Digital reference services make information dissemination much easier, faster and better for users' pursuit of their academic endeavour for the purpose of advancement.

University libraries have adopted digital reference service delivery for the purpose of dissemination of information to their respective users across the globe without any restriction. In keeping with the laws of librarianship propounded by S.R. Ranganathan that; books are for use, every readers his/her books, and library is a growing organism. These have been modified in the digital environment to be provided; digital reference services are to be promoted, libraries are usually concerned about the frequency of delivery digital reference services that are made available for librarians to promote their services. Some librarians in the university libraries might find it difficult to operate round the clock in providing digital reference services due to shortage of staff, inadequate technology facilities and overload of designated assignment. This gives a prompt to examine the frequency of digital reference service delivery by librarians in university libraries in Oyo state. Indeed the best way for libraries to justify their excellent and productivity is by how their users frequently utilize their resources both physically and digitally. Frequently delivery of digital reference service is important because, it has been identified as a way to boost

the quality of attending to queries, providing answers to queries and sharing of information in several modes.

Frequency of DRS has become very important in many modern organizations and academic institution alike. They serve as motivational factors among the 21st century learners and information seekers. By providing them the opportunity to convey, acquire, transfer, process and disseminate information. The purpose of adopting ICT in digital reference service is to meet the need of user's expectation in this present time. Reference librarians, while supporting library users, now have an additional group of remote users, who access online reference services, who have higher requirements, less patience and more demanding users. Also, librarians are evolving into entirely different roles as new services are rolled out and the pace of change is astounding, especially for libraries that are used to stable institution and support. The use of new tools and methods to provide and collect a variety of information to library users serving the different information needs of teaching, research, learning and entertainment activities has become popular. While continuing to provide many traditional information services, librarians are developing new skills and accepting new roles needed to support technology-based services.

Moreover, the frequency of digital reference service delivery benefit span through quick access to information sharing without issues of distance barrier, ease-of-use, facilitation of librarians and users effective and efficient information retrieval via several mode for delivering digital reference services. In addition, some electronic database provide the option for users to search their content which could help them to have access to myriads of information contents across the Internet of things that is becoming the most efficient means of information service or documents delivery electronically[38].

Digital reference services (DRS) have become popular across the university libraries and educational system including higher education. DRS are of great importance to the academic and research needs in tertiary institutions' libraries. Better still, DRS is suitable to user's information needs, it enables every reference service like information services, bibliographic verification and documentation services, inter-library loan and document delivery services, current awareness services (CAS), user education, selective dissemination of information (SDI) services, reprographic services, computerized reference sources to be deliver remotely. These are some of the unique attributes of DRS among other information transferring media that make their use more popular among the information personnel and information seekers; as well as its ability to offer flexibility in the storage of dissemination of information and allowing access to information without the restrictions of time and location.

Furthermore, digital reference service is used in delivering information needed to users at the real time and with appropriate information resources. The frequency of digital reference service delivery determine the extent of opportunities provided for users to present their queries, receive response to their queries, also have access to information both bibliography and full text in several million documents over a long distance[39]. One of the most important benefits of the frequent of DRS delivered is that of providing the opportunity of promoting distance information dissemination especially those with limited time to access the physical library (i.e., their availability in remote location). In this new environment or context, more than one user can use DRS simultaneously from different places. It has also paved a way to share the information in better, faster and wider sense economically. Digital reference service delivery has become more popular since they provide multimedia information sharing, full-text searching, reference link

and flexibility in searching and browsing[40]. Thus, the use of digital reference service is becoming high especially among information seekers and information providers.

Today, libraries of all kinds have been initiated to seek for support from their parent institutions to adopt and gain access to digital reference service delivery from reference desk to online reference consultation. This is due to the fact that digital reference service delivery has enabled libraries to improve service in a variety of ways. Most importantly, most digital reference services come equipped with information and communication technology facilities that allow a librarian to perform references services task effectively and efficiently. Moreover, this enables them to provide information that will be needed through the web; users can have access to them 24 hours a day. The users can also navigate directly from the indexing database to the full text of an article and can even follow further links from there to the reference librarian. The emergence of e-books and e-journals followed the widespread adoption and use of several modes of information delivery, list servers and discussion groups to disseminate information quickly to large audiences. However, despite all the advantages offered by DRS, scholars and practitioners have identified various challenges associated with the use of DRS in libraries.

The delivery of digital reference service is not without challenges. There are various task challenges germane to delivery of digital reference service in virtually all types of libraries. These challenges cut across a plethora of factors which include; institutional support, electronic readiness, technical, infrastructural, policy, behavioural and others. On the other hand, a hybrid approach that combines (conventional) traditional reference service with online reference service could provide the best of both worlds. Some of the limitations of digital reference services are[41]: (a) lack of access whether it be for economical or logistics reasons will exclude otherwise eligible users from the needs, (b) both librarian and users must possess a minimum level of

computer knowledge in order to function successfully in an online environment, (c) technology is not 100 percent reliable, (d) digital reference is an inappropriate sharing information environment for more dependent learners, (e) the information explosion online will be weakened if the librarian is not adequately prepared to function in the digital reference services, (f) oftentimes users cannot see beyond the bottom line and look at online programs only as ways to increase revenues and are thus not committed to seeing online programs as a means of providing quality education to people who would otherwise not be able to access it, (g) if there many queries on the platform then the online referencing environment will not be used to its greatest potential, and finally (h) sometimes the standard/policy of digital reference service delivery are not carefully considered and developed in order to be successful.

In most cases, there is complete lack of software, internet facilities to provide digital reference service. There are some times that there will be no means to subscribe for internet personally. It is not uncommon to come across internet facilities provided by the institution to enable the users have access in lecture halls, hostels, and libraries. But, if there are some institutions that make provision for internet it can only be utilized around the axis of the institution. This has brought a setback for efficiency and effectiveness to frequency of digital reference services. Notably, there is a complete lack of exposure of library staff to international standards and best practices; experience is also a hindrance factor to adoption of ICT in digital reference service. Most librarians have never had opportunities to attend conferences inside and outside the region and, therefore, have limited access to cutting-edge knowledge-such that the library staff develops internal standards unaware of the existence of international standards[43]. Inadequate access to technical expertise, i.e., ICT department that is responsible for the installation, development and expansion of the backbone network (WLAN/LAN) in the institution and in the library has

undermined diffusion of ICT in these libraries. Such a team is required to have basic training in troubleshooting skill and support of library hardware and software[44].

2.1.2 Concept of Institutional Support

Institutional support can be expressed as the length of which organizations provide assistance towards the expenses for the day-to-day operational support of their institution. Institutional support is the general consideration of financial and technical support from government, institution and its agencies, which provides firms with critical resources that they may use for innovation and development[45]. It consists of a set of physical facilities, software or processes, made available by the organization, which make digital reference service success possible[46]. They are often described as perception of an employee that the institution values his/her contribution to the progress of the organization and cares or have concern about his needs and well-being. This implies that institution must be well catered for by their parent institution in order to facilitate their growth. It made known that institutional support can be related to organizational operation that brings encouragement in the form of policies, regulations, monetary and non-monetary help that propel employees to perform their responsibilities in a very effective and productive manner[47]. When there is an adequate measure of support received by the employee from their institutional body, it gives self-reliance and promotes job productivity[48].

There are several forms of which parent institutions show much concerns and demonstrate their leadership roles; through which they fill in the gap of organizational lapses to be well monitored. The efficiency and productivity growth of any institution depends on how they were supported by their parent institution. The great effects of institutional support on product and process innovation and firm performance must be concentrated on and never be underrated.

Moreover, institutional support is seen to be effective right from the onset as an institution is established, whether operating in traditional form, digital form or both. But the interesting part of it is that every institution is experiencing shift in operation base on emerge of information technology innovation. The act of adopting information communication technology to run their system, engaging in the usage of several devices and information technology tools to facilitate digital reference service delivery. Institution can give support such as technical support, financial support, emotional and moral support and mentoring.

Technical support such as the assistance from institution can enhance employees' use of the information and communication technology (ICT). Previous research has found the importance of the availability of assistance to individuals who require it[49]. Consider 'support/resistance' as one factor influencing utilization of information and communication technology (ICT). Technical support is one of the reasons of digital reference service failure. The adoption of ICT was disrupted due to lack of technical support. Technical support as been characterized as the access, operation and troubleshooting of hardware, software and network resources. Technical support includes ICT facilities vendor and internal helpdesks provided within the university libraries.

A librarian will perceive greater control to employ technology into instructional use when they have the necessary hardware and software resources[50]. ICT facilities provided, the librarian were able to access institution network, the Internet and laptop accessories (printer, digital camera, data projector, large TV screen, scanner and video camera). Hence, the educators have more prospects to utilize instructional technology when the ICT facilities are provided in a well manner that suit the innovation. Past research studies have shown clearly that ICT facilities can be one of the factors that influence the digital reference service delivery among the librarians[51].

The word Information and Communication Technology (ICT) is frequently used to describe the combination of computer and communication technologies used for information storage and dissemination. 'Information Communication Technology' (ICT) is a broaden term for Information Technology (IT) which strain the part of united communication and the integration of telecommunications (telephone lines and wireless signals), computer as well as necessary enterprise software, middle software, storage and audio-visual systems, which enable users to access, store, transmit and manipulate information. Everyday usage of digital technology includes when you use a computer, tablet or mobile phone, send email, browse the internet, make a video call - these examples can be used with basic ICT skills and technology to communicate. In the UNESCO training module for ICT, information communication technologies are described as the technologies that enable society to create, collect, consolidates, communicate, manage and process information in multimedia and various digital formats for different purposes.

ICT facilities are facilities required to be acquired by the library for effectiveness of library services. The availability of these ICT facilities can have a strong impact on knowledge sharing among staff since it will add value to their service delivery[52]. Correlation among the ICT facilities and knowledge sharing is even more crucial and important for the libraries to know the strength and weakness of their resources in digital age. In other words, this implies that if ICT facilities such as current printed materials, printers, internet/email, multimedia projectors, CDROMs, air conditioners/fans are adequately available in the library it will eventually create a conducive working environment for the staff and enhance their job performance. Information infrastructure reflects technological tools, methods and access models needed to facilitate efficient knowledge management and transfer in today's massive flow of information from various sources. They are information and communication systems required for the widespread

sharing and use of information or resources such as computers, software and all the components of telecommunication infrastructure for processing data and information[53].

The use of Information & Communication Technology (ICT) is a valuable tool to enhance every form of innovation and online services provided by respective institutions[130]. As digital reference service success depends on ICT infrastructure, respondents and stakeholder were asked about their ownership of a computer/mobile laptop. Most ICT facilities are required where innovation is taking place, because without the provision of adequate facilities the mission will not be obtained. Institutions are expected to make provision for innovation adopted to promote their service and product. Digital reference service can be efficient and well satisfied when there are enough ICT facilities. Availability of ICT facilities entails the extent to which electricity supply, computer, internet and some basic electronic resources are put in place to support the use of digital reference service by librarians in the academic libraries. It also involves policy, standards, storage and processing equipment, communication and support facilities, and existence of enough hardware and software. Information Communication Technology enfolds all the uses of analogue and digital technology to help individuals use information efficiently. It includes products or technology such as; personal computers, laptops, projector screen, speakers, internet, software programmes, hardware, and so on. These devices when working together either collectively or individually is referred to as ICTs embrace ICT but are not satisfactory available in Nigeria. ICT facilities usefulness include: communication technology such as emails, voicemail, telephone, fax, videoconferencing and internet; also remote control technology which provides a platform to work with a remotely located computer system to access all subscribed e-resources anytime anywhere as well as library security such as Closed-Circuit Television (CCTV), Radio Frequency Identification (RFID) and Quick Response (QR) Code Technology[54].

Despite the fact that knowledge acquisition and research in universities today requires the use of high-capacity ICT infrastructure and facilities to keep abreast of current information in all fields, the technological infrastructure available in African university libraries remains at the grassroots level[55]. Since the advent of the Internet, libraries in developed and some developing countries have addressed this challenge by ensuring that they use the Internet to improve the provision of information services in order to gain the support of the library[56]. The Internet supports many services in university libraries, such as file transfers using File Transfer Protocol (FTP), e-mail, newsgroups and mailing lists, research, selective distribution of information, resources, and more. RSS feeds, FAQs, questions for librarians, service information and short message service (SMS). Likewise, other Nigerian researchers have noted that the Internet has increasingly become a multi-purpose system, providing a wide variety of documents in different formats[57]. One of the main reasons most libraries provide Internet services is to allow their users access to another source of information.

The Internet is also considered an essential library facility. Since the advent of the Internet, libraries in developed and some developing countries have faced challenges by ensuring that the Internet is used to improve the provision of information services for the benefit of library users[54]. The Internet uses File Transfer Protocol (FTP) to transfer files, email, news groups, mailing list transmission, research, targeted information distribution, RSS feeds, FAQs, librarian questions, now. We support many services of university libraries such as. Recognition service and short message service (SMS). Likewise, be aware that the Internet is increasingly becoming a general-purpose system, offering a wide variety of media in different formats[55]. The main reason that most libraries provide internet services is to take advantage of user-accessible information sources in electronic form in their amenity areas. Computers provide the processing, inputting,

storage and retrieval facilities; while telecommunications provide the facilities for the transfer or communication of data and information that further facilitates the establishment and use of the information highway (internet), a network of independent information and communication technologies (telephone lines television) cables, communication satellites, computers, data transmitters, etc.) that are converging into an integrated system.

As reported in a study of university libraries in developing countries, Internet access is now widely available in Indian academic libraries, but the efficiency is poor as many university libraries experience downtime, several times a week[58]. The telecommunication services are the root cause of these downtimes in terms of low bandwidth, technical faults or other network configuration problems." However, findings from various studies have shown that all these services are being hampered by inadequate or obsolete infrastructure. Some studies have complained that the lack of ICT infrastructure and equipment in Nigerian academic libraries is a major challenge to the globalization of information services in Nigerian academic libraries. For example, a researcher studying the availability of information technology (IT) at a university library in Kwara found that of the seven higher education institutions in Kwara, only Ilorin University offers both email and internet services. This is because the dial-in method for the library to subscribe through the agent is difficult[59].

When there are inadequate ICT facilities in our university libraries, it leads to a major constraint in the adoption of innovation for university libraries. Adopting ICT requires the acquisition of requisite hardware and other accessories to achieve the objectives of providing digital services. The use of telecommunications and satellite equipment to provide fast broadband internet connections for browsing and document downloading is very significant. Lack of adequate bandwidth size and the appropriate antivirus and other necessary software can also deny both

information professionals and other users of ICT the optimum utilization of the facilities on ground. University libraries that lack the necessary infrastructures needed to provide efficient ICT services should be supported by their parent institutions. Inadequate bandwidth connectivity hampers the effective functionality of the libraries ICT units.

There should be provision for experts to have access to enough bandwidth and connectivity for university libraries and their providers are deployed using expensive technology like the VSATs and radio links and for most institutions the internet connections are very erratic and slow to support the uploading and downloading of electronic resources[60]. In addition, it has been posited that whenever there is inadequate bandwidth, users get frustrated as it takes longer time to access and retrieve information from the countries[61]. One of the challenges closely linked to the lack of the necessary facilities is financial support for the university libraries.

Financial support is money provided to enable an organization to continue. This gives rooms for training and retraining; internal and external. The amount of funds the library receives directly affects the quality of its services. Funding has always been a big problem for libraries. Libraries cannot depend on their own to generate sufficient funds to run their services[62]. They depend on funds allocated by the parent agency, which are almost always insufficient to meet the needs of the library. Although most of the library's funds come from the state and local, federal funds provide vital support and provide libraries across the country with the financial assistance needed to serve the community. If the librarian is to meet the objectives for their service provision, money is important for the procurement and dispensation of resources, for procurement and preservation of tools and continuous training. Where finance is missing, it is impracticable to manage library service of any kind and where it is laughable; the effectiveness of that service is bound to be negatively affected. As a result of this, there is need for both librarian and parent

institution to work amicably to ensure necessary funds are made available to librarian for the acquisition of information resources and information service delivery to library users[63].

University libraries are not yet in a position to fully accept the use of modern technology and ICT. Many academic libraries lack the expertise, staff, and funds to operate digital libraries. Only a very small number of institutions adopt digital systems and therefore need to develop more skills because even the few parent institutions that adopt the new mechanism are severely restricted by many factors such as unpredictable Internet services, sources of information, power supply, lack of hardware and software. In most cases, the library's IT literacy is poor[64]. Sufficient funds should be the basic requirement for the effective development of university libraries. In this sense, it must be recognized that funds are necessary for the resources and services provided to library users. These funds are also indispensable for staff that retrieve and provide library resources and maintain services. The cost of all these will mean the level of funding required by the library.

Training is another factor as sub-measure of institutional support of digital reference service use by librarian. Generally, training refers to directive in operating technical and mechanical machine/equipment[65]. Training here is defined as means to which librarian acquire the needed skills in the operation and use of digital reference service in users' care. Training is an organized activity aimed at imparting information and/or instruction to improve the recipient's performance or to help him/her in attaining a required level of knowledge or skills[66].

International Federation of Library Association and Institutions (IFLA) states that, "training is a vital element of the activities of any library. There must be a planned and continuous programme of training for staff at all levels, this should include both full time and part time staff. It

concludes that effective management of new technologies depends largely on the availability of skilled employees and the society's level of literacy. It is recommended that: more attention and funds be committed to training and procurement of ICT infrastructure in Nigerian university libraries. Training should be a pivot at the upcoming computerization of libraries. Library administrators should seek funds from the many foreign agencies and foundations who give financial assistance and equipment to libraries. There should be time to time training for the librarian because it is through formal training that required skills could be taught; learners would be exposed to both the rudiments and intricacies of computer programs and packages.

This training can be used as an excellent tool to convey the initiatives behind the implementation of the technology, to help librarians understand the benefits of digital reference services, and to increase end-user satisfaction. The training includes everything that is meant to improve. It can be online training, distance telephony training, library training, digital reference functions, case-based model, roles and processes, for on-the-job training. Investing in training - on and off the job is essential to avoid setbacks, errors, staff turnover and other common frustrations, and to facilitate a smooth transition from the online system to electronic systems in university libraries[67]. Therefore, librarians should regularly attend and be exposed to training courses on the use of digital reference services in order to facilitate the provision of reference services. This can be part of their policy, such as an agreement that training should be continued and librarians should be given sufficient opportunities to use their newly acquired skills. In other words, housing training programs must be specific and geared towards achieving objectives. Experts have however pointed out that, no matter, the amount of training received by a librarian, he/she may not be maximally effective without emotional support form colleagues as well as superiors.

Emotional and moral support is another form of institutional support. This is when people in the organization are always ready to offer genuine encouragement, comfort, and compassion to employees who might be having difficulties at work. Librarians who deal with users who have different temperaments need as much emotional and moral support they can get especially from the library management and the head of units. This can include sympathetic verbal expressions or emotional physical movements. Emotion is a state of psychological arousal, a unique expression or display of physical and autonomous responses[68]. Emotion is defined as "a complex sensory state with mental, physical, and behavioural components related to emotions[69]. When there is adequate emotional and moral support provided by the institution management to the librarian this will build the emotional intelligence. Providing moral support means that you are sympathetic to the cause or situation of others and oppose external sources of conflict. This support can be very outspoken or open. Emotional support is more intimate sympathy for another person's feelings, and is generally not shared with anyone outside the emotional circle.

Academic librarians experience emotional labour[70]. While we may recognize the concept of emotional labour at an intuitive level, we also benefit from a body of research on emotional labour in various work settings that can be mined to improve our own work environments[71]. The negative outcomes of high emotional labour can be destructive, leading to job burnout and low job satisfaction[72]. The reference librarian rendering digital reference service encounters day to day emotional labour due to some users' violate attitude. With the use of technology changed the content dissemination of library resources and services. Librarians ways of functioning been affected with the library teaching plan. This pedagogy is now based on teaching information literacy rather than navigating search tools. Although the teaching librarian knows this well, the campus professors who work with them often do not. Having a teaching librarian who can teach

users to search effectively while cultivating judgments about the sources of information they collect, greatly supporting student success[73].

But with the emotional and moral support given by the library management, it will build their emotional intelligence. Everyone, regardless of their professional or personal role, knows the challenges of getting caught in awkward interactions or difficult relationships. University librarians, and other higher education employees with interdisciplinary roles, often end up in the space between individual users (often in trouble). Especially for librarians, when students ask them how to improve their current poor performance online, there are often unexpected challenges in some cases. Motivation is great, but as the librarian learns more, the situation becomes complicated in various ways, and the component of emotional work increases[74]. Sometimes librarians will find that the assignment received by the sponsor becomes problems and the reason has nothing to do with the student's professional ethics or practice. Although university librarians often have unwritten guidelines for not actively criticizing student librarian, it becomes challenging to determine how librarians respond. They oscillate between respect for librarian and frequent roles as collaborators and allies of users. The best way to offer effective emotional support is through mentoring.

Mentoring will be considered here as another institutional support; mentoring is a relationship between two people with the goal of professional and personal development. The mentoring is a general guide for potential mentors and mentees who are interested in participating in professional development relationships[75]. The "mentor" is usually an experienced individual who shares knowledge, experience, and advice with a less experienced person, or "mentee." Mentors become trusted advisors and role models, those who "have been there" and "made it." Mentors are people with professional knowledge who can help mentees develop their careers. Instructors

usually have two main roles for students. Career-related roles establish mentors as coaches and provide advice to enhance the professional performance and development of learners. The psychosocial role establishes the mentor as a role model and support system for the mentee[76]. Both roles provide explicit and implicit courses related to career development and overall work-life balance. They support and encourage their mentees by providing general and specific advice and knowledge. The goal is to help mentee improve their skills and hopefully promote their professional development[77].

A mentoring association can be between two people in the same company, in the same industry, or in the same network organization. Regardless of how partners come together, this relationship must be built on mutual trust and respect, and generally provides both personal and professional benefits. Mentors help people learn and develop. Therefore, coaching has the potential to make valuable contributions to employees in personal and organizational development. It is closely related to our emphasis on personal and professional development and promotes knowledge exchange throughout the organization. The benefits of mentoring for learners may include: Increased confidence/self-esteem; Increased sense of value within the organization; Help and support; Safe learning environment (can be open to vulnerabilities); Increased understanding of the organization; Focus on specific skills (mentor training); Ideas about career opportunities; New skills training (finance, personnel management, committee membership).

2.1.3 Overview of Electronic Readiness (e-readiness)

Electronic readiness (e-readiness) is critical to be evaluating in the implementation of any electronic innovation in our environment. The advent of technology has penetrated across usage to everything in the world. It discovered that a librarian and the information seeker must be

adequately innovative to adapt to the swift changing landscape in society which rewards knowledge in its perpetuity. In other words, knowledge is no longer fixed but must be developed according to the changes and needs in society. In this instance to every individual and corporate body that sees a need in the usage of information and communication technology must embraced continuous development; in order to provide better services. It continuously grows as part of the learners' lifelong mission[79]. There is need to access their E-readiness based on the goals and to obtain a great productivity. E-Readiness can be define as the potentiality of a country, enterprise or organizational branches to be prepared, willing to adopt, use and benefit from e-innovations such as e-business, e-procurement, e-library, e-learning[80]. Similarly, In other words, E-Readiness refers to the extent to which a society, country or an organization is prepared to partake competitively in the digital age.

Advances in Information, Communication and Technology (ICT) have made information access to be more flexible and allow greater personalization. With changes occurring in technology, the onus is on information professionals/librarians to adapt and transform[81]. University libraries have seen the need of adopting the use of ICT in providing and accessing library and information services. E-readiness (electronic readiness) is a measure of the degree to which a university library or librarian may be ready, willing or prepared to obtain benefits which arise from information and communication technologies (ICTs). This measure is often used to gauge how ready a librarian is to partake in electronic activities such as e-library, e-resource, digitalization, digital reference service and online innovation. Effect of ICT has brought a challenge and to see how the adopters are capable enough to utilize their knowledge and experience to achieve their goals.

Across professions ICT have used to compliment their conventional method, which is not exempted in the librarianship and professional knowledge that a librarian acquire in technology-aided information dissemination becomes increasingly important. To apply ICT in every service provided the level of electronic readiness of a librarian have to be considered. The advancement of technologies requires the institutions with respective individuals should partake in the provision of services and should adopt and implement them. Development of technology has been integrated into the library and information services for effective and efficient library services delivery. This innovation however means nothing if librarians lack Information and Communication Technologies (ICTs) competencies to utilize them. Skills are essential for excellent job performance libraries as a matter of necessity should prepare librarians for emerging technologies to enable them handle different jobs as required by different ICT tasks. The level of ICT competencies required varies from one position to another depending on the tasks and duties involved[82].

The ICT skills need to be possessed by the librarian in order to perform word processing, navigate around toolbars, desktop publishing and use office suites, basic computer competency is required. Technology innovation has changed the conventional (traditional) innovation of rending reference services to digital reference service. For the effectiveness and efficiency of digital reference service, the librarian must be skillful in order to operate very well using Web 2.0. With social media technology that introduces all sorts of social network sites, librarian can always communicate, interact and socialize with others without much difficulty such as Facebook, Twitter, LinkedIn, interest, yahoo and blogs. With their skills they should be able to navigate through the internet, able to retrieve information from various search engines such as Google and Altavista. ICTs and possession of ICT skills are not only vital for services delivery,

but also promote the advancement of human society[83]. This means for an individual to be ICT skilled, he/she must have been thought or read about ICT literacy, which will build the competence perfectly. Technology-integrated widespread of information are inevitably necessary today; it brings a huge need for individuals to be technology-literate.

For every individual using information and communication technologies are likely to have different levels of related knowledge and views. Thus, it is necessary for them to acquire and improve certain skills so that they can make better use of these technologies[84]. Individuals use of the Internet and computer or their level of knowledge about such technological tools could help develop their related skills. Librarians require ICT skills to be effective in the application of ICT to services delivery which is why it is important to prepare new generation of librarians to effectively use the emerging technologies[85]. The emerging technologies in library and information services such as cloud computing, crowd-sourcing, metadata, cybrary, integrated library management systems, institutional repositories, etc., are no doubt making academic library services easier.

Internet skill includes the use of search engines as well as recording and downloading/uploading materials. The ICT skills involves internet application for communication purposes such as the use of social network, chat room, and emails to communicate with others, either for learning or socializing activities. Librarians in the academic library must have some vital Information Technology skills such as, ability to operate data base, ability to extract relevant information using integrated software packages, ability to extract information using electronic mails and application software, ability to use voice recognition system and ability to operate other different technologies and appreciate their benefits. Internet skill is used in transmitting, retrieving, manipulating and storing information in digital format has changed the way searching, answers

query, learning and dissemination of information. Librarians and users are regularly seen browsing the internet for information related to the area of their information needs.

The intranet and internet connections are used to Integrated Service Digital Network (ISDN) and broadband network will promote the use of digital reference services forms. To perform effective professional library related duties using ICT, there is a stressed need that the librarian must have ICT competence in the areas of handling professional relates duties, like internet skills, mastery of library software and technical skills. The Microsoft word based tasks like typing and printing of document can provide online searching with internet but can't do in-depth internet navigation round the internet. One of the good things about digital reference service and online information sharing is that users can get access to needed information from anywhere. This concept results in diversity that might not happen in traditional settings. Therefore, a basic requirement for digital reference services is the access and availability of a stable Internet connection as well as a dependable computer. To investigate the E-readiness towards technology accessibility, the librarian and users must be asked if they have access to the Internet at any point and how knowledgeable they are to navigate through for efficient and effective usage.

One of the most cited challenges to technology adoption in university libraries is the dearth of skilled personnel to handle the tools as well as day-to-day operations of the applications. When there is a low level of ICT skills among information professionals in the university libraries; mostly they might have little or no skills to work with computers and above browsing or surfing the Internet to access and retrieve information[86]. It is important to note that, the duty of the traditional librarian greatly varies with his expected role in this age of ICT. With a librarian's skills and training in handling and management of modern equipment for information storage, retrieval and dissemination, it is expected that he/she carries out minor repairs, maintains and

attends to some troubleshooting from time to time without necessarily referring to information technology or computer experts.

Similarly, an investigation of the rate of library automation in Nigerian academic libraries found that many librarians lack the skills to make effective use of the adopted library software[87]. Indeed skilled personnel are required to execute and implement digital reference service in a proper manner. Lack of information technology (IT) skills among library professionals is a major challenge to implement digital reference service in the library environment. This require IT experts or skilled persons to enhance the library expenditure and be able to overcome every challenge. Other researchers also supported this stance when they posited that developing, installing, configuring web application in a network environment requires an understanding of how the chosen network operating system handles the different levels of access privileges among users[88]. This implies that without the appropriate knowledge, training and requisite skills to handle such highly technical operations, the librarian cannot discharge his responsibility effectively and optimally to the urgent satisfaction of his clientele. The e-readiness of the librarians is willing to be evaluated, in respect to digital reference service delivery as a platform for various models to disseminate information with their communities. The librarians Readiness of the Networked World will be evaluated based on their basic attitude, subjective norms and perceived behavioural control.

Attitude of a person goes a long way to demonstrate character. Attitude is what determines whether a librarian is ready to go beyond the ordinary to perform extraordinary feats. The librarian's attitude towards technology will determine their readiness to accept it and make use of it in their work. Another factor related to attitude toward ICT is ICT skills possessed by the librarians in question. Information technology has emerged as an indispensable tool for

processing, storing and disseminating information. Our world is becoming an interconnected global community and use of the Internet has changed the fundamental roles of librarians and service levels and organizational cultures of libraries. Web applications, digitization and the ability to access materials available in libraries and research centres from remote locations had also created dramatic changes in use and management of libraries[89]. It also has to do with the perceptions of the librarians' beliefs that the existing infrastructures could support their use of digital reference services. Librarians responsible for the services and operations of innovative library systems must have a positive attitude towards information technology. They will certainly accept new technologies and accelerate their application in libraries.

However, if librarians adopt negative emotions or beliefs, they will become a bottleneck for library innovation, slowing down the progress of the parent institution[90]. Librarians should have a moderately positive attitude towards ICT; this will promote low-level ICT skills and increase their knowledge on the Internet. Attitude is largely the feelings and beliefs that determine how employees perceive the environment, engage in expected actions, and ultimately behaviour[91]. In another case, attitudes are described as tendencies and feelings, prejudices or bias, preconceived notions, thoughts, fears, and beliefs about any particular subject or problem. This description is closely linked to the assertion which states that an attitude is a mental and neutral state of readiness organized through experience exerting a directive or dynamic influences upon individual's response to all objects or situations with which it is associated. Attitude is also defined as an individual's disposition to react with a certain degree of favourableness and unfavourableness to an object, behaviour, person, institution or event. Attitudes are used as favourable or unfavourable cognitive evaluations, emotional experiences, or behavioural tendencies that people continue to have about certain situations or ideas[92]. Modern psychologists

believe that attitude is an inherent psychological attribute, including cognitive, emotional, and consensual tendencies that exhibit consistent and persistent behaviour[93].

In the field of social psychology, research on the influence of attitudes on behaviour shows that educators believe that in the behaviour change system, if people acquire relevant knowledge that helps improve the environment, they can acquire an increased environmental awareness and positive attitudes[94]. According to the theory of planned behaviour model, attitude is the judgment made by people about the behaviour they like or dislike. Attitude is preparing to react to certain objects in the environment as an appreciation of the object. This shows that a positive attitude towards a specific pro-environmental behaviour can positively influence intention to exhibit pro-environmental behaviour. Possession of relevant knowledge and information about environmental issues has little effect on decision-making, but understanding people's subjective beliefs and attitudes about the issue can reveal more insights into how these beliefs and attitudes affect intentions and behaviours than they are beneficial to the environment[95]. Attitudes usually influenced by subjective norms.

Subjective norms are the environmental and social factors that influence some disposition, simply describe as individual's perception about the particular behavior, which influenced by the judgment of significant others. Subjective norms are determined by the perceived social pressure from others for an individual to behave in a certain manner and their motivation to comply with those people's views. According to the definition of subjective norms (one of the social norms) in the planning behaviour theory, people engage in various types of specific behaviours under pressure to meet the requirements of normative social influence, which is also called consistency of norms[96]. More so, subjective norm is the perceived social pressure to engage or not to engage in behaviour. Drawing an analogy to the expectancy–value model of attitude (see attitude toward

the behaviour), it is assumed that subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important referents[97].

Specifically, the strength of each normative belief is weighted by the person's motivation to comply with the referent in question, and the products are aggregated. In innovation, it can be seen has an adoption factor which looks at the influence exerted by the social environment of the adopter, i.e., other people which the adopter may perceive as important. It is really the person's perception of social normative pressures and relevant others' beliefs whether the adopter should adopt or not. These people can be professional peers, colleagues, subordinates, parents, people of authority, etc. Subjective norms are the result of social and environmental settings and one's perceptual control of behaviour. Generally speaking, positive attitudes and positive subjective norms lead to greater perceived behavourial and increase the likelihood of intentions to dominate behavioral changes.

Perceived behavioural control concerns with individuals' controllability or own judgment about their capabilities to engage in a particular behaviour[98]. Behaviour control is specified in the form of self-efficacy is a condition where people believe that behaviour is easy or difficult to do[99]. An individual's perceived ease or difficulty of performing the particular behavior. The concept of perceived behavioural control is conceptually related to self-efficacy. It is assumed that perceived behavioural control is determined by the total set of accessible control beliefs. If people's judgments about the behavioral difficulty are realistic, then the perceived behaviour control measure can act as an actual controlling agent and help predict the behavior in question. Behaviour control is as follows: "This factor updates the perceived ease or difficulty in performing the behaviour. It is assumed that it reflects past experience and expected obstacles and obstacles[100].

2.2 Theoretical Framework

The theoretical framework provides a systematic view of phenomena by specifying relationships between variables and explaining what was done and what was said about the subject. It is "a structure that guides research by relying on formal theories constructed using established and coherent explanations of specific phenomena and relationships. It gives the structure and the boundaries that work within it. It is a lens for reviewing and discussing the literature[101]. It is useful for creating research questions, forming research designs, predicting outcomes, and design interventions. This section reviews theories that related to each variable in this study. The theories that are related and review for this study are diffusion of innovation theory, the institution support model and theory of planned behaviour.

2.2.1 Diffusion of Innovation Theory

The Diffusion of Innovations theory seeks to explain how and why new ideas and practices are adopted, with timelines potentially spread out over long periods. Diffusion means the process through which an innovation is communicated through certain channels over time among the members of a social setting or system until it becomes totally accepted. Diffusion is a special type of communication concerned with spread messages that are perceived as new ideas of transmitting information[102]. And there are four elements of diffusion of new ideas which are innovation, communication channel, time and social system.

Innovation is any idea, practice, or object that is perceived as new by an individual or other unit of adoption could be considered an innovation available for study. Communication channels allow the transfer of information from one unit to the other. In addition, communication patterns

or capabilities must be established between parties as a minimum for diffusion to occur. Time is the period that which the communication been made or innovation is accepted. The social system is the combination of external influences (mass media, surfactants, organizational or governmental mandates) and internal influences (strong and weak social relationships, distance from opinion leaders).

The theory also explained as an idea, a practice or object that is perceived as new by person or other units of adoption the characteristics of an innovation perceived by the member of social system determine the rate of an adoption. The characteristics are relatively advantage on compatibility, complexity, triability and observability. Compatibility – the innovation is compatible with existing values, skills, and work practices of potential adopters; Complexity – the innovation is relatively difficult to understand and use; Trialability – the innovation can be experimented with on a trial basis without undue effort and expense; it can be implemented incrementally and still provide a net positive benefit; Observability – the results and benefits of the innovation`s use can be easily observed and communicated to others[103]. People try to adapt new technology when they feel comfortable with it and most especially if that technology has stood the test of time.

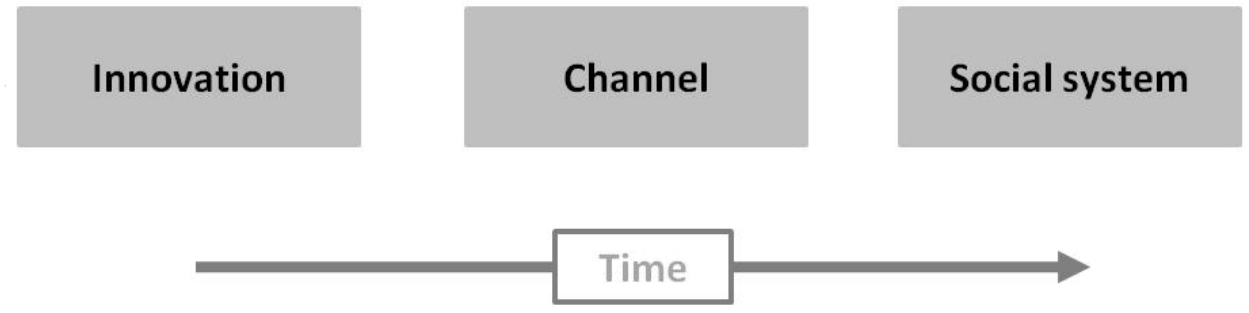

Figure 2.1 Diffusion of Innovation Theory for Digital Reference Services (Adopted from Scott, S. and McGuire, J. 2017).

In this research study, digital reference service is the innovation (the new idea) that will be used to deliver information to the users. Communication channel is the synchronous and asynchronous; through email, instant messaging, VoIP, and social media. The time of response is peculiar to it either at real time or off time. The existence of e-mail, voice over Internet protocol, instant messaging and social networking tools has promoted a paradigm shift in the provision of information services. These new technical tools seem to have a significant impact on university libraries and their users, so they can become important considerations for providing information services in this era. This theory in applied to the use of digital reference service delivery, the researchers should explore the perceived advantages that digital reference service has new innovation over conventional form of information dissemination. Among issues to be explored in this line is the usability of the interface, quality of the content and popularity of digital reference service in relation to other digital of information sharing.

The communication aspect refers to the level of awareness and channel created about the digital reference service delivery by librarians to reach the users; as lecturers, students and researcher whose recommendation can go a long way in encouraging others to use the digital reference service. The construct of time goes with communication channel to provide digital reference service. While digital reference service delivery has been around for significant amount of time, their adoption rate among institutions around the world varies. So it is possible to measure the acceptability and use of each digital reference service against the time they were adopted. In this way, the newly developed digital reference service can be examined based on the accepted time[104].

2.2.2 The Institutional Support Model

The institutional support model described the necessity of organization support towards the creation of new things and the earlier structures. The model was developed using 6 major categories of support: financial support, emotional and moral support, mentoring, professional socialization, academic advising, and technical support. The institutional support mode is a theory that models how institution comes to accept their responsibilities in careering for their institution needs. The model suggests that when institution are presented with a new development (technology innovation) a number of factors influence their decision about how to come in to meet the needs and they will ensure that they make use of it. The theory is widely used to explain the adoption of new development among individual institutions. The institutional support model describes both institutional barriers and needed supports for program completion among Hispanic doctoral students at a Hispanic-serving institution to include "financial support and opportunity, emotional support from numerous sources, mentorship from university faculty or other significant individuals in the professions, and technical support from a variety of sources"[105].

In adapting this theory to this study; the technical support, financial support, emotional and moral support and mentoring was used to assess the institutional support towards digital reference services delivery in university libraries. It has been understood that new innovations are intended to be adopted in order for the university libraries to carry out their services in meeting their users' expectation based on this digital age. For effectiveness and efficiency, the parent institution support is much required. As technical support there must be adequate ICT facilities like computer/laptop, desktop and laptop computers, printers, photocopy machine, scanner, internet connection, CD/DVD players, slide Projector and videoconferencing. Also,

when there is enough fund raised, this will engage librarian with persistence training because the digital world is not static as it involves changes and development from time to time.

This makes it necessary for continuous training for the information personnel, so that they can function well and be able to manipulate through all tools for effective productivity. Not only that, emotional and moral support must be provided for the librarian to increase their emotional intelligence and to lift someone to higher ground so he or she can see their way through the difficulty of information glut. Finally, mentoring is a relationship between two people with the goal of professional and personal development. The "mentor" is usually an experienced individual who shares knowledge, experience, and advice with a less experienced person, or "mentee." The university librarian or unit head should be a mentor to those under them[106]. The university librarian or unit head provides mentoring support to librarians under them for continuous development that show their disposition towards digital reference delivery that will facilitate effectiveness of the services.

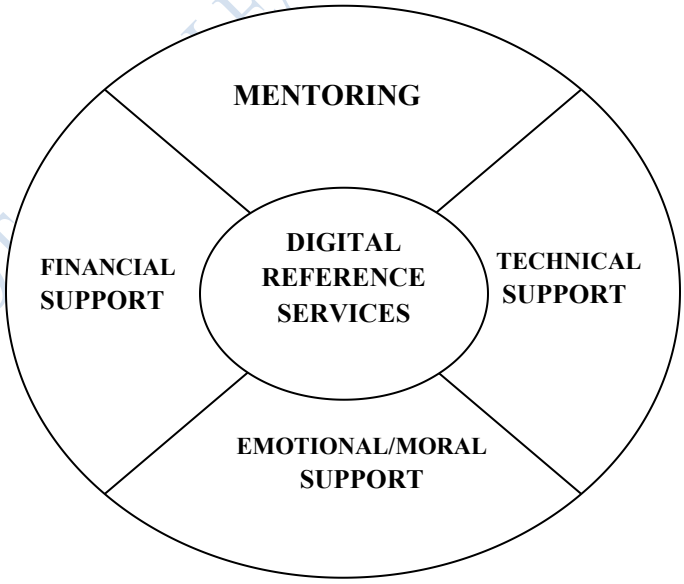

Figure 2.2 Institutional Support Model for Digital Reference Services (Adapted from Bond, M.L. Cason, C.L. and Gray, J.R. 2015).

2.2.3 Theory of Planned Behaviour

The theory of planned behaviour was emanates from the theory of reasoned action and it suggests that a person's behaviour is determined by his/her intention in making a decision and the perception is determined by the norms and attitude of that person and this predicts his/her behaviour which may result as a consequence of his/her intention. It is a theory that links one's belief and one's behaviour together. The theory is used to understand and predict behaviour that is determined by behavioural intentions and certain circumstance perceives will integrate the behavioural control in getting done or not involving in a thing. It can also be viewed in this way: Theory of planned behaviour proposes that behaviour is determined by combination of an individual's intentions to engage in certain behaviour. The intentions in turn are held responsible by attitude, subjective norms (perceived social influence/pressure) and perceived behavioural control (the degree to which behavior is perceived to be under the control of the individual). To this study we intend to assess the electronic readiness of the information personnel's (librarians) towards adopting of ICT in providing reference services. There are some things to be verified to see how ready they are:

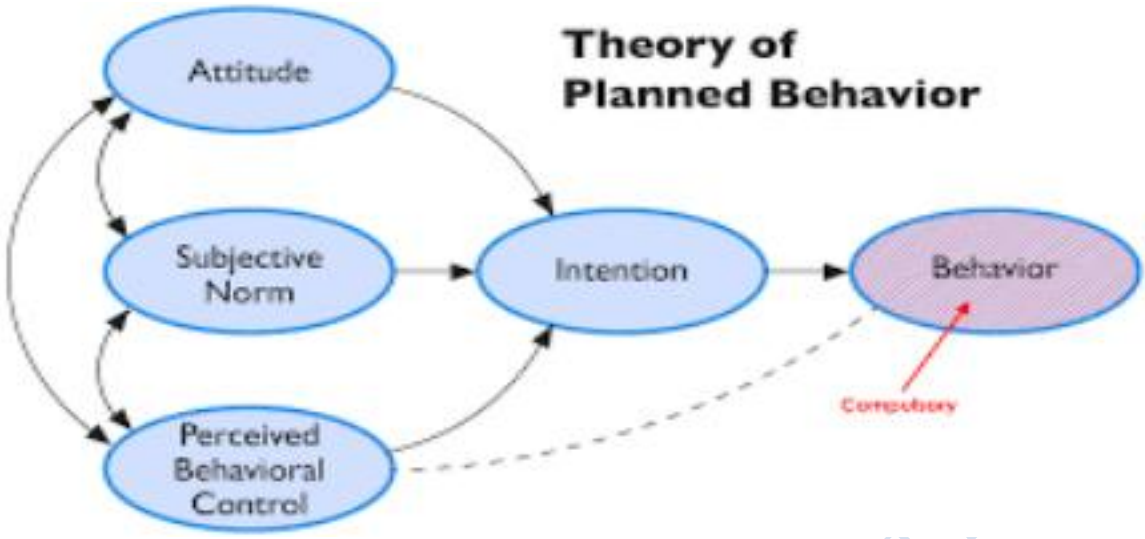

Figure 2.3 Theory of Planned Behaviour (Adopted from Ajzen, 2020)

Attitude is an individual's disposition to react with a certain degree of favourableness or unfavourableness to an object, behaviour, person, institution or events[107]. Attitude is an as inclination feelings and beliefs that prompt how librarian adopt the use of digital reference service.

Subjective norms is the environmental influence or an individual's perception about the particular behaviour, which is influenced by the judgment of significant others. Are the social network, group believe system to behave in a certain manner and their motivation to comply with those people's views. The social group can influence the behavioural intension on ICT usage based on how ready they are to adapt the new innovation.

Perceived behavior control is defined as a person's perception of the easy or difficulty of performing the behavior of interest. Perceived behavioural control explains how easy or hard will it be for librarian to use this particular technology to carry out digital reference services. Their ICT skills possessed will determine the level of their usage. This will give more prompt of

eagerness to accept the usage and to learn more to be a better person. We can rate it that the highest of these three will determine the electronic readiness of the staff[108].

2.3 Reviews of Empirical Studies

The empirical reviews will be the existing literature that has any bearing on the use of institutional support, electronic readiness and digital reference service. As a result of the ongoing research, the researcher discovers that there is dearth in literature streamline on the two independent variables (institutional support, electronic readiness) directly to the dependent variable (Digital reference service). The reviews now cut across to other professions and organizations to see how they have been supported by their parent organizations. Also, there is willingness to examine the perception of any phenomenon that intends to emerge technology in their products and services and see their readiness towards the use of technology. Digital/Online/Virtual reference service is the process of providing personal assistance to users query on the cyberspace/remotely. It will also examine availability of digital reference services in libraries; Institutional supports in libraries. Also examine Electronic readiness of librarians in libraries; Challenges to use of digital reference services in libraries; Relationship between institutional supports and digital reference services in libraries; Relationship between electronic readiness and digital reference services in libraries. Another aspect to examine is the relationship between institutional support and electronic readiness of librarians in libraries; Composite relationship of institutional support and electronic readiness of librarians on digital reference services in libraries.

2.3.1 Institutional Supports and Digital Reference Services Delivery

In China, researchers also explain they investigate the impact of the system and the process of innovation and corporate performance, and explain how dysfunction competition affects the relevant results. This research develops research models based on views, based on the organization and prove it using structural models and empirical data collected from 300 manufacturers in China. As a result, the system support actively affects the product and the process of innovation and solid performance. Both the product and innovation of the process improve solid performance. This finding significantly reduces the positive impact of the support of the system for the innovation of products and processes, but is affected by institutional support and the innovation of products and products. This study contributes to the innovation literature by providing information on the product of the product and the decision to innovation of processes of a manufacturing company in a Chinese institutional environment.

The results show that institutional support actively affects the innovation of the product and the solid process and performance. These results of the survey coherent with the existing empirical evidence of the results of the performance of the system support, and we have confirmed the importance of the importance of government and the promotion of business development in China. This could explain the reason why it is suggest in innovation despite the institutional environment where China's manufacturers do not develop. In addition, manufacturers cannot be used to determine government support in areas that are susceptible to dysfunctional competition, such as expansion of production capacity and investment abroad. Therefore, even if the competence of dysfunction is intense, it can benefit from the agency's support. Therefore, this research contributes to a vision based on the organization by demonstrating that the dysfunction competition affects innovation and firm performance in several ways from China[109].

The advent of the 21st century ushered in a renewed zest for the use of Information Communication Technology (ICT) in the world. The use and impact of ICT facilities can be seen in almost every major city of the country. Businesses, organizations, governmental agencies, educational institutions and so on all use digital technology to help utilize information in a more effective, efficient and faster way.

This article describes the historical development of the Institutional Support Adaptation Model (AMIS) used to complete degrees for Hispanic students. The model was developed using 6 main support categories: Financial Support, Emotional and Moral Support, Guidance, Professional Social, Academic Consulting, and Technical Support. Studies were used to verify the inclusion of each component. The institutional self-assessment used to support the recruitment and persistence of Hispanic students, and the self-assessment of the Health Profession (PSA) education program, which are used to assess for Hispanic students supported by institutions with degrees. This article describes the results of 2 studies using PSA. The survey results from these studies supported AMIS. The limitations of the model and suggestions for future research are introduced[103].

This research aims to analyze the influence of work motivation on the work efficiency of library professionals. To achieve the research objectives, quantitative research methods were used and questionnaires were developed with the help of the literature as a data collection tool. Librarians work in the central libraries of different degree-granting institutions, and the universities of Punjab and Islamabad are considered the subject of this study. The questionnaire is designed to collect data from the respondents; various descriptive and inferential statistical tests are used to draw inferences from the data. The result of this research is that library professionals are competent in work motivation. They have a high level of work motivation; subsequent research

has found that there is a significant relationship between work motivation and work efficiency of library professionals. The results show that the interviewees belong to different genders, institutions, titles, qualifications and work experience, and have the same views on the effectiveness of work motivation in the production of the library workplace. Work motivation motivates employees to do whatever they can to achieve success in the workplace. Research results help library professionals and interested organizations develop work motivation and improve staff performance, ultimately leading to effective job performance[110].

This study investigated how professional competence and institutional support influence the documentation of existing indigenous knowledge in libraries in Lagos State, Nigeria. The research adopted a survey research design. A total of 245 librarians and paraprofessionals in academic, National Library of Nigeria (NLN) and Lagos State Library Board (LSLB) libraries in Lagos State constituted the sample of the study. The population included the management staff and directors of public and academic libraries. Data were collected through questionnaire while descriptive and inferential statistics were employed respectively in the analysis of data obtained. Findings revealed that processes of documentation of IK are acquisition, codification, organization, storage and preservation. Professional competences for documentation of IK are educational qualification, understanding the source of IK, ability to locate IK resources, possession of knowledge of ICT skills. Major institutional support for documentation of IK in libraries in Lagos State is adequate funding, motivation, facilitative policy and staff training. From the result of the study, it was recommended, among others, that library management should make more provision for regular training and retraining of librarians[111].

In this article, the proposed model will be applied to secondary data through previously published case studies. The selected case is a study on the use of the Group Support System

(GSS) in two developing countries: Tanzania and South Africa. The case study is based on a total of 35 GSS meetings, of which 24 were held in Tanzania, involving a total of 328 people, and 11 were held in South Africa, involving a total of 78 people. As a result, although the preparatory measures provide a useful overview of the state of the environment, they do not fully reflect the possibility of developing ICT development. In order to obtain a more precise measurement, it seems useful to observe the level of individuals in the organization using the technology. Research on preparedness provides statistical data for developing countries, describing the legal, financial, material, social and technological infrastructure necessary to become a fully interconnected society. However, they did not explain what the organization needs to benefit from ICT and how this can vary depending on the type of technology, the market sector and the perception of people who actually use the technology to benefit from it. This raises questions about the relevance of conducting such detailed readiness studies in isolation, because having a good environment does not automatically promote development. The real problem at hand is using available technology to reap the benefits[112].

This study aims to analyze the effectiveness of digital reference services in university libraries in Punjab, Pakistan. The study uses quantitative research methods to achieve its objectives. Quantitative data was collected from users of four selected university libraries providing digital reference services through questionnaires. The results of the study showed that more than half of the respondents were aware of the digital reference services offered by their library. Of those respondents who were aware of the service, most respondents learned about it through library websites. Most respondents have used the service for different times, and almost one-third of the respondents have never used the service. Most interviewees found that librarians were very helpful and polite in helping DRS users and understanding their information needs. Most

participants stated that libraries provide access to online/electronic resources, OPAC websites and DRS through websites. The library provides 24/7 DRS and places a link to DRS in a prominent place on the website. Respondents also found that the DRS provided by the library were easy to use, and the library effectively marketed and promoted the service. Libraries must provide users with up-to-date information and quick feedback, while developing the capacity of library/reference staff to manage services effectively. The results of the research will help university librarians to personalize SRDs according to the needs of users[113].

This article reports on a study evaluating online referral services (ORS). Section focuses on librarians' perceptions of evaluating the online reference services of university libraries in Nigeria. The study was guided by the following four objectives: to determine the extent of application of online reference services in university libraries in Nigeria; to examine the benefits of using ORS in academic libraries in Nigeria, to identify challenges related to the use of ORS, and propose solutions to improve the challenges that this academic library in Nigeria faces. The study adopted a survey design that is used to collect responses from 198 librarians. Data were collected from the population using a questionnaire. Statistical packages for the social sciences (SPSS) were used to extract the data while the data was presented using a 4-point Likert scale, mean and standard deviation. The results revealed that e-mail services ranked first out of a total ORS application. Lack of ICT infrastructure to support ORS first as reason for non-application of ORS. The most notable advantage is that it offers more alternatives and flexibility to users. The challenges include: the lack of appropriate training on the use of ICT infrastructure among libraries and the lack of funding to support the ORS. Recommendations were made at the end of the study[114].

This study examines the levels and factors contributing to email usage among academician in Malaysian universities. The Technology Acceptance Model (TAM) was tested to investigate the relationship of perceived ease of use (PEOU) and perceived usefulness (PU) on email usage (U). By using survey questionnaires, data was collected from 274 academicians in Malaysian public and private universities. Path analysis was conducted using Smart PLS 2.0 to examine the research model. This research found that email usage among academician in Malaysian private universities is significantly higher than Malaysian public universities, albeit the usage was high for both types of universities[115].

2.3.2 E-Readiness and Digital Reference Service Delivery

This article reports on a study on the evaluation of online referral services (ORS). Document focuses on the views of librarians on the evaluation of online reference services of academic libraries in Nigeria. This research is guided by the following four objectives: to identify the scope of application of Nigerian academic libraries online reference services; to examine the benefits of using ORS in Nigerian academic libraries, identify challenges related to the use of ORS and provide solutions to improve these challenges faced by Nigerian academic libraries. The study used a survey design that used responses from 198 librarians. Use questionnaires to collect population data. Use the Social Science Statistical Software Package (SPSS) to extract data, and use Likert 4-point scale, mean and standard deviation to present the data. The results show that e-mail service occupies the first ORS in general applications. The lack of an ICT infrastructure to support SRO is the number one reason for not implementing ORS. The most prominent benefit is that it provides users with more choices and flexibility. Challenges include the lack of adequate training on the use of the ICT infrastructure in libraries, and the lack of funding to support the SRO. Recommendations were made at the end of the study[111].

The document reports on a study aimed at exploring the readiness of the Digital Reference Service (DRS) in terms of organizational awareness, willingness, planning and resource intensity at the Punjab University Library, Pakistan. This descriptive study used research methods. The survey tool (questionnaire) is reviewed by a national group of LIS experts, and its writing is to obtain a response from an official organization to investigate the status quo. 38 university libraries accredited by the Higher Education Commission (HEC) participated in this study. Survey results show that only a few libraries are at the DRS-ready level, while other libraries have been slower to adopt the system[116].

In another study that evaluate the readiness for digital reference services: a survey of libraries in Ibadan Metropolis. This study examines the preparation of selected libraries in Ibadan for DRS. The research design used in this study is a descriptive survey design. The sample for this study included 45 librarians from 15 selected libraries in Ibadan. The tool used is a questionnaire. The data is analyzed using simple frequency distributions and percentages in the Social Science Statistics Package (SPSS). The results of the study show that despite being open to this idea, most libraries in Ibadan have not yet entered the DRS due to various factors, from insufficient facilities to a lack of qualified personnel[117].

The purpose of this research is to determine the e-Readiness status of Mzuzu University Library to provide library and information services for distance learners through the use of mobile phones. The study adopts a case study design. Use hybrid methods to collect data. Use self-filled questionnaires to collect quantitative data. On the other hand, qualitative data is collected through interviews with university librarians and ICT directors. The results show that Mzuzu University has the necessary ICT infrastructure and human resources to support the provision of library services through the use of mobile phones while formulating ICT policies. In addition,

more than 97% of students have mobile phones that can connect to the Internet, and they can use these mobile phones to access the mobile library services provided by the library. In addition, the library has resources that can be provided through the mobile platform, and ODL students and library staff have a positive attitude towards using such services. The cost of accessing mobile library services and poor mobile networks pose challenges to the success of the service. In addition, the praise of library staff is not enough to maintain the provision of mobile library services. There is also a skills gap among staff in providing mobile library services. Based on these findings, it is concluded that the Mzuzu University Library is ready to provide library and information services through the use of mobile phones[118].

A related study carefully investigated the understanding and adoption of 18 global emerging technologies by Nigerian academic libraries, emerging of technologies was also found to be significant. The descriptive survey design was used for this study. Respondents were randomly drawn from 12 University libraries in six (Ekiti, Oyo, Delta, Bayelsa, Anambra and Imo) states (two at least from each) from three (south-west, south-south and south-east respectively) geopolitical regions in southern Nigeria comprising of public (seven) and private (five) academic libraries. A total of 90 librarians were used (15 from each). Questionnaire was the main instrument used for data collection. The result revealed that librarian chose the most useful emerging technology and the challenges that go with it. People's knowledge of emerging technologies is overwhelmingly high, but on the contrary, the current level of adoption is not satisfactory. In addition research reveals the level of awareness, adoption, preference and readiness to incorporate emerging technologies into Nigerian academic library activities. Among the 18 emerging technologies, only a few (WebOPAC, library websites, Cybrary, social media, and institutional knowledge bases) are considered, and the awareness is still high[119].

Another study related to present this research aims to determine the readiness of Nigerian university libraries, especially the law library dedicated to serving law student and to determine whether students are ready to use such facilities. A survey was used to conduct this research. A hybrid approach was used in the design of the tool, because illegal quantitative and qualitative information was believed to be indispensable. The study focused on three groups of people, namely, public universities offering law, library personnel (university and law library staff), and law students. At all universities, university librarians and law librarians are purposely selected for interviews. The number of law students at the twelve universities is 7,219. Twenty per cent of the students at each university (1534) from each university became the target, and 1260 (82%) of them responded to the questionnaire that was sent to them. The questionnaire is designed to specifically determine the use of the law library, as these facilities are dedicated to this particular group of students. Observe a small group of students (100) to determine if they can actually find the information using available resources. Observation is also used to determine the presence of the library network and to determine the available resources available through the network. It was found that ICTs can be used, but the infrastructure of most libraries is insufficient. University libraries were found to be better equipped with information and communication technology than academic law libraries.

Some (but not all) law libraries also provide resources. The unreachable information and communication technology is a huge challenge. Many other challenges affecting service delivery and information seeking have been identified. Most students are prepared, but lack general knowledge and easily accessible sources of information. It is recommended that all law libraries improve their ICT facilities and human resource supply. In addition, university administrators

actively seek ways to reduce interruptions, such as unstable power supplies, low bandwidth, lack of computers, and paying for Internet access[120].

E-readiness (electronic readiness) is a measure of the degree to which a country, nation or economy may be ready, willing or prepared to obtain benefits which arise from information and communication technologies (ICTs). E-readiness is also referred to as the extent to which a librarian is prepared to accept the emerging of ICT to render their services.

A similar finding was also reported in a study to find out whether the students at Maseno University considered their skills of information retrieval as adequate in using electronic information resources. Purposive sampling technique was used to sample the respondents. Electronic, semi-structured self-administered Questionnaire was used to collect data with a population of 1001, cutting across all the schools at the eCampus of Maseno University from which a sample size of 286 was used and analyzed using SPSS. The result showed students information retrieval skills in locating electronic databases from the library website as 92%, using Boolean operators (74%), selecting appropriate database (95%), Downloading the full-text of an article such as in PDF, HTML format (96%) and selecting relevant information for further use (96%)[121].

A study revealed the possession of computer skills and competencies in the use of computer with a population of thirty comprising academic librarians from which a sample of twenty-four was drawn. The data were analyzed using frequency count and simple percentages. They found that 87.5% of librarians were computer literate. They also found that the most commonly reported skill was to navigate and explore the internet[122].

Researcher conducted a study to examine the extent of the relationship between Librarians' ICT competencies and utilization of emerging technologies in academic libraries in Rivers State, Nigeria. The study was carried out using a correlational design. Three research questions, three objectives guided the study and three null hypotheses were formulated and tested at 0.05 level of significance. The population of the study was 55 librarians in four academic libraries in Rivers State. A census sampling technique was used for this study, where all the 55 librarians were used as respondents. A structured questionnaire titled: Librarians' ICT Competencies and Utilization of Emerging Technologies Questionnaire (LICTUETQ) was used for data collection with 4 point likert scales. The response options on the instrument were: Strongly agree (SD) (4), Agree (A) (3), Disagree (D) (2), strongly disagree (SD) (1). A trial testing technique was adopted to ensure reliability of the instrument. The findings of the study showed a significant relationship between basic computer competencies, between information retrieval competencies and Web 2.0 competencies of librarians and utilization of emerging technologies in academic libraries in Rivers State, Nigeria. It was recommended that training and re-training of librarians on the basic computer competencies, informational retrieval competencies, competencies and Web 2.0 competencies[123].

In a study designed to evaluate the factors that effects of ICT skills in knowledge sharing by Library and Information Science (LIS) educators in Michael Okpara University of Agriculture, Umudike. The study adopted the descriptive survey design and a complete census technique was adopted, data obtained were analyzed using frequency counts and mean scores. Result of the study revealed acquisition of some ICT skills such as Web 2.0 skills, information retrieval skills, among others[124].

In a study conducted to assess the level of ICT skills among secondary school students in Malaysia as well as the barriers that impede its use. A total of 160 students from four schools (rural and urban) from a northern state in Malaysia were involved in this study. The descriptive statistics and t-test method were used to analyze the findings. The study revealed that their levels of ICT skills for basic applications and for Internet applications in accessing and sharing information are at moderate level; their advanced ICT applications at the lowest level, and their Internet applications for communication skills are at the proficient level. The analysis also showed insignificant difference in terms of the students' levels of ICT skills between the male and female respondents. However, there is a significant difference in terms of ICT skills between the urban and rural school students. The findings also indicated that administrative and facility barriers as the two major factors that impede the use of ICT. These obstacles and barriers need to be reduced to assist the integration of ICT as well as to improve the students' ICT skills[125].

In a study conducted considering several variables, the present study aimed at examining the information and communication technology skills of university students taking their courses with the distant education system. In the study, the singular and relational survey model, one of general survey models, was used. The research sample was made up of 381 students attending the Distant Undergraduate Education Completion Program in Theology (DUECPT) at Dicle University in the Diyarbakir in Turkey in the academic year of 2013-2014. The first part of the questionnaire used the data collection tool in the study covered such demographic information about the students to reveal personal information about them as well as their use of information and communication technologies. As for the second part of the questionnaire, it included a scale to determine the participants‟ information and technology skills. In the study, such descriptive statistics as frequencies, percentages, mean scores, mod and median as well as such parametric

tests as t-test and one-way analysis of variance were applied. The results revealed that the university students‟ information and communication technology skills differed significantly with respect to their gender, Internet use time, years of experience in computer use and their preferences of mobile device and that there was no significant difference with respect to their preferences of instructional methods (face-to-face or blended), their foreign language proficiencies, their preferences for studying (as a group or individual) and their preferences in learning[126].

Digital libraries play an indispensable role in the success of any distance education program, so distance learners must accept them. At the same time, digital skills and access rights are critical to achieving digital library readiness. This study investigated the readiness of what the remote student digital library of a large multi-modal public university in Ghana. Study uses a survey design that uses questionnaires to determine what remote students think about their computer and digital access, and the subsequent digital and information skills, and how this improves their views on preparing digital libraries for education. The study subjects were 4,444, including 1,834 distance education students from three 4,444 distance education centers in a public university in Ghana. Using the stratified deliberate sampling method, three distance education centers were selected, and 247, 276, and 118 distance students were selected from centers A, B, and C to participate in the research. The results show that 4,444 distance learners generally lack advanced ICT skills to effectively use digital libraries. In addition, although most of the 4,444 respondents indicated that they have above-average ICT skills, this did not translate into 4,444 skills for training search queries and using e-library tools. However, his 4,444 basic ICT skills have laid a solid foundation for consolidating his digital library preparations. The library of the multimodal

university must design tailor-made training programs for all classes of students (including distance learners) to improve the use of digital library resources[127].

In a related study, researchers investigated the e-readiness of public university libraries in Malawi to use mobile phones in the provision of library and information services. The study adopts a pragmatic paradigm, a mixed methodology and a case study design, and people understand the phenomenon of the research. Research subjects include students, academic staff, university/college librarians, and ICT supervisors. The sample of 444 people studied included 370 students, 255 academic staff members, 5 university/college librarians, and 5 ICT supervisors. Qualitative data was collected through interviews with 444 university/college librarians and ICT directors, while quantitative data was collected from students and faculty and staff using questionnaires. Use Nvivo to analyze qualitative data, while using IBM SPSS version 23 software to analyze quantitative data. The research results show that the libraries surveyed have most of the ICT infrastructure needed to provide library and information services via mobile phones. Students, faculty and staff have mobile phones that can be used to access the information services ii provided by the library. In addition, mobile communication networks across the country are ubiquitous, making it easy to provide and access library services via mobile phones. However, ICT policies are not available, and the required human resources and skills are insufficient to provide effective library and information services through the use of mobile phones. The results also show that the surveyed institution has resources such as OPAC, e-books, e-journals and local content libraries, which can be realized through mobile phones. The results also show that the COM library has fully implemented the library and information services provided via mobile phones, but MZUNI, KCN, Polytechnic Institute and LUANAR are planning to introduce or fully implement these services. The attitudes of library staff, academic

staff and students towards the possibility of using mobile phones to provide and access library and information services are basically positive. Network quality, service cost and response time are factors that affect's use of mobile phones to provide library and information services due to lack of institutional support[128].

The use of digital reference service by academic libraries on implementation and use of virtual reference services during COVID-19 and post COVID-19 Pandemic: A Necessity for Developing Countries. The study presents an extensive synthesis of literature on VRS from different electronic databases, including EbscoHost, Elsevier, Emerald, Google Scholar, JSTOR, Science Direct and Taylor & Francis Online. The findings was centered extensively elaborated on the communication technology tools of virtual reference services and the challenges of implementing and using these tools in the virtual reference services of academic libraries in developing countries. The document further noted that real-time interaction has become very prominent in recent years, especially with the rise of social media, which focuses on user-generated content and virtual technologies. The implementation of information and communication technology (ICT) can support and facilitate the delivery of virtual information services. Therefore, the implementation and use of communication technology tools will play a key role in the work of reference librarians, and will also solve the problem of reference services in academic libraries in the COVID-19 era[129].

Similarly, this exploratory research examines users' preferences for virtual recommendation services, and based on semi-structured interviews with users, explains these preference factors from a different perspective from the previous literature. This study uses a qualitative method in the form of in-person interviews to investigate preferences among virtual reference methods and factors that influence these preferences. It employed a purposive sampling method and in

particular, aimed at maximum variation sampling by seeking out a sample that would reflect a wide variety of users and aim for a diversity of perspectives. Using NVivo qualitative data analysis software interview transcripts and applied grounded theory to identify preferences from among email to the library, email to a liaison librarian, chat and texting. From among the four virtual reference methods, participants in the study expressed a clear preference for live chat. Participants valued the synchronicity and personalness of this method, among other features, they found chat to have distinct advantages over other virtual reference methods in terms of convenience and found chat easiest to use and most useful from among virtual reference methods[130].

In another study measuring the usage of digital reference service delivery from the study aimed to analyze the effectiveness of digital reference services in university libraries in Punjab, Pakistan. The study uses quantitative research methods to achieve its objectives. Quantitative data was collected from users of four selected university libraries providing digital reference services through questionnaires. It was reported that more than half of the respondents were aware of the DRS provided by their library. Among respondents who were aware of the service, two-thirds of respondents used the service at different intervals (always, frequently, sometimes, and rarely), while one-third did not use the service. Traditional referral services are provided through personal inquiries, phone calls, and postal letters, while DRS is provided through email, web forms, online chat/instant messaging, and webcam/video-conferencing. The results of this study show that the majority of participants prefer to ask reference questions through a face-to-face consultation, while all respondents prefer to ask questions through different DRS formats (email, web form, and online chat). In the different DRS formats, the majority of the participants consider that the referral by email is a suitable channel for making inquiries[131].

2.4 Conceptual Model

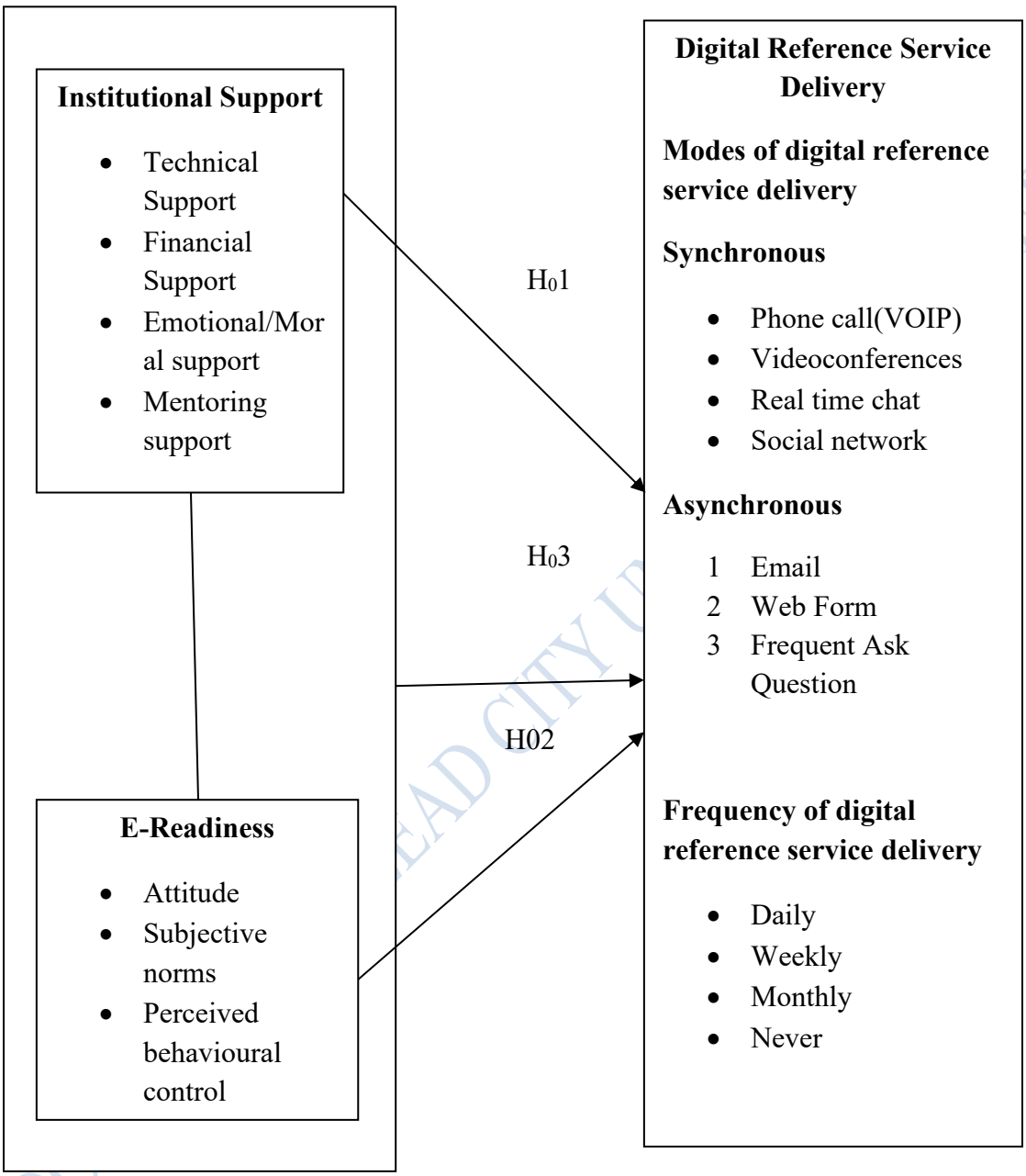

Figure 2.4 Conceptual Model of Institutional Support, E-Readiness and Digital Reference Service Delivery

Source: Designed by the Researcher Base on the Research Work

The conceptual model is drawn based on the position of scholars that it hasn't be easy for university libraries to set up an effective digital reference service delivery, which some factors such as Institutional Support and E-Readiness must be in place to provide a well digital reference delivery services to the end users. Digital reference service is reference services provided with the aid of ICT which allow librarian to communicate with users remotely. In respect of this, Diffusion of Innovation theory was chosen to explain digital reference service delivery because it signifies as the innovation (new idea) that needs to be communicated through a communication channels over a period of time to the social systems.

The researcher also added some constructs such as communication channels (Synchronous and Asynchronous digital reference service delivery). The synchronous digital reference service delivery refers to the mode of digital reference service which enables transaction of reference help in real-time with an instant reply to the query of patron by the librarian e.g. Phone call (VOIP), Videoconferences, Real time chat, Social network. While, asynchronous digital reference service delivery refers to the mode of digital reference service which does not take place instantaneously or 'at real time' to the query of patron by the librarian e.g Email, Web Form, Frequent Ask Question. Also, frequency of which digital reference service is been delivered was examined, which signifies how often the librarians provide digital reference services to meet the users query.

As shown in the conceptual model, factors such as Institutional Support and E-Readiness have been identified as predictors for effective digital reference service delivery. Each construct has been conceptualized in this study. To promote digital reference service delivery therefore, it is essential to understand the effect of institutional support which has been taken here as the extent to which parent institution provides assistance such as technical support, financial support,

emotional and moral support and mentoring towards the innovation of digital reference services delivery in university libraries. It discussing was situated within the theory of institutional support obtained from existing literature that captures the variable. The institutional support model is a theory that explained how institution comes to accept their responsibilities in caring for their institution needs. The model suggests that when institution are presented with a new development (technology innovation) a number of factors influence their decision about how to come in to meet the needs and they will ensure that they make use of it. The theory is widely used to explain the adoption of new development among individual institutions.

Another factor considered that can influence the digital reference service delivery is E-Readiness. Theory of planned behaviour proposes that behaviour is determined by combination of an individual's intentions to engage in certain behaviour. The intentions in turn are held responsible by attitude, subjective norms (perceived social influence/pressure) and perceived behavioural control (the degree to which behavior is perceived to be under the control of the individual). Attitude is an as inclination feelings and beliefs that prompt how librarian adopt the use of digital reference service. Subjective norms is the environmental influence or an individual's perception about the particular behaviour, which is influenced by the judgment of significant others. Perceived behavioural control explains how easy or hard will it be for librarian to use this particular technology to carry out digital reference services.

All these factors have been investigated under different settings and in different countries and regions of the world. What is clear from the literature is that each factor affects the delivery of institutional differently across university libraries, institutions and countries. Each parent institution therefore must understand the factor that is most significant in its own setting. The reason is so that they can understand their areas of weaknesses and develop the right strategy to

ensure that their efforts in developing and rendering digital reference services are not in vain and their client continue to have access to quality services and relevant information. In the context of this study, all the factors will be measured to understand their significance as predictors of digital reference service delivery among the university libraries. This is expected of the parent institutions to be concerned with empirical evidence regarding what they should look for to improve or maintain the level of service rendering towards digital reference service delivery and the librarians must be able to take full advantage of the parent institution support and prepared to give their best in any to bring about improved changes in digital reference services rendered in their respective university libraries.

2.5 Summary of Literature Reviewed

Literature review has provided an insight into the origin of the development of digital reference service delivery. It is widely recognized and proven that information and communication technology (ICT) has been the driving force since turn of the 21st century. The advent of the Internet which has allowed humankind to create the largest repository of information and knowledge has also changed the role of librarians and libraries from information gatekeepers to information mediators who are concerned not just with the accumulation of information but also the dissemination of information using new and improved tools provided by modern technologies.

The advent of technology has also brought about the transition from traditional, manual services which requires users to be physically present in the library to enjoy library services and collections to virtual services, which allows users to remotely access library collections irrespective of time and location. The disappearance of some traditional information services and the emergence of new and innovative web-based services is one of the greatest paradigms that have occurred in the history of librarianship as a profession. One of such services that have emerged as a result of technology includes digital reference services.

Reference and information services have always been a major component of the library and are also very important in libraries around the world. This is to help users track their information needs and facilitate the effective utilization of available resources in and through the library. It is clear that the main objective of creating the digital reference service is to provide personal assistance to users' query remotely without restriction to stimulate further learning. Primarily, digital reference services became imperative with the advent of electronic information resources

and the use of websites and scholarly databases by organisations and institutions to pass information to their publics. Digital and traditional directory assistance services share the same general principles as directory assistance services and have a common goal of satisfying library users. Digital reference is basically a way for librarians to adapt to a changing environment and bring their expertise to bear on the chaotic world of online information.

However, the operation method is different. Whereas traditional reference books are searched using indexes and summaries, traditional sources such as encyclopedias and dictionaries are used to provide answers to queries. It has been revealed how digital reference service is embraced by librarians with the advent of information and communication technology (ICT). The emerging trend (ICT) is seen as an added value for libraries and information centers, as well as for information professionals. Using technology in various library activities, including reference services, improves the efficiency of libraries by extending the reach of their resources and services through services such as the Digital Reference Service (DRS). Digital directory service, on the other hand, uses ICT features such as computers, internet, email, and CD-ROMs and uses as a search engine to search for electronic resources and make them available to users. Digital Directory Assistance Service allows users to be inside and outside the library. In addition, the Digital Reference virtually eliminates space constraints and the availability of books and magazines.

In view of this, several modes for delivering digital reference services to enhance the sharing information to users, irrespective of their location and time have been identified in the literature. This implies that reference services rely on digital communication systems which allow users to communicate with librarians remotely. Right now, available literature suggests librarians in developing countries such as Nigeria need to do more in order to bridge the gap between the

library and online information users to reduce user uncertainty and connect them to the right information they need. The reviewed literature also indicates that there is need to evaluate the efforts of academic libraries to extend their reach beyond the four library walls and offer information resources in cyberspace.

Likewise, it is necessary to understand the required skills needed to operate in the cyberspace to help users who may encounter some challenge in using the various library resources. Whenever technology interferes with delivery of digital reference service, the function is to bridge time, cost and space to maximize quality, efficiency and effectiveness. With ICT, the services of reference librarians are no longer limited by the opening hours of the library, as information resources are available in print and electronic versions that can be accessed anytime, anywhere on the personal computer. This provides frequent delivery to digital reference service. Librarians can use electronic systems to track the online resources consulted and the frequency of such consultations, and identify hot topics that may be important to the information needs of digital reference users.

Also, it is obvious that the new normal era has made it mandatory for libraries to adopt the principles of digital reference service and literature has shown that they cannot achieve this without institutional support and e-readiness on the part of the library and librarians. The institutional support is pointing to areas where parent institution has been able to provide their assistance to gives smooth running digital reference service. These benefits of using ICT for information services are hampered in many libraries by maintaining ICT facilities, providing epilepsy power, a shortage of trained ICT staff, and the threat of viruses in ICT systems. Similarly, the proper training and retraining of librarians and support staff required to use these facilities is innovative and needs to be more intensely addressed to respond to trends in this area.

The e-readiness depends on the librarian's passion and attitude towards the innovation to integrate to by their parent institution.

All these have been identified as crucial to the development of digital reference service around the world. It is also evidence in the literature that building robust digital reference service in African and Nigeria in particular is still facing various challenges. Studies focusing on what contribute to digital reference service as a means of sharing information and how parent institutions can influence the frequent usage of digital reference services by the librarian. However, there is a dearth of studies on institutional support focusing on digital reference service in many African countries including Nigeria. The current study will therefore fill an important gap and serve as a catalyst for more studies on institutional support, e-readiness have been of influence to the effectiveness usage of digital reference service.

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Chapter Three

Research Methodology

This chapter presents a brief description of the procedures that was involved in carrying out the study on institutional support, electronic readiness and digital reference service delivery by librarians in universities in Oyo-State, Nigeria.

3.1 Research Design

The study adopted mixed method. Research approach is mixed method; questionnaire was administered to the professional librarians and interview was conducted to the university librarian or any other nomenclature that is used to describe whoever heads the library. Mixed methods design enables the researcher to converge or merge quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. In this design, the investigator typically collects both forms of data at roughly the same time and then integrates the information in the interpretation of the overall results.

3.2 Population of the Study

The population of the study is 86 which consists of (76 professional librarians and 10 university librarians) in ten selected universities, Oyo-State, Nigeria. The ten universities are university libraries both public and private. These university libraries were University of Ibadan (27), Ladoke Akintola University of Technology, Ogbomoso (20), Lead City University, Ibadan (08), Ajayi Crowther University, Oyo (08), The Technical University, Ibadan (02), Kola Daisi University, Ibadan (02), Atiba University, Oyo (01), Precious Cornerstone University, Ibadan (02), Dominican University, Ibadan (04), Dominium University, Ibadan (02). Also 10 university librarians or any other nomenclature that is use to describe whoever heads the unit from the

selected universities was interviewed. Therefore, the population for the research is eighty-six (86). The breakdown of the population of the study can be seen below

Table 3.1 Population of the Study

S/N	Academic Libraries	No. of Professional Librarians	University Librarians
1.	University of Ibadan	27	1
2.	Ladoke Akintola University of Technology, Ogbomoso	20	1
3.	Lead City University, Ibadan	08	1
4.	Ajayi Crowther University, Oyo	08	1
5.	The Technical University, Ibadan	02	1
6.	Kola Daisi University, Ibadan	02	1
7.	Atiba University, Oyo	01	1
8.	Precious Cornerstone University, Ibadan	02	1
9.	Dominican University, Ibadan	04	1
10.	Dominium University, Ibadan	02	1
	Total	76	10

Sources: From the Librarians in the universities 2021

3.3 Sample and Sampling Technique

Total enumeration method was used based on the small population of this study which enables us to have an intensive study of the population, higher degree of accuracy in data collection and to eliminate errors in sampling. This is an appropriate method for this study based on the small size in population. Therefore, the entire 86 participants (76 professional librarians and 10 university librarians or unit's heads) were used for this research work.

3.4 Description of the Research Instrument(s)

The instruments used in this research work are structured questionnaire titled and interview schedule. The interview guide was adopted to facilitate the triangulation of the research data. The interview result is compared against the quantitative data to detect divergence and context. Questionnaire on Institutional Support, E-Readiness and Digital Reference Services Delivery of Librarians in University Libraries, Oyo State. Hence the study adopted the likely likert scale design which allowed the researcher in listing options where respondents will choose from. The instruments were being divided into five sections.

Section A contains the demographic information of respondents which is self-developed. The bio-data of respondents was measured through six (6) factors such as: Name of University Library, Position, Qualification, Years of Experience, Gender and Age.

Section Bi: The mode for delivering digital reference services scale with 8 items adapted from existing literature[2]. The scale will use a 4-point Likert type scale, 4= Very high extent, 3= High Extent, 2= Low Extent and 1=Very Low Extent. Example of the statement is; Real time chat is used to provide digital reference service in my library; Library social network (facebook, instagram and twitter) is used to provides digital reference service in my library.

Bii is envisioned to elicit information about how frequent are digital reference services delivered mode with 7 items; the questionnaire were adapted from a study[1]. The scale will use 4-point scale ranging from 4= Daily, 3= Weekly, 2= Monthly and 1= Never use. Example of the question includes Phone call (Voice over Internet Protocol), Library social networking sites (facebook, instagram and twitter), Real time chat /instant messages services.

Section C visualized on level of institutional supports (technical support, financial support, emotional/moral support and mentoring) with 12 items adapted from questionnaire[3], rated Likert type, 4-points scales ranging from: 4= Very high extent, 3= High Extent, 2= Low Extent, and 4= Very Low Extent. Examples of statements include: My institution provides personal desktop and laptop computers to support digital reference services; My institution provides adequate fund to support digital reference services; I usually receive emotional and moral support from library management to deliver digital reference services; My Institution has instituted mentoring programmes to support librarians in delivering digital reference services.

Section D, this section clearly projected the level of electronic readiness of librarians 12 items adapted from the TPB questionnaire and grouped under three indicators: Attitude, Subjective norms and Perceived behavioural control[4,5]: measured on four point scales: 4= Very high extent, 3= High Extent, 2= Low Extent and 1= Very Low Extent. Examples of question include: Rendering Digital reference service enhance my professional prestige, My employer think that digital reference service is necessary, My library provides enabling environment for digital reference service.

Section E intended to obtain information about likely challenges to digital reference services delivery. This aspect of the questionnaire comprises of 12 questions were adapted from a study[6]:

was measured using Likert type, 4-point scale Very high extent (4), High Extent (3), Low Extent (2), and Very Low Extent (1). Examples of statements include: Inadequate Information and Communication Technologies skills; Lack of Website for my library; Lack of social media networking site presence for my library.

The interview schedule would seek information on 1. Did you render digital reference services delivery in your university library in Oyo State? 2. What type of digital reference services do you delivered? 3. What is the mode for delivering digital reference services in university libraries in Oyo state? 4. How frequent do your staff delivered digital reference services through following modes in university libraries in Oyo-state? 5. What is the level of institutional supports for digital reference service in your university library in Oyo state? 6. What is level of electronic readiness of librarians in your university library in Oyo state? 7. What are the challenges to digital reference services delivery in your university library in Oyo state?

3.5 Validity of Research Instrument

To ensure the face validity of the research instrument, the questionnaire was submitted to the supervisor, co-supervisor and other experts in the field for their perusal after which the correction and issues raised were implemented. The content validity ascertained by ensuring that it covers all variables under the study.

3.6 Reliability of the Research Instrument

The reliability of the instrument was tested through a pilot study using Twenty-five (25), professionals' librarian from Obafemi Awolowo University, Ile-Ife which is not a part of the study. Twenty (20) copies of the questionnaire were retrieved and analysed. Data obtained was subjected to Cronbach's alpha reliability test to establish the internal consistency of the items. The reliability score of the constructs are as followed;

Table 3.2 Reliability Study Analysis

S/N	Constructs	Cronbach Alpha Score
1.	Digital Reference Services	0.89
2.	Institutional Support	0.82
3.	E-readiness	0.93

Source: Field survey, 2021

3.7 Administration of the Instrument and Method of Data Collection

A letter of introduction and project attestation was obtained from the Department of Information Management, Lead City University which was used to gain permission to conduct the survey from the librarians in the university libraries selected. Questionnaires were administered physically by the researcher. The whole data collection exercise from the 10 university libraries covered a combined period of five weeks.

3.8 Methods of Data Analysis

The data collected from questionnaires was coded and analysed using the IBM SPSS Statistics Software. The research questions was analysed with descriptive statistic such as simple frequencies and percentages. Hypotheses 1 and 2 was anaylsed using simple linear regression, a simple linear regression analysis formula includes a dependent variable and an independent variable. The mathematical representation of the dependent variable is typically Y, while X represents the independent variable. Also, hypothesis 3 was anaylsed using multiple regression analysis. Hypotheses 1-3 was tested at 0.05 level of significance. The responses from the interview was analysed using thematic analysis which means common themes in the responses were identified and group together.

Endnotes

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State, Nigeria." **Information Impact: Journal of Information and Knowledge Management** 10, no. 2 2019: pp. 153-166. https://dx.doi.org/10.4314/iijikm.v10i2.11

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5. E.P. Flowers, P. Freeman & V.F. Gladwell, "*The Development of Three Questionnaires to Assess Beliefs about Green Exercise.*" **International journal of environmental research and public health** 14, no. 10 2017: 1172.; doi:10.3390/ijerph14101172

6. E.E. Uba & E.A. Okonkwo, "*Use of Digital Reference Services by Undergraduates in Faculty of Law,* **University of Nigeria Enugu Campus***",* 2019 s https://www.researchgate.net/publication/337445176

Chapter Four

Results and Discussion of Findings

This chapter presents the results of the data collected and analyzed in the course of this study. The data were obtained to answer the research questions and test the hypotheses formulated for the study. The decision rule is that all items with a mean score equal to or greater than 2.5 are considered significant while any item with a mean score of less than 2.5 is considered not

significant and rejected. Also, hypotheses are tested at a 0.05 level of significance which implies that any result above 0.05 implies that the hypothesis will be rejected.

In all, seventy-six (76) copies of the questionnaire were administered and sixty-five (65) were retrieved due to the COVID-19 pandemic which prevented the researcher from meeting all respondents in their University libraries and 10 university librarians or heads of units were interviewed from 10 universities in Oyo State.

4.1 Presentation of Demographic Data Analysis of Respondents

Table 4.1: Demographic distribution of respondents

		Frequency	Percent
Gender	Male	38	58.5
	Female	27	41.5
	Total	65	100.0
Age Range	20-24	10	15.4
	25-29	7	10.8
	30-34	6	9.2
	35-39	3	4.6
		Frequency	**Percent**
	40-44	18	27.7
Age Range	45-50	8	12.3
	51+	13	20.0
	Total	65	100.0
Years of	1-5	22	33.8

Experience			
	6-10	12	18.5
	11-15	12	18.5
	16-20	6	9.2
	21-25	13	20.0
	Total	65	100.0
Universities	Ajayi Crowther, Oyo	9	13.8
	Atiba University, Oyo	2	3.1
	Dominican University, Ibadan.	2	3.1
	Dominion University, Ibadan.	2	3.1
	University of Ibadan.	23	35.4
	Kola Daisi University, Oyo.	2	3.1
	LAUTECH, Ogbomosho	11	16.9
	Lead City University, Ibadan.	9	13.8
	Precious Cornerstone, Ibadan	2	3.1
	First Technical University, Ibadan.	3	4.6
	Total	**65**	**100.0**

Source: Field survey, 2021

The demographic distribution of the study respondents is presented in table 4.1. The table shows that there were 38 male respondents which constitute 58.5% of the total respondent while female respondents were 27 41.5% of the total respondents. This shows that there were more males than females among the respondents. The relevance of gender in technology-related matters have been discussed in the literature with the impression that male is more likely to accept technology than female[1,2]. The demographic data also include the age range of the respondents. The analysis

showed that respondents are 18 (27.7%) in the 40-44 age category which means respondents in this category are in the majority. This is followed by those in the 51 years and above category who are 13 (20%). Respondents in the 20-24 age range were 10 in number which makes them 15.4% of the total respondents.

In addition to this, 8(12.3%) of the respondents are in the 45-50 category, 7(10.8%) are in the range of 25-29 years, 6(9.2%) are within the 30-34 age range while 3 (4.6%) are in the 35-39 age range. Taken together, this suggests a mixture of youth and experience both of which are essential in the adoption and use of technology[2]. This is further shown in the years of experience reported by the respondents. It can be seen that 22 (33.8%) of the respondents with 1-5 years experienced complemented 13 (20%) who have between 21-25 years of working experience. Between 12(18.5%) have 6-10 and 11-15 years of experience respectively while 6(9.2%) have 16-20 years of experience. The relatively large number of early-career librarians can be seen as a good indication that the library's transformation through digital resources is possible. Studies have suggested that early-career librarians are often adventurous and open to innovation and new experiences[3].

4.2 Presentation of Research Questions

Research Question One: What is the mode for delivering digital reference services in university libraries in Oyo State?

Table 4.2 Mode for delivering digital reference services in university libraries in Oyo state.

Statement	VHE	HE	LE	VLE	Mean
Synchronous DRS					
Real-time chat is used to provide digital reference service in my library.	13 (20%)	31 (47.7%)	14 (21.5%)	7 (10.8%)	2.77
Library social network (Facebook, Instagram, and Twitter) is used to provide	16 (24.6%)	30 (46.2%)	15 (23.1%)	4 (6.2%)	2.89

digital reference service in my library					
My library provides digital reference service through voice over internet protocol (VOIP)	24 (36.9%)	24 (36.9%)	23 (35.4%)	8 (12.3%)	2.55
We provide information in my library through video conference calls	7 (10.8%)	17 (26.2%)	23 (35.4%)	18 (27.7%)	2.20
Weighted Mean					**2.60**
Asynchronous DRS					
Email is used to provide digital reference service in my library	24 (36.9%)	30 (46.2%)	9 (13.8%)	2 (3.1%)	3.17
My library uses web form for library reference services	14 (21.5%)	30 (46.2%)	16 (24.6%)	5 (7.7%)	2.82
We entertain users' queries through Frequently Asked Questions	20 (30.8%)	27 (41.5%)	13 (20.0%)	5 (7.7%)	2.95
We provide an answer to queries through the university email	19 (29.2%)	31 (47.7%)	10 (15.4%)	5 (7.7%)	2.98
Weighted Mean					**2.98**
Grand Mean					**2.79**

Source: Field survey, 2021

Decision rule 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high

Note: VHE=Very High Extent, HE= High Extent, LE= Low Extent, VLE= Very Low Extent

Table 4.2 shows the response of the respondents regarding the mode of digital reference service provision in respective libraries. The responses on the synchronous mode of digital reference services show that majority of the libraries are using these services to a high extent as can be seen from the average mean (2.60) which is just above the decision rule (2.5). Services such as real-time chat (2.77), use of the social network (2.89), and VoIP (2.55) are highly provided. However, video conference is not used to great extent by the libraries as suggested by the mean score (of 2.20). This limited use of video conferencing in reference services seems to be common in developing countries as it was also in other related studies in Pakistan and Tanzania[4,5].

In comparison to synchronous services (2.60) asynchronous services (2.98) are more commonly provided by universities in Oyo state. Most of the respondents responded positively that their libraries provided email services (3.17), entertain users' queries through frequently Asked questions (2.95), and used web forms to collect users' feedback (2.82). The predominant use of e-mail in digital reference services has also been identified by another author whose study also focused on digital reference services in academic libraries[9]. Overall, with a grand mean of 2.79, it can be said that digital reference services provision is at a moderately high level in the institutions.

Research Question Two: How frequently do university libraries in Oyo state make use of digital reference services delivery modes?

Table 4.3 Frequency of Using Various Digital Reference Services Delivery Modes

Statement	Monthly	Weekly	Daily	Never	Mean
E-mail Services	13 (20.0%)	18 (27.7%)	29 (44.6%)	5 (7.7%)	3.09
Library social networking sites (Facebook, Instagram, and Twitter)	7 (10.8%)	15 (23.1%)	31 (47.7%)	12 (18.5%)	3.00
Library website "Frequently Asked Questions"	13 (20.0%)	17 (26.2%)	27 (41.5%)	8 (12.3%)	2.97
Phone call (Voice Over Internet Protocol)	8 (12.3 %)	19 (29.2%)	26 (40.0%)	12 (18.5%)	2.91
Real-time chat /instant messages services	14 (21.5%)	23 (35.4%)	24 (36.9%)	4 (6.2%)	3.03
Video conferencing or Webcam Services	16 (24.6%)	20 (30.8%)	9 (13.8%)	20 (30.8%)	2.28
Web Form	12 (18.5%)	18 (27.7%)	19 (29.2%)	16 (24.6%)	2.62
Weighted Mean					**2.84**
Grand Mean					**2.84**

Source: Field survey, 2021

Decision Rule: 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high

Table 4.3 shows the frequency of using each of the tools for delivering digital reference services in the selected universities. The analysis shows that e-mail services (3.09) are the most frequently used followed by real-time chat /instant messages services (3.03) and Library social networking sites such as Facebook, Instagram, and Twitter (3.00). Others in order of frequency are library website (2.97), Phone call (2.91), and Web form (2.62). Video conferencing or

Webcam Services (2.28) are not significantly used in the studied libraries. The weighted mean and grand mean score of the frequency of using the entire various tools is 2.84 which indicates a moderately high frequency of use among the selected libraries. This is similar to the finding of a related study conducted in Nigeria[1]

Research Question Three: What is the level of institutional support received by librarians in university libraries in Oyo State?

Table 4.4 Institutional Supports Received By Librarians in University Libraries in Oyo State.

Statement	VHE	HE	LE	VLE	Mean
Technical Support					
My institution provides personal desktop and laptop computers to support digital reference services	36 (55.4%)	20 (30.8%)	7 (10.8%)	2 (3.1%)	3.38
My institution provides adequate support on using social networks (Facebook, Instagram, and Twitter) for digital reference service	25 (38.5%)	25 (38.5%)	12 (18.5%)	3 (4.6%)	3.11
There is adequate provision for internet connectivity for the library to deliver digital reference services within and off campus	29 (44.6%)	28 (43.1%)	7 (10.8%)	1 (1.5%)	3.31
Weighted Mean					**3.26**
Financial support					
My institution provides adequate funds to support digital reference services	13 (20.0%)	31 (47.7%)	17 (26.2%)	4 (6.2%)	2.82
There is enough funding for continuous training/ development for librarians responsible for digital reference services in my institution.	6 (9.2%)	26 (40.0%)	23 (35.4%)	10 (15.4%)	2.43
My library always provides financial support for system upgrades and innovations in digital reference	12 (18.5%)	28 (43.1%)	18 (27.7%)	7 (10.8%)	2.69

services.					
Weighted Mean					**2.64**
Statement	**VHE**	**HE**	**LE**	**VLE**	**Mean**
Emotional Support					
I usually receive emotional and moral support from library management to deliver digital reference services	15 (23.1%)	27 (41.5%)	16 (24.6%)	7 (10.8%)	2.77
I find it difficult to render digital reference services due to a lack of support from my superiors	9 (13.8%)	14 (21.5%)	27 (41.5%)	15 (23.1%)	2.26
My colleagues often support me to deal with rude and unruly users during digital reference services provision.	16 (24.6%)	29 (44.6%)	12 (18.5 %)	8 (12.3%)	2.82
Weighted Mean					**2.61**
Mentoring					
My Institution has instituted mentoring programs to support librarians in delivering digital reference services	14 (21.5%)	24 (36.9%)	19 (29.2%)	8 (12.3%)	2.68
My head of units do mentor me on how to go about digital reference services	17 (26.2%)	30 (46.2%	10 (15.4%)	8 (12.3%)	2.86
Experienced library staff are always available to mentor others on digital reference section day-to-day activities	17 (26.2%)	34 (52.3%)	10 (15.4%)	4 (6.2%)	2.98
Weighted Mean					**2.84**
Grand Mean					**2.84**

Source: Field survey, 2021

Decision Rule: 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high

Note: VHE=Very High Extent, HE= High Extent, LE= Low Extent, VLE= Very Low Extent.

The institutional support received by the selected libraries towards the provision of digital reference services is presented in Table 4.4. Institutional support is categorized into; technical

support, financial support, emotional support and mentoring are shown to be at a moderately high level based on the grand mean (2.84). The analysis shows that the level of technical support (3.26) can be regarded as high. The responses showed that the majority of the libraries are provided with computers (3.38), internet connectivity (3.31), and support for the creation of a social media presence (3.11). The respondent also reported that they receive financial support from their parent institutions. Although the averages mean score (2.64) showed that it is not as high as technical support. It can be seen that, while the library provides funds to set up DRS (2.82) and provides financial support for system upgrades and innovations in digital reference services (2.69), the majority of the respondents indicate that their institutions do not allocate enough funds for continuous training/ development for librarians responsible for digital reference services.

The respondents also received a moderate level of emotional support as indicated by the mean score of (2.61). Analysis of the individual items shows that there is emotional support from colleagues (2.88) as well as the management (2.77). Furthermore, there is a significant level of mentoring (2.84) in the libraries to ensure effective digital reference services. Analysis of the individual items under mentoring shows that the respondents are mentored mostly by experienced staff (2.98), and heads of units (2.86) in addition to the average institutionalised mentoring programme (2.68) available in the libraries to enhance the adoption of digital reference services. Computing the means for all the dimensions of institutional support yielded a mean of 2.84 which is well above average. These few studies on institutional support in academic libraries but the findings of available literature on mentoring[6], technical and financial support for academic libraries around the world agree with the current result[7].

Research Question Four: What is the level of electronic readiness of librarians in university libraries in Oyo State?

Table 4.5 Electronic Readiness of Librarians in University Libraries in Oyo state.

Statement	VHE	HE	LE	VLE	Mean
Attitude					
Rendering Digital reference service enhance my professional prestige	28 (43.1%)	34 (52.3%)	1 (1.5%)	2 (3.1%)	3.35
Rendering Digital reference services is good for my career development	30 (46.2%)	31 (47.7%)	3 (4.6%)	1 (1.5%)	3.38
Rendering Digital reference service contribute to my effectiveness as a librarian	28 (43.1%)	31 (47.7%)	5 (7.7%)	1 (1.5%)	3.32
Digital reference service encourages more users to use library resources	29 (44.6%)	31 (47.7%)	5 (7.7%)	--	3.37
Weighted Mean					**3.35**
Subjective Norms					
My employer thinks that digital reference service is necessary	22 (33.8%)	35 (53.8%)	5 (7.7%)	3 (4.6%)	3.17
My colleagues perceive digital reference services as essential in modern libraries	25 (38.5%)	33 (50.8%)	5 (7.7%)	2 (3.1%)	3.25
The majority of librarians agree that digital reference service is important	25 (38.5%)	37 (56.9%)	2 (3.1%)	1 (1.5 %)	3.32
Offering digital reference service is one of the expected duties of a modern librarian	31 (47.7%)	25 (38.5%)	5 (7.7%)	4 (6.2%)	3.28
Weighted Mean					**3.25**
Statement	**VHE**	**HE**	**LE**	**VLE**	**Mean**

Perceived Behavioural Control					
My library provides enabling environment for digital reference service	28 (43.1%)	32 (49.2%)	2 (3.1%)	3 (4.6 %)	3.31
The available facilities encourage me to provide digital reference service	18 (27.7%)	35 (53.8%)	9 (13.8%)	3 (4.6 %)	3.05
I am highly confident that I can provide an effective digital reference service	25 (38.5%)	33 (50.8%)	4 (6.2%)	3 (4.6%)	3.23
I have control over every environmental influence to provide digital reference service	18 (27.7%)	32 (49.2%)	12 (18.5%)	(3 4.6%)	3.00
Weighted Mean					**3.15**
Grand Mean					**3.25**

Source: Field survey 2021

Decision Rule: 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high

Note: VHE=Very High Extent, HE= High Extent, LE= Low Extent, VLE= Very Low Extent

Table 4.5 shows the analysis of the e-readiness level of the respondents. In this study, e-readiness was measured by attitude, subjective norm, and perceived behavioral control the grand mean of 3.25 shows a high level of e-readiness among the respondents. From the analysis, it can be seen that the respondents have a positive attitude toward technology judging by the average mean (3.35), responses to the statements measuring attitude show that the respondents believe that rendering digital reference services is good for career development (3.38), enhance professional prestige (3.35) and their effectiveness as librarians (3.32). A majority also believe that DRS boosts library patronage (3.37) this is in line with other studies that have been conducted in Nigeria[10].

In addition to this, the respondents also have a strong perception that those important to the profession are in favour DRS provision (subjective norm). The average mean score of subjective

norms is (3.25) according to the analysis of individual statements under subjective norms, the respondents believes that majority of their colleagues view DRS as important (3.32), perceive digital reference service as essential in modern libraries (3.32), they also reported that their employers consider DRS as necessary (3.17) and that offering digital reference service is one of the expected duties of a modern librarian (3.28). This result also reflects the finding of previous studies which show that library managers are aware of the importance of DRS[15].

The subconstruct perceived behavioural control, which measures the perception of the respondents about their ability to render effective DRS is also significant as the average mean score is (3.15). Analysis of the individual statements regarding the perception of enabling environment (3.31), adequate facilities (3.05) confidence in the ability to render DRS (3.23), and control over every environment influence to provide digital reference service (3.00).

Overall, the average mean of the combination of attitude (3.35), subjective norms (3.25) and perceived behavioural control (3.15) is 3.25 which indicate a high degree of e-readiness among the respondents. This result is similar to what was reported in a related study focusing on the readiness of librarians in Ibadan, Nigeria for digital reference services[14].

Research Question Five: What are the challenges to digital reference service delivery in University Libraries in Oyo State?

Table 4.6: Challenges to digital reference services delivery in university libraries in Oyo state

Statement	VHE	HE	LE	VLE	Mean
Challenges					
Inadequate Information and Communication Technologies skills	10 (15.4%)	20 (30.8%)	25 (38.5%)	10 (15.4%)	2.46
Lack of Website for my library	9 (13.8%)	16 (24.6%)	23 (35.4%)	17 (26.2%)	2.26
Lack of social media networking site presence for my library	7 (10.8%)	18 (27.7%)	21 (32.3%)	19 (29.2%)	2.20
Unwillingness of reference staff to participate in digital reference services	13 (20.0%)	12 (18.5%)	20 (30.8%)	20 (30.8%)	2.28
Techno stress: working with ICT devices all day	10 (15.4%)	15 (23.1%)	24 (36.9%)	16 (24.6%)	2.29
Inadequate knowledge of online service tools, e.g., blog, email, Podcast, etc.	7 (10.9%)	19 (29.7%)	24 (37.5%)	14 (21.9%)	2.30
Inadequate reference staff	16 (24.6%)	15 (23.1%)	24 (36.9%)	10 15.4	2.57
Fear of making grammatical mistakes when relating with users	2 (3.1%)	17 (26.2%)	23 (35.4%)	23 (35.4%)	1.97
Technophobia: fear of using emerging technology	9 (13.8%)	13 (20.0%)	26 (40.0%)	17 (26.2%)	2.22
Low bandwidth	10 (15.4%)	16 (24.6%)	27 (41.5%)	12 (18.5%)	2.37
Epileptic power supply	14 (21.5%)	17 (26.2%)	19 (29.2%)	15 (23.1%)	2.46
Constant change of hardware and software	8 (12.3%)	16 (24.6%)	27 (41.5%)	14 (21.5%)	2.28
Weighted Mean					**2.31**
Grand Mean					**2.31**

Source: Field survey, 2021

Decision Rule: 1.00 – 1.49= very low, 1.50 – 2.49= low, 2.50 – 3.49 = high, 3.50-4.00= very high

Note: VHE=Very High Extent, HE= High Extent, LE= Low Extent, VLE= Very Low Extent

Table 4.6 analyses the likely challenges that can affect the provision of digital reference services in the selected libraries. The analysis shows that inadequate reference staff (2.57) is the only significant problem with all the other itemized challenges falling short of the criteria mean. Taken together the average and grand mean of all the challenges is 2.31 which is below the acceptable value. It would seem that the challenges identified here are not significant enough to affect the provision of DRS in the selected libraries. The majority of the challenges identified in this study have also been identified by other researchers[1,13,15].

4.2.2 Hypotheses

The following null hypotheses were tested at a 0.05 level

$H_0$1 There is no significant influence between institutional support on digital reference service delivery by librarians in university libraries in Oyo State.

Table 4.7: Summary of the result of the influence of institutional support on digital reference service delivery by librarians in university libraries in Oyo State, Nigeria

A. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654[a]	.427	.418	7.31345

a. Predictors: (Constant), Institutional Support

B. ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2515.883	1	2515.883	47.038	.000[b]
	Residual	3369.655	63	53.487		
	Total	5885.538	64			

a. Dependent Variable: DRS DELIVERY
b. Predictors: (Constant), Institutional Support

C. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.311	5.172		1.414	.162
	Institutional Support	1.024	.149	.654	6.858	.000

a. Dependent Variable: DRS DELIVERY

Source: Field Survey 2021

Table 4.7a-c presents the results of the regression analysis for the influence of institutional support on digital reference service delivery by librarians in university libraries in Oyo state. From the results in Table 4.7a, institutional support has a positive significant relationship with digital reference service delivery by librarians in university libraries in Oyo state, Nigeria (R = 0. 654, $p<0.05$). The coefficient of determination (Adj. R^2) of 0. 418 shows that institutional support accounts for 41.8% of the changes in digital reference service delivery by librarians in university libraries in Oyo state, Nigeria, while the remaining 58.2% variation in digital reference service delivery by librarians in university libraries in Oyo state is explained by other variables not investigated in this study.

Table 4.7b presents the results of ANOVA of the regression test which revealed that institutional support has a significant influence on digital reference service delivery by librarians in university libraries in Oyo state, Nigeria. This is explained by the F-value (47.038) and low p-value (0.000) which is statistically significant at a 95% confidence interval. Hence, the result posited that institutional support significantly influenced the digital reference service delivery by librarians in university libraries in Oyo state.

In addition, the results of regression coefficients in table 4.7c revealed that, at a 95% confidence level, a unit change in institutional support will lead to a 1.024 increase in the level of digital reference service delivery by librarians in university libraries in Oyo state, given that all other factors are held constant. On the strength of this result (Adj. R2 = 0.418, F (1, 63)= 47.038, p= 0.000), this study rejects the null hypothesis one (H01) which states that there will be no significant influence of institutional support on digital reference service delivery by librarians in university libraries in Oyo state.

$H_0$2 There will be no significant influence of the electronic readiness of librarians on digital reference service delivery by librarians in university libraries in Oyo State.

Table 4.8: Summary of the result of the influence of electronic readiness of librarians on digital reference service delivery by librarians in university libraries in Oyo State, Nigeria

a. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.414[a]	.172	.158	8.79745

a. Predictors: (Constant), E- Readiness

b. **ANOVA[a]**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1009.650	1	1009.650	13.045	.001[b]
	Residual	4875.888	63	77.395		
	Total	5885.538	64			

a. Dependent Variable: DRS DELIVERY

b. Predictors: (Constant), E- Readiness

c. Coefficients[a]

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	17.486	6.937		2.520	.014
	E-Readiness,	.634	.176	.414	3.612	.001

a. Dependent Variable: DRS DELIVERY

Source: Field Survey 2021

Table 4.8a-c presents the results of the regression analysis for the influence of the electronic readiness of librarians on digital reference service delivery by librarians in university libraries in Oyo state. From the results in Table 4.8a, the electronic readiness of librarians has a positive significant relationship with digital reference service delivery by librarians in university libraries in Oyo state, Nigeria ($R = 0.414$, $p<0.05$). The coefficient of determination (Adj. R^2) of 0. 158 shows that the electronic readiness of librarians for 15.8% of the changes in digital reference service delivery by librarians in university libraries in Oyo state, Nigeria, while the remaining

84.2% variation in digital reference service delivery by librarians in university libraries in Oyo state is explained by other variables not investigated in this study.

Table 4.8b presents the results of ANOVA of the regression test which revealed that the electronic readiness of librarians has a significant influence on digital reference service delivery by librarians in university libraries in Oyo state, Nigeria. This is explained by the F-value (13.045) and low p-value (0.001) which is statistically significant at a 95% confidence interval. Hence, the result posited that the electronic readiness of librarians significantly influenced the digital reference service delivery by librarians in university libraries in Oyo state.

In addition, the results of regression coefficients in table 4.8c, revealed that, at 95% confidence level, a unit change in institutional support will lead to a 0.634 increase in the level of digital reference service delivery by librarians in university libraries in Oyo state, given that all other factors are held constant. On the strength of this result (Adj. R2 = 0.158, F (1, 63)= 13.045, p= 0.000), this study rejects the null hypothesis two (Ho2) which states that there will be no significant influence of electronic readiness of librarians on digital reference service delivery by librarians in university libraries in Oyo state.

$H_0$3 There is no combined influence of institutional support, and electronic readiness on digital reference service delivery by librarians in university libraries in Oyo State.

Table 4.9: Summary of the result of the composite relationship of institutional support, electronic readiness on digital reference service delivery by librarians in university libraries in Oyo State

a. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.664[a]	.441	.423	7.28464

a. Predictors: (Constant), E-Readiness, Institutional Support

b. ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2595.444	2	1297.722	24.455	.000[b]
	Residual	3290.094	62	53.066		
	Total	5885.538	64			

a. Dependent Variable: DRS DELIVERY

b. Predictors: (Constant), E-Readiness, Institutional Support

c. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.779	6.343		.438	.663
	Institutional Support	.925	.169	.591	5.467	.000
	E-Readiness	.203	.165	.132	1.224	.225

a. Dependent Variable: DRS Delivery

Source: Field Survey 2021

shows the results of the analysis of the selected universities. The result yielded a coefficient of multiple regression of R=and multiple R-square of. The result also revealed that adjusted R^2=0.423. Table 4.9a-c presents the results of the multiple regression analysis for the combined influence of E-Readiness and Institutional Support on digital reference services delivery by the librarian in universities in Oyo State, Nigeria. From the results in Table 4.9a, E-Readiness and Institutional Support have a positive significant relationship with library patronage by undergraduates in private universities in Oyo State, Nigeria (R = 0. 664, $p<0.05$). The coefficient of determination (Adj. R^2) of 0.441 shows that E-Readiness and Institutional Support explain 44.1% of the variation in digital reference services delivery by librarian in universities in Oyo State, Nigeria, while the remaining 45.9% variation in digital reference services delivery by librarian in universities in Oyo State, Nigeria is explained by other variables not investigated in this study.

Table 4.9b presents the results of ANOVA of the regression test which revealed that e-Readiness and institutional support has a significant influence on digital reference services delivery by the librarian in universities in Oyo State, Nigeria. This can be explained by the F-value (24.455) and low p-value (0.000) which is statistically significant at a 95% confidence interval. Hence, the result posited that e-Readiness and institutional support significantly influenced digital reference services delivery by librarians in universities in Oyo State, Nigeria.

In addition, the results of regression coefficients in table 4.9c revealed library marketing and service quality had a significant relative effect on student library patronage. Specifically, the analysis showed that at a 95% confidence level, a unit change in institutional support for librarians will lead to a 0.925 increase in the level of digital reference services delivery by librarians in universities in Oyo State, Nigeria.

Given that all other factors are held constant. Also, at a 95% confidence level, a unit change in a unit change e-Readiness of librarians will lead to a 0.203 increase in the level of digital reference services delivery by librarian in universities in Oyo State, Nigeria given that all other factors are held constant. In addition, of the independent variables examined, institutional support has the higher relative effect on digital reference services delivery. This means that, there is a significant perceived joint influence of only institutional support on digital reference services delivery by librarians in university libraries in Oyo state. E-readiness of librarians has no significant joint contribution on the effectiveness of digital reference service delivery. It is on the strength of this result (Adj. R^2 = 0. 423, $F(2, 62)$= 24.455, p= 0.000), this study rejects the null hypothesis three ($H_0$3) which states that there will be no significant combined influence of institutional support and e-readiness on digital reference service delivery by librarians in universities in Oyo State, Nigeria. This finding is contrary to the reports of related studies where it has been implied that

the role of reference librarians is highly crucial to the effectiveness of digital reference services delivery[14,24].

4.2.3 Thematic Analysis of the Interview with Heads of Library

Table 4.10: Analysis of the interview with Heads of Library

S/N	Universities	DRS	Mode of Reference Services	Institutional Support	E-Readiness of Librarians	Challenges to DRS
1.	Ajayi Crowther, Oyo	Available	Asynchronous and synchronous	• Technical - Limited • Financial – Moderate • Emotional – High • Mentoring- High	Some staff show readiness while others do not	• Power supply
2.	Atiba University, Oyo	Available to a limited extent	Asynchronous and synchronous	• Technical - Moderate • Financial – Limited • Emotional – High • Mentoring- High	Staff are ready	• Funding • Power supply
3.	Dominican University, Ibadan.	Available to a limited extent	Asynchronous and synchronous	• Technical - Limited • Financial – Limited • Emotional – Moderate • Mentoring- High	Staff are ready	• Power supply
4.	Dominion University, Ibadan.	Available to a limited extent	Asynchronous and synchronous	• Technical - Moderate • Financial – Limited • Emotional – High • Mentoring- High	Staff are ready	• Power supply
5.	University of Ibadan.	Available	Asynchronous and synchronous	• Technical - Moderate • Financial – Moderate • Emotional – High • Mentoring- High	Staff are ready	• Internet Bandwidth • Electricity supply

S/N	Universities	DRS	Mode of Reference Services	Institutional Support	E-Readiness of Librarians	Challenges to DRS
6.	Kola Daisi University, Oyo.	Available to a limited extent	Asynchronous and synchronous	• Technical - Moderate • Financial – Moderate • Emotional – High • Mentoring- High	Staff are ready	• Internet Bandwidth • Electricity supply
7.	LAUTECH, Ogbomosho	Available to a limited extent	Asynchronous and synchronous	• Technical - Moderate • Financial – Moderate • Emotional – High • Mentoring- High	Some staff show readiness while others do not	• Poor attitude of staff to work
8.	Lead City University, Ibadan.	Available	Asynchronous and synchronous	• Technical - Moderate • Financial – Moderate • Emotional – Moderate • Mentoring- High	Some staff show readiness while others do not	• Lack of user awareness
9.	Precious Cornerstone, Ibadan	Available to a limited extent	Asynchronous and synchronous	• Technical - Moderate • Financial – Moderate • Emotional – Moderate • Mentoring- Moderate	Staff are too busy with other work	• Power supply • Low internet bandwidth • Lack of patronage • Lack of Staff
10.	First Technical University, Ibadan.	Available to a limited extent	Asynchronous and synchronous	• Technical - Moderate • Financial – Moderate • Emotional – Moderate • Mentoring- Moderate	Staff are too busy with other work	• Power supply • Low internet bandwidth • Lack of patronage • Lack of Staff

Source: Fieldwork, 2021

Thematic analysis of the interviews conducted in addition to the questionnaire administered, University Librarians of the libraries under study was also interviewed to corroborate the responses of their personnel and to get a deeper insight into the research problem. These were based on the following themes; digital reference services; mode and frequency of digital reference services; institutional support; e-readiness of librarians and challenges to digital reference services delivery.

For digital reference services, all of the university librarians disclosed that their libraries render digital reference services. However, all of them also indicated the services are not rendered fully or with the proper structure as can be seen in developed countries.

"… no library can exist without some form of digital reference services in the current era, so we can say that we render digital reference services. (UL, Lead City University). This assertion has also been echoed by other researchers in developing countries such as Zimbabwe, India, and the Philippines all of whom affirmed that digital references in one form or the other are rendered in their libraries. [8,9,10].

Also, mode and frequency of reference services the librarians interviewed reported that their library render both synchronous and asynchronous digital reference services as appropriate to any given situation and based on users' request. The frequency of rendering DRS, all the librarians indicate that, the frequency is based on demand. This means that the services are rendered as frequently as users demand for them

"…we render digital reference services whenever the users demand it." (UL, LAUTECH). This statement reflects the submission of another researcher who opined that unless librarians fully embrace digital services, the practice of librarianship may soon become extinct[11].

On institutional support, the responses of the University librarians indicate that digital reference services fit into the vision of universities to operate in an Information Technology driven environment. The librarians indicated that institutional support is mainly in form of technical support from the university management and the ICT units in the universities. However, the responses also indicate that financial support and training are not provided by university authorities. The librarians themselves are the ones taking care of each other through activities such as mentoring and emotional support. "…in terms of training, the university could do better." (UL, Ajayi Crowther University). This submission reflects the findings of scholars who examined institutional support for the deployment of ICT facilities in Nigerian academic libraries. It was found that many academic libraries are constrained by a lack of funding and relevant facilities in their quests to automate their services[10,12,14].

Moreover, the E-Readiness of the University librarians reported that attitude toward ICT use, subjective norms, and perceived behavioural control among the personnel can be rated as average. From the responses of the librarians, it can be deduced that, while the majority of librarians have embraced ICT skills, some are still yet to develop their skills to the necessary level required for digital reference services. The heads of libraries reported that some staff is ready digitally while some are not. This finding is consistent with two other studies which investigated the readiness of librarians in Nigeria and Pakistan respectively for digital reference services delivery[13,14]. In both studies, it was found that, while some librarians are embracing technology for DRS, there are still some librarians who are resistant to change.

Challenges to digital reference services it is obvious from the responses of the heads of libraries interviewed that the major challenge is power supply and internet supply. Another challenge that was not captured in the questionnaire but was identified by the heads of libraries is user apathy.

While all of the librarians made mention of internet bandwidth and power supply, some of them also mentioned the low patronage of reference services as a big problem.

"… at times the users are not even aware of the available services and this often prevents them from accessing digital reference services." (UL, Lead City University)

"…despite all our efforts to create awareness, students are still not patronizing the library services. This is worrisome to me as a librarian." (UL, Dominion University).

All the challenges cited by the university librarians interviewed are consistent with the challenges that have been identified in previous studies focusing on technology use in libraries including digital reference services[14, 28,36, 38,42].

4.3 Discussion of Findings

The analysis data in this chapter is in line with the research questions and hypotheses which have led to new findings. These findings are discussed based on the quantitative and qualitative (interview sessions with the University Librarians) aspects of the research work.

The first research question focused on identifying the mode of digital reference services in university libraries in Oyo state. The quantitative and qualitative result shows that both the synchronous and asynchronous modes of digital reference services are available in the libraries. However, quantitative detailed analysis showed that the asynchronous services are more delivered than the synchronous services. The finding from the qualitative data also supported this indicating that the services are not rendered fully or with the proper structure as can be seen in developed countries. It is apparent that Nigerian libraries are still lagging in real-time digital reference services and this is contrary to what is obtainable in other countries. These findings are also reported in other studies conducted among libraries in Nigeria and abroad[15,18,16,33].

In countries like Pakistan, libraries are already using more synchronous digital reference services. Researchers have reported that libraries provide access to online/electronic resources, OPAC websites, and DRS through websites. The library provides 24/7 DRS and places a link to DRS in a prominent place on the website[4]. This is considered highly important in the modern era. Most importantly, studies have shown that information users prefer the synchronous method and found real-time chat with librarians easiest to use and most useful among virtual reference methods[16,18,33,43]. Researchers in Nigeria have also noted that real-time interaction offered by synchronous digital reference services has become very prominent in recent years, especially with the rise of social media, which focuses on user-generated content and virtual technologies. The implementation of information and communication technology (ICT) can support and facilitate the delivery of virtual information services[12,17,42].

The second research question examined the frequency of delivering each mode of digital reference services by the libraries. The analysis of the responses revealed that e-mail services were the most frequently delivered by all the libraries. However, it was also found that some of the libraries are leveraging the power of social media to render digital reference services as shown by the use of online chat applications offered by social platforms such as Facebook, Instagram, and Twitter to connect with users[18]. The predominant usage of e-mail was also reported in another study focusing on digital reference service delivery in Nigerian academic libraries[1]. The use of e-mail in reference services is global but it is more pronounced than any other digital reference tool in developing countries. Despite the various mode embraced by the librarians the frequency is based on demand, this means that the services are rendered as frequently as users demand them according to the finding of the qualitative discussion.

This was supported by findings from Malaysian libraries where it was reported that both academic and public libraries mostly use e-mail to communicate with the library users and to render reference services[19]. This preference for e-mail which is actually among the first tools to be used in delivering digital reference services shows that there is still a lot to do in developing countries concerning digital reference services.

However, there is a better chance for libraries in Nigeria and other developing countries to leverage the availability of various open-source tools such as zoom, google classroom, chatbots, and most especially, social media applications such as YouTube, Facebook, WhatsApp, Instagram, Tik-Tok and others, to render effective and budget-friendly digital reference services[20]. All that is necessary today is the right attitude and awareness of the available low-cost tools for digital reference services by librarians.

The third research question is about the level of institutional support received by librarians in university libraries in Oyo state. The study conceptualized institutional support under four sub-constructs namely financial support, technical support, emotional support, and mentoring. This is in line with available literature showing that institutional support is multidimensional and it is important to strike a balance between each dimension to ensure that organizational objectives are achieved[21]. The result of the quantitative analysis shows that institutional support is available in the majority of the libraries with slight differences between each dimension. It was found that technical support is the most available support followed by mentoring, financial support, and emotional support in that order. The findings from qualitative study however indicate that financial support and training are not provided to the expected level by university authorities. The librarians themselves are the ones taking care of each other through activities such as mentoring and emotional support. It is instructive to note that mentoring and emotional support

is mainly left to the head of units and colleagues. The focus on technical and financial support by the management is good but relegating emotional support for the personnel may affect the quality of service delivery[22,23]. Research has established that academic librarians experience "emotional labor" which describes that a librarian in university libraries performs work involving emotional labor daily, even though the details of each person's experience differ[24]. The negative outcomes of high emotional labour can be destructive, leading to job burnout and low job satisfaction[25]. The reference librarian rendering digital reference service encounters day-to-day emotional labour due to some users' violate attitude[26].

Research question four measured the electronic readiness of librarians in university libraries in Oyo state. As conceptualized, e-readiness is a product of a combination of factors such as attitude towards technology, subjective norms, and perceived behavioural control[27]. The results show that the level of e-readiness is above average. That is to say, the majority of the librarians show a high level of e-readiness while some exhibit a low level of e-readiness. A deeper analysis shows that the attitude of the librarians (mean = 3.35) towards digital reference services, subjective norms (mean =3.25), and perceived behavioural control (mean = 3.15) are highly positive. These have combined to make up for a high level of e-readiness among librarians. the finding from the qualitative study also supports this. The librarians reported that, while the majority of librarians have embraced ICT skills, some are still yet to develop their skills to the necessary level required for digital reference services. The heads of libraries reported that some staff is ready digitally while some are not.

This finding is contrary to what was reported in another study focusing on the deployment of integrated library management systems by libraries in Oyo state where it was found that lack of ICT skills and negative attitude of librarians towards technology are among the major

impediments to effective library automation in the state[28]. Another study with a wider focus also found that the integration of technology into academic library services across Nigeria is being held back by a lack of skills and technophobia of librarians[29]. As a result, several researchers have been making recommendations on the need for librarians to improve their ICT skills[30]. However, the reports of recent studies agree with the findings of this study because it is noted that librarians are now more aware of relevant technologies and they have seen the benefits of integrating technology into library services[31]. This could therefore explain the high-level positive attitude, subjective norms, and perceived behavioural control among the respondents.

Research question five examined the challenges to digital reference services delivery in university libraries in Oyo state. It was found that the main challenge cited by the library personnel is inadequate reference staff. However, the interview with library managers indicates that other challenges that are often cited in literature such as power supply, and internet access are still significant as indicated by the response of all the heads of libraries. In addition, some library managers also identified a lack of awareness of available services and user apathy as major challenges. ICT skills as challenges have reduced the level of significance in this study. It is obvious from the responses that are still there but librarians have found innovative ways to deal with them[8,12,28]. The qualitative study confirmed these challenges and also revealed that the major challenge is power supply and internet supply. Another challenge that was not captured in the questionnaire but was identified by the heads of libraries is user apathy. Many users are either unaware or unwilling to make use of the library services available to them.

Studies have found that librarians are rapidly developing in digital skills and they are now more active in performing services such as digital reference services even with the basic infrastructures in one such study, 87.5% of librarians were computer literate and they have

acquired advanced skills in using online tools[28, 32,36,41]. In addition to the research questions, hypotheses were also tested to achieve the study objectives.

Hypothesis one measures the influence of institutional support on digital reference services delivery by librarians in university libraries in Oyo state. It was found that institutional support had a significant influence on the delivery of digital reference services. The result of the simple linear regression analysis showed that institutional support accounts for more than forty percent of the success of digital reference service delivery in the libraries studied. This finding is similar to a related study in which it was found that the provision of institutional support such as adequate funding, motivation, facilitative policy, and staff training contributed immensely to the success of the Indigenous Knowledge documentation project of libraries in Lagos State[33]. In another study, it was reported that institutional support motivates employees to do whatever they can to achieve success in the workplace[34]. Providing institution institutional support to enhance digital reference services delivery is a smart move by academic libraries as the library can only maintain its relevance through innovative services such as digital reference services. Indeed, some studies suggested that automating the reference services is a cost-saving project as it would enhance productivity and eventually prove to be cheaper in the long run[35].

Hypothesis two measured the influence of the electronic readiness of librarians on digital reference services delivery by librarians in university libraries in Oyo state. It was also found that the e-readiness of librarians had a significant influence on the delivery of digital reference services in the selected libraries. The result of the regression analysis showed that the e-readiness of librarians accounts for about seventeen percent of the success of digital reference service delivery in the libraries studied. This finding is supported by a related study conducted in

Pakistan where it was reported that library users cited the willingness to help and positive attitude of librarians as the reasons for accessing digital reference services in academic libraries.

It is also important to note the percentage contribution of e-readiness to the success of digital reference services delivery (17%) compared to that of institutional support (41%). This is noteworthy and should be considered because the implication is that, although the e-readiness of librarians is important, institutional support is even more important. There are studies where the failure of digital reference services has been blamed on librarians' attitudes but they often neglect to consider the whole picture[36,28]. Institutional support is more potent in motivating, and if necessary, forcing librarians to accept technology. This is clearly shown in the result of the combined effect of institutional support and e-readiness of librarians on digital reference services delivery.

Hypothesis three tested the composite relationship of institutional support and electronic readiness on digital reference services delivery by librarians in university libraries in Oyo state. The result showed that there is a significant perceived joint influence of only institutional support on digital reference services delivery by librarians in university libraries in Oyo state. E-readiness of librarians has no significant joint contribution. The import of this result is that when there is a clear-cut policy backed by action on the side of the management, the personnel have to comply. When libraries are determined to institute digital reference services, librarians that are not ready can be trained or replaced.

That is why institutional support includes mentoring. Mentors support and encourage their mentees by providing general and specific advice and knowledge. The goal is to help mentee improve their skills and hopefully promote their professional development[37]. In addition, on-the-job training is a component of institutional support. Researchers have mentioned training as

another dimension of institutional support of digital reference service use by the librarian. Generally, training refers to the directive in operating technical and mechanical machines/equipment. However, training for digital reference services also extends to other areas such as interpersonal communication, emotional intelligence, and others[38]. To buttress the quantitative data collected, an interview was also used to gather qualitative data from the heads of the selected libraries. The data collected further enriched the empirical data from the study questionnaire.

Triangulating the qualitative and quantitative data collected, the true picture of digital reference services delivery, the level of institutional support, and digital readiness can be seen. Both the librarians and library managers agreed on the level of digital reference services available. However, the responses of the library managers indicate that some librarians may have overrated their level of digital readiness. In addition the interview buttress the fact there are inadequate technology-literate staff for effective digital reference services

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Chapter Five

Conclusion

5.1 Summary of Findings

The findings of this study can be summarised as follows:

i. The study found that both the asynchronous and synchronous modes of digital reference services are delivered by academic libraries in Oyo state. However, asynchronous services which do not support instant interactions are more available than synchronous services which enable library users to communicate with librarians in real-time.

ii. The study also found that e-mail services are the most frequently used for digital reference services in libraries. However, it was also found that librarians are now taking advantage of social medial applications to render real-time chat services as a form of digital reference services.

iii. The study found that institutional support for digital reference services delivery is available to a moderate extent in libraries. It was found that technical support is the most significant, followed by mentoring and financial support. Emotional support was the least significant but it is also available.

iv. Evaluating the e-readiness of the librarians showed that there is a high level of e-readiness among the librarians. The study found that the librarians' attitudes, subjective norms, and perceived behavioural control towards digital reference services are highly positive.

v. It was also found that the challenges affecting the delivery of digital reference services include a lack of adequate staff, irregular power supply, and poor internet connection.

vi. The test of hypothesis one shows that institutional support has a significant effect on the delivery of digital reference services in the libraries studied.

vii. The test of hypothesis two shows that the e-readiness of librarians also has a significant effect on the delivery of digital reference services in the libraries studied.

viii. Hypothesis three which examined the influence of the e-readiness of librarians and institutional support on digital reference services delivery shows that the combination of both variables is significant. However, it was also found that only institutional support has a significant joint influence on digital reference services delivery by librarians in university libraries while the e-readiness of librarians has no significant joint contribution.

ix. The interview sessions with heads of the libraries confirmed some of the findings of the questionnaire administered to librarians. However, the interview also provided insights into some of the challenges faced in digital reference service delivery in university libraries. These include a poor attitude of staff toward technology and a lack of awareness among the users, both of which were not reflected in the quantitative report.

5.2 Conclusion

The study has shown the true state of affairs regarding the delivery of digital reference services in academic libraries in Oyo state. It is obvious that, while the libraries are offering some form of digital reference services, the services are still at the rudimentary stage. The effort to scale the

available asynchronous services to the more acceptable synchronous mode has not been widespread and formalized with most librarians deploying ad-hoc facilities and tools such as social media to render digital reference services.

However, the outlook looks promising due to the availability of institutional support and e-readiness of the librarians which are high and of significance to the rendering of digital reference services in the libraries. One key finding of this study is the role of institutional support in digital reference services delivery. It has been made obvious that a few innovative librarians are not enough to carry out a sustained successful digital reference without the support of the management.

5.3 Recommendations

In line with the findings and conclusion of this study, the following recommendations are considered relevant;

1. The libraries should leverage available open-source software relevant to the synchronous reference services delivery to keep in tune with the expectation of modern library users who are digital natives.
2. It is also important for academic libraries to improve their use of synchronous digital reference services tools. Apart from social media platforms, some chatbots can perform synchronous digital reference services with minimal involvement of users.
3. When libraries invest in digital reference services, it is equally important to put in place more robust systems and policies to cater to the emotional support needs of their personnel. This is to reduce or eliminate burnouts and stress that arise from emotional labour.

4. While librarians have demonstrated their e-readiness, it is also important to leverage this to learn about the latest development in digital reference services delivery so they can properly advise the management on where to invest and how to improve on the current level of digital reference services delivery in their libraries.
5. The identified challenges include a lack of adequate reference staff. However, with the integration of technology, all library staff can be trained to contribute to digital reference services. The queries from users are not limited to activities of the reference section so, if calls regarding information organisation are routed to, say, the cataloguer or circulation librarians, it will make up for the lack of reference staff.
6. Other major challenges expressed are irregular power supply and poor internet connection. For better improvement and consistency in rendering digital reference, there must be a provision of alternative power supply attached to the university library like inverter, solar energy, heavy power bank, etc. Also, the management can subscribe to more than one internet provider to guide against fluctuating networks**.**
7. Management should articulate an effective digital reference services policy capable of maximizing the potential of each librarian toward the delivery of the most effective and sophisticated digital reference services.
8. In addition, the existing institutional support, particularly financial support should be maintained and gradually increased to allow for the expansion of existing digital reference services.
9. Library managers should find innovative strategies to deal with various challenges affecting the effectiveness of DRS delivery as it seems that the challenges listed are those that have been facing libraries since decades ago.

10. Library managers should put more effort into motivating their employees and also devises effective strategies to promote awareness of available digital reference services in their libraries.

5.4 Contribution to Knowledge

This study has made significant contributions to practice, theory, and policy making in librarianship as well as contributed to the wider society. The focus of the study on digital reference services has contributed to the practice of librarianship because its findings and recommendations would serve to improve the delivery of digital reference services, not only in university libraries but also in other types of libraries. The study has also contributed to the theory of libraries through the integration of diverse theories into librarianship research. The study adopted a model of institutional support originally designed for the educational sector to examine institutional support for digital reference services in university libraries. The validation of this model in librarianship has opened the way for other scholars to adopt and adapt the model for future studies in librarianship.

It has also contributed to policy making academic libraries by clearly outlining the scope of digital reference service and related issues to the effectiveness of digital reference service delivery in the university library. This knowledge is expected to guide policymakers when dealing with the implementation, reformation, or upgrading of digital reference services in their respective libraries. Last but not the least, by expanding knowledge in the area of digital reference services delivery and helping to stimulate effective digital reference services in university libraries, the study has also made a useful contribution to society.

University libraries are designed to serve specific societies that rely on them for effective information services. When university libraries can raise their level of digital reference service delivery, it will greatly enhance the ability of members of society to access needed information and use such information to create more knowledge that can also contribute to societal development.

5.5 Suggested Areas of Further Research

The current study is based on academic libraries in Oyo state. However, it leaves the door open for further studies. For instance, the current study would have been more enriched by making real-time observations of the librarians providing reference services.

1. This would have provided more qualitative data to triangulate the quantitative data on which the study is based.
2. In addition, further studies can also conduct a comparative study based on the level of institutional support available to each library or group of libraries.
3. Researchers can conduct a comparative study between public and private universities.
4. This study can further be expanded to cover other states or regions of Nigeria. Including more universities would make the findings more generalizable.

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Appendix

Questionnaire
Institutional Support, E-Readiness and Digital Reference Service Delivery by Librarians in University Libraries, Oyo State
(ISERDRSD)

Dear Respondent,

I am a Master degree student of the above named Department, currently working on digital reference service delivery in university libraries, Oyo State, Nigeria. This questionnaire is designed to elicit information on the topic for the research work. I crave your indulgence in filling of this questionnaire to the best of your ability. The rationale for the questionnaire is strictly for academic purpose only. Thanks for your anticipated cooperation.

Yours faithfully,

AFOLABI, Toyosi

Section A: Demographic Factors:

2 Name of University Library:_____
3 Position:_____
4 Years of Experience: 1-5 ( ), 6-10 ( ), 11-15 ( ), 16-20 ( ) 21-25 ( ).
5 Gender: Male ( ) Female ( )
6 Age bracket, 20-24 ( ), 25-29 ( ), 30-34 ( ), 35-39 ( ), 40-44 ( ), 45-50 ( ), 51-above ( )

Section B: Digital Reference Services Delivery

6. What is the mode for delivering digital reference services in university libraries in Oyo state?

Instruction: Please indicate the degree of your agreement with each statement.
Key: Very high extent (4), High Extent (3), Low Extent (2), Very Low Extent (1)

S/No	Item	Very High	High Extent	Low Extent	Very Low

		Extent 4	3	2	Extent 1
	Synchronous mode of digital reference delivery				
1.	Real time chat is used to provides digital reference service in my library				
2.	Library social network (facebook, instagram and twitter) is used to provides digital reference service in my library				
3.	My library provides digital reference service through voice over internet protocol(VOIP)				
4.	We provides information in my library through video conference calls				
	Asynchronous mode of digital reference delivery				
5.	Email is used to provides digital reference service in my library				
6.	My library uses web form for library reference services				
7.	We entertain users' queries through frequently Asked question				
8.	We provides answer to query through the university email				

7. How frequent do you delivered digital reference services through following modes in university libraries in Oyo-state?

Instruction: Please indicate the degree of your agreement with each statement.
Key: Monthly (4), Weekly (3), Daily (2), Never use (1)

S/No	Item	Monthly 4	Weekly 3	Daily 2	Never Use 1
	I deliver digital reference services through				
1.	Phone call (Voice Over Internet Protocol)				

2.	Library social networking sites (facebook, instagram and twitter)				
3.	Real time chat /instant messages services				
4.	Video conferencing or Webcam Services				
5.	Email Services				
6.	Web Form (filling of online forms on the library website)				
7.	Library website "Frequently Asked questions"				

Section C: Institutional Support

8. What is the level of institutional supports in university libraries in Oyo state?

Instruction: Please indicate the degree of your agreement with each statement.
Key: Very high extent (4), High Extent (3), Low Extent (2), Very Low Extent (1)

S/No	Items	Very High Extent 4	High Extent 3	Low Extent 2	Very Low Extent 1
	Technical Support				
1.	My institution provides personal desktop and laptop computers to support digital reference services				
2.	My institution provides adequate support on using social network (facebook, instagram and twitter) for digital reference services				
3.	There is adequate provision for internet connectivity for the library to deliver digital reference services within and off campus				
	Financial Support				
4.	My institution provides adequate fund to support digital reference services				
5.	There is enough fund for continuous training/ development for librarians responsible for digital reference services in my institution				
6.	My library always provides financial supports for system upgrades and innovations in digital reference services.				
	Emotional and Moral Support				
7.	I usually receive emotional and moral support from library management to deliver digital reference				

	services				
8.	I find it difficult to render digital reference services due to lack of support from my superiors				
9.	My colleagues often support me to deal with rude and unruly users during digital reference services provision.				
	Mentoring Support				
10	My Institution has instituted mentoring programmes to support librarians in delivering digital reference services				
11	My head of units do mentor me on how go about digital reference services				
12	Experienced library staff are always available to mentor others on digital reference section day-to-day activities				

Section D: E-Readiness

9. What is level of electronic readiness of librarians in university libraries in Oyo state?

Instruction: Please indicate the degree of your agreement with each statement.
Key: Very high extent (4), High Extent (3), Low Extent (2), Very Low Extent (1)

S/No	Items	Very High Extent 4	High Extent 3	Low Extent 2	Very Low Extent 1
	Attitude				
1.	Rendering Digital reference service enhance my professional prestige				
2.	Rendering Digital reference service is good for my career development				
3.	Rendering Digital reference service contribute to my effectiveness as a librarian				
4.	Digital reference service encourages more users to use library resources				
	Subjective norms				
5.	My employer think that digital reference service is necessary				
6.	My colleagues perceive digital reference service as essential in modern libraries				

7.	Majority of librarians agree that digital reference service is important				
8.	Offering digital reference service is one of the expected duties of a modern librarian				
	Perceived behavioral control				
9.	My library provides enabling environment for digital reference service				
10.	The available facilities encourage me to provide digital reference service				
11.	I am highly confident that I can provide effective digital reference service				
12.	I have control over every environment influence to provide digital reference service				

Section E: Challenges

10. What are the challenges to digital reference services delivery in university libraries in Oyo state?

Instruction: Please indicate the degree of your agreement with each statement.
Key: Very high extent (4), High Extent (3), Low Extent (2), Very Low Extent (1)

S/No	Item	Very High Extent 4	High Extent 3	Low Extent 2	Very Low Extent 1
	Challenges				
1.	Inadequate Information and Communication Technologies skills				
2.	Lack of Website for my library				
3.	Lack of social media networking site presence for my library				
4.	Unwillingness of reference staff to participate in digital reference services				
5.	Techno stress: working with ICT devices all day				
6.	Inadequate knowledge of online service tools, e.g., blog, email, Podcast, etc.				
7.	Inadequate reference staff				
8.	Fear of making grammatical mistakes when relating with users				

9.	Technophobia: fear of using emerging technology				
10	Low bandwidth				
11	Epileptic power supply				
12	Constant change of hardware and software				

Interview Schedule for University Librarian or Head of Unit

- Did you render digital reference services delivery in your university library in Oyo State?
- What type of digital reference services do you delivered?
- What is the mode for delivering digital reference services in university libraries in Oyo state?
- How frequent do your staff delivered digital reference services through following modes in university libraries in Oyo-state?
    - Phone call (Voice Over Internet Protocol)
    - Library social networking sites (facebook, instagram and twitter)
    - Real time chat /instant messages services
    - Video conferencing or Webcam Services
    - Email Services
    - Web Form (filling of online forms on the library website)
    - Library website "Frequently Asked questions"
- What is the level of institutional supports for digital reference service in your university library in Oyo state?
    - Technical Support
    - Financial Support
    - Emotional and Moral Support
    - Mentoring Support
- What is level of electronic readiness of librarians in your university library in Oyo state?
    - Attitude
    - Subjective Norms
    - Perceived Behaviour control

- What are the challenges to digital reference services delivery in your university library in Oyo state?

Bio-data

Personal Data

Full Name:	Toyosi Rachael AFOLABI
Sex:	Female
Date of Birth:	28th March, 1984
Place of Birth:	Ile-Ife, Osun State

Nationality: Nigerian

Language: English

Marital Status: Married

Name of Next of Kin: Mr Oluranti John AFOLABI

Address of Next of Kin: SW9/388C, Adebike Street Fatimo, Odo-ona, Ibadan.

Postal Address: P.M.B 5382, NACGRAB Moor Plantation, Ibadan, Oyo State

Cell no: +234800165096; +2349057158754

Email: toyosiafolabi2000@gmail.com

Educational Background

- Masters in library and information science, Lead City University, Ibadan Nigeria. 2019-2022
- Bachelor in Library and Information Science, Lead City University, Ibadan Nigeria. 2016-2018
- PGD in Computer Science, Ladoke Akintola University of Technology, Ogbomoso, Nigeria. 2013-2015
- HND in Computer Science, Osun State Polytechnic Ire, Osun-State, Nigeria. 2006-2008.
- Diploma in Law, Lead City University, Ibadan Nigeria. 2014-2015
- WASSCE (Sciences), Ifewara High School, Ifewara, Nigeria.2013
- WASSCE (Sciences), Akinyemi Memorial Grammar School, Ifewara, Nigeria. 2003.

Professional Certifications

- Web design with xhtml & dreamweaver CS6 (No. NHN) 19094
- Comptia Project Management (No. NHN) 32726

Awards and Fellowship

Anglican Coppers Fellowship, Kwara Acknowledgement of services

Date: 2009-2010

Other Work Experience

Professional Solution Limited, Ilesa, Osun State, 2004-2005

Database Personnel

Duties & Responsibilities:

- Support and provide superior service to our high-value data customers.
- Troubleshoot data problems with database applications.
- Software testing.
- Maintain and improve quality results by following standards and guidelines; and continually analyze our processes with a view to recommending improved processes.
- Registration and resolution of customer complaints; Report issues appropriately and follow up with appropriate personnel to ensure appropriate resolution.
- Support integration, transformation, and translation strategies for new and existing knowledge content and data sources.
- Prepare/compile agreed periodic performance and activity reports for direct attention management.
- Perform any other duties assigned by superiors.

Sunshine Computer Enterprise, Ire, Osun State Nigeria 2006 –2007

Computer Instructor

Duties & Responsibilities:

- Involved in training and tutoring learners.
- Data analysis.
- Reporting findings on learners related artificial intelligence.
- Processing and examining raw data into reports for the attention of the research manager.

OKC International College, Ilorin Kwara State, Nigeria 2009-2010
Computer Instructor

Duties & Responsibilities:

Tutoring pupils on computer usage

Research Interests

- Knowledge Management
- Digitalization
- IT Adoption and Use

Publications

1. Theses/ Dissertations

Information Literacy Skills and Availability of Information Resources as Factors Influencing Research Productivity of Academic Staff of Lead City University

Computerized Cooperative Society Registration Administration and Management (A case study of Ayedire local government staff cooperative investment and credit union society) (HND Thesis) 2008

Computerization of Library Management System (A case study of Osun State College of Technology, Esa Oke) (OND Thesis) 2004

11. Published Article

Afolabi, Toyosi Mrs. and Oladokun, Taofeek Abiodun Mr., "Information Literacy Skills, Availability of Information Resources as Factors Influencing Research Productivity of Academic Staff of Lead City University, Nigeria." (2020). Library Philosophy and Practice (e-journal). 4165. *https://digitalcommons.unl.edu/libphilprac/4165*

Conference and Attended with Dates

- ❖ Training on CDS/ISIS library software at University College Hospital (UCH), medical Library July-September, 2010
- ❖ Library Staff Development Course organized by Lead City University, Ibadan. July 2010
- ❖ Professional Solution Limited by the Organization. 2005

Extra-Curricular Activities:

Reading, Dancing, Music and Travelling

Skills/Strengths/Competency:

- *Software:*

MySQL,

- *Platforms:*

- Windows Operating Systems, Microsoft Office Suite

Inquiry:

- Project Management, Teamwork, Strategy and Planning, Coordination

Personal qualities:

- Leadership
- Proactive and creative
- Attention to detail
- Effective communication skills, both written and verbal
- Team player Results oriented

- Strong work ethic Responsibility
- Innovation and creativity
- Ability to work independently
- High degree of initiative and sense of quality
- Management time and resources

Data Analysis

- SPSS

References:

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Lead City University, Ibadan, Nigeria
Telephone number: +234 (0)7069436535

Mr Oladoye Femi
Consultant of Information and Technology
Osunn State Polytechnic, Ire, Osun State, Nigeria
Telephone number: +234 (0)8032126025

Signature	**Date**

University Compliance Certification

This is to certify that this thesis by Toyosi Rachael Afolabi with Matric No LCU/PG/001283 in the Department of Information Management, Lead City University, Ibadan, is in FULL compliance with the approved university format and style.

Signature	**Date**