

Chapter One

Introduction

1.1. Background to the Study

Libraries, being service-oriented institutions, prioritize the provision of outstanding services to their customers in order to establish themselves as academic and research hubs of great quality. This include the provision of many services such as facilitating access to a wide-ranging assortment of resources, offering interlibrary loan services, providing aid with reference and research inquiries, delivering teaching on information literacy, and furnishing collaboration spaces, among other offerings. Research libraries are institutions that have a specialized focus on facilitating access to a wide range of research materials and resources, with the primary objective of supporting academic and scientific endeavors. Libraries of this nature generally house comprehensive assortments of books, journals, manuscripts, archives, maps, and other pertinent resources that are indispensable for scholarly investigation within a specific field or subject domain. Research libraries play a critical role in supporting academic research, teaching, and learning. They provide access to primary and secondary source materials, data sets, and other resources that are not readily available through other channels. Research libraries also offer a wide range of services and support to help scholars and researchers navigate the complex landscape of scholarly information and communication.

Research libraries are at the forefront of knowledge dissemination and preservation, acting as a vital bridge between researchers and information resources. These libraries not only serve as repositories of published works but also provide access to specialized databases, archives, and research tools. Their role in facilitating research,

promoting intellectual growth, and fostering a vibrant academic environment cannot be overstated. Research libraries are essential repositories of knowledge and intellectual exploration. Serving as havens for scholars, students, and curious minds alike, these institutions house a vast and diverse array of resources that span the realms of human understanding. From meticulously preserved manuscripts and centuries-old texts to modern digital archives and databases, research libraries offer an unparalleled opportunity to delve into the annals of history, science, literature, and more. These libraries not only facilitate the discovery of information but also foster an environment conducive to in-depth investigation and critical analysis. With their knowledgeable staff, state-of-the-art facilities, and a commitment to preserving cultural heritage, research libraries stand as beacons of enlightenment, enabling individuals to unlock the mysteries of the past, engage with the present, and shape the future through the power of information¹.

In addition to their traditional functions of collecting, cataloguing, and providing access to materials, research libraries are increasingly involved in the creation and dissemination of scholarly information. Many research libraries are actively engaged in digitization initiatives, scholarly publishing, and open access initiatives to make scholarly resources more widely available. Agricultural research institutes are specialized organizations dedicated to advancing knowledge and innovation in the field of agriculture. These institutes play a crucial role in improving agricultural practices, increasing crop yields, enhancing livestock production, and developing sustainable farming methods. Their primary mission is to address the challenges faced by the agriculture sector, promote food security, and contribute to the overall economic and environmental well-being of a region or country².

Quality of service refers to the degree to which provided resources and services live up to users' expectations and impressions of those resources and service. Library services encompass a wide range of offerings and support provided by libraries to their patrons, which can include students, researchers, and the general public. These services are designed to facilitate access to information, promote learning, and assist users in their research and educational pursuits.

Services are the work done by one (librarian) to serve users (library patrons), and resources are the information sources used to provide those services. A lack of either can have negative effects on the other. A library's service quality can be gauged by looking at how well it meets the needs of its patrons in areas such as its collection (both online and in print), internet access, website, book arrangement, reference services, document delivery service, Online Public Access catalogues, well-ventilated reading areas, convenient hours of operation, literature searches, circulation services, and current awareness programs.

In the modern information age, librarians' efforts in terms of timeliness, reliability, assurance, and empathy are crucial to keeping these services and resources operational. Librarians help patrons make the most of the library's resources and services by pointing them in the right direction. As a result, many researches have claimed that librarians can improve users' ability to find specific information in libraries. Therefore, it is argued that librarians put extra effort into providing high-quality services to customers during the learning process and always seek out new ways to improve library services³.

Service quality refers to the perception of users regarding the excellence or superiority of the services provided by an organization. In the context of research libraries,

service quality encompasses a wide range of factors such as accessibility, responsiveness, resource availability, staff competence, and user satisfaction. Therefore, ensuring high service quality is crucial for maintaining user loyalty, attracting new users, and positioning research libraries as indispensable assets within the research community⁴. Service quality is a critical aspect of any service industry, including libraries. The quality of service provided by librarians can have a significant impact on the satisfaction and overall experience of library patrons, as well as the reputation and effectiveness of the library as a whole. Different scholars have tried to explain the various aspects of service quality as they pertain to librarians, including the importance of knowledge and expertise, communication skills, and responsiveness to patron needs.

It is the distinction between how customers perceive or anticipate the services that service firms adopting the confirmation/disconfirmation paradigm will provide⁵. In the meanwhile, one could think about expectations in terms of what a service would provide. Over many years, various industries, including the banking sector, education, credit card businesses, and telecommunications corporations, have examined service quality on a global scale. The findings demonstrated that each aspect of service quality has its own distinctive characteristics, including dependability, responsiveness, competence, understanding, courtesies, communication, access, security, trustworthiness, and tangibility⁶. These ten factors were further assessed and reduced to five factors: tangibility, dependability, responsiveness, assurance, and empathy. It was given the name servqual scale for evaluating service quality when these new dimensions were established⁷. It is from these that the LibQual model was developed.

LibQual model was a modified and refined form in the context of library as servqual five dimensions- reliability, responsiveness, tangibility, assurance and empathy were

termed not suitable in library context⁷. Originally, LibQual has three dimensions from which library service quality can be understudied namely, library as a place, information control, and affect of service. Library as a place being the second dimension of libqual model refers to the appearance of the physical surroundings and facilities, equipment, professional and the way of communication as well as manner of approach and curtsey. In other words, the tangible dimension is about creating first hand impressions. A library and librarians should want all their users to get a unique positive and never forgetting first hand impression, this would make them more likely to return in the future. Library as a place refers to the physical traits, the physical environment, conduciveness, librarian's mannerism, ventilation, and some other tangibles of the library that is able to instil a sense of loyalty into the patron. Collectively, all the dimension plays a significant role in measuring service quality of libraries as a service-oriented institution. A study found that what the library has and how the library look affects customer satisfaction, followed by responsiveness and assurance moderately affect customer satisfaction which as generally agreed to be the yardstick for a quality service⁷. This means that library must pay attention to its look and aesthetic appearance inside and outside and even online.

Additionally, information control as a measure of libqual measures how users want to interact with the modern library and include scope, timeliness and convenience, ease of navigation, modern equipment and self-reliance while using the library. It is the degree at which users can conveniently access the library both the physical and the digital library. This dimension of libqual assesses the adequacy and accessibility of the library's collection, it explores users' perceptions of the variety and relevance of resources available, as well as their ease of use and availability⁸

Affect of service deals with the skill and disposition of librarians in providing for patron needs¹Affect of service connotes librarian's degree of responsiveness, reliability, assurance and empathy in rendering services to library users. Responses to patron needs is an important aspect of service quality for librarians. Librarians should be available to assist patrons during regular library hours, and should be willing and able to go above and beyond to help patrons find the information they need. This may include staying late or coming in early to assist patrons, or providing additional resources or assistance beyond what is typically offered. Librarians should also be able to anticipate patron needs and proactively offer assistance and resources⁷. For librarians, responsiveness means being available to answer users' questions and resolve their problems quickly⁸. Librarians put in a lot of time and energy to make the library a welcoming and comfortable space where patrons can find the information they need. studies identified users' satisfaction based on such responsiveness, along with other service quality dimensions, suggesting librarians should take users' needs seriously and provide prompt and sufficient feedback on every query in a timely manner⁹.

A study investigated student expectations for service quality at the University Library of Punjab in India. The study found that the students' expectations were significantly higher than students' actual experiences. They also found that patrons liked the responses of librarians than any others aspect of library services³. Explicitly, the study affirmed that what the student expected to meet from the library did not commiserate their experience. However, the students were very happy with the affective aspect of library services.

Based on the credibility, perceived wholeness and the wide coverage of the libqual model, the quality of service which is the dependent variable of this study is measured

by the trio of the dimension of libqual model²⁶. From literature reviewed it was found that few studies have been carried out on service quality of research libraries compared with academic libraries and the dwindling quality of service has resulted into low patronage of research libraries. Furthermore, Observation has shown that most libraries in Nigeria lack the required library services, facilities and resources to satisfy users' needs; hence, they cannot effectively promote successful research. For instance, a study found that student's overall perception of service quality was low²⁹. Researchers in a bid to solve this problem has studied several factors that might cause poor services among libraries and librarians. This study therefore, look into the duo of information & communication technology skills and continuous professional development.

Continuous Professional Development Technique (CPDT) refers to the ongoing process of improving the knowledge, skills, and abilities of employees in order to enhance their performance and productivity, as well as their overall career development. CPDT can take many forms, including formal training programs, mentoring, job rotation, and on-the-job learning experiences²¹.

One key benefit of CPDT is that it helps to ensure that employees have the knowledge and skills they need to perform their jobs effectively. This can lead to improved job performance, which can in turn lead to increased productivity and profitability for the organization. Additionally, CPDT can help to retain employees by providing them with opportunities for career development, which can make them feel more fulfilled and satisfied in their jobs. However, CPDT also has its own challenges. One of the main challenges is that it requires a significant investment of time and resources, both from the organization and the employees themselves. Additionally, it can be difficult to measure the Return On Investment (ROI) of CPDT, which can make it challenging

to justify the investment to upper management²⁴. Another important aspect of CPDT is measurement and evaluation. It is important to establish a system to measure the effectiveness of CPDT programs and evaluate the impact of the training on employee performance and productivity. This can help libraries to identify areas that need improvement, and make adjustments to their CPDT programs as needed²¹.

The world is changing, information services are becoming more dynamic as the emergence of Information and communication technology has greatly influenced the mode of operations of librarians not leaving research libraries and librarians in research libraries isolated. Librarians in a quest to stay relevant must embrace the concept of continuous professional development in order. Librarians cannot afford to remain static, there is need to keep pace with trends. Therefore, librarians must be interested in learning new things as well as new way of doing things. Learning generally has been under-studied by different scholars and it has been adjudged an endless endeavour as it is a continuous one. Looking at CPDT generally, different models have been used to delineate and measure CPDT from different professions especially the teaching profession²⁰.

However, according to Social Learning Theory, learning best takes place in social context through observation, imitation and modelling. This means that learning could be conscious and deliberate. Learning is the procedure by which a person's personality is transformed, and this transformation takes the form of a rise in the level of skill, knowledge, attitude, habit, comprehension, ability to think critically, etc. Incorporating fun activities that teach kids new skills into the curriculum is one way to keep pupils engaged and enthusiastic about school. This type of learning activity has to bridge the gap between the learner's existing knowledge and their own original

creations. Albert Bandura is a well-known psychologist who specializes in the study of learning.

Albert Bandura stresses the significance of emulating the actions, thoughts, and feelings of others through observation, modelling, and imitation. The interplay between people's natural environments and their own minds is central to the "social learning theory." In the theory of social learning developed by Albert Bandura, the learner is encouraged to construct his or her own understanding based on observations of others and the world around them²². More so, the theory is based on the idea that individuals learn from interactions with others in a social setting. In any case, by observing the behaviour of others develop similar behaviours. After observing the behaviour of others, people assimilate and mimic the behaviour, especially when their observational experience is positive or include rewards associated with observed behaviours

However, looking at the importance of Continuous Professional Development Technique of librarians in research libraries, professional development otherwise known as learning, is the decision made by librarians to foster their professional capabilities by engaging in whether in-house or off-shore training as far as the profession is concerned. To measure the rationale behind librarian's embrace of Continuous Professional Development Technique, the researcher decides to use one of the three constructs of social learning theory called observational learning²². The second measure (training) was chosen from literature^{20 27}. Observational learning is the type of learning that takes place while observing another person. It is a situation whereby a young and new librarian in the profession is attached to a senior or more experience or knowledgeable library staff with the purpose of learning professional skills.

As regards training, in contemporary business practices, the inclusion of comprehensive training programs has become an essential component of organizational policies. This is mostly due to the recognition that enhancing the skills and capabilities of the workforce is a crucial means of attaining a competitive advantage in the dynamic corporate landscape. Training, whether conducted in a classroom setting or through experiential methods, facilitates the learning process, enabling organizations to enhance the abilities of their staff^{20 27}. The author measured Continuous Professional Development with the trio of areas of need for training which are information technology, management/leadership, communication skills and subject domain knowledge; training methods which includes, practical work, lecture/discussion and Exercises; and the need for Continuous Professional Development which includes knowledge, skills and attitude^{28 27}.

The dynamic nature of management and leadership styles, communication channels, domain/subject expertise, and other influential elements contribute to the motivation of the Library and Information Science (LIS) community to adapt to evolving circumstances. The discussion surrounding the importance of ongoing education in the field of librarianship has been influenced by several additional factors. These include the exponential expansion of knowledge, the societal demands placed on a highly educated population, the integration of new technologies within library settings, the implementation of outreach initiatives to engage new demographics of library users, and the evolving trends in library services^{20 27}.

CPDT can bring many benefits to the library but it also requires a significant investment of time and resources. Therefore, CPDT needs to be planned and implemented strategically, regularly measure and evaluate its effectiveness, and encourage librarians to take ownership of their own development. Continuous

Professional Development Technique (CPDT) of librarian in the digital era is not complete as a matter of fact, the major Professional development in this era borders majorly on Information and Communication Technology skills which has been regarded as the survival skill for the 21st century. Moreover, library being a growing organism, is assumed that librarians need also to grow in their skills to meet the need of the changing world. This therefore calls for the necessity of continuous professional development in the area of Information and Communication Technology.

Information and Communication Technology (ICT) with so many nomenclatures, like computer literacy skills, digital literacy skills, Information technology skills, media literacy skills and so on is one of the independent variables of this study and it has become increasingly important for librarians as technology continues to play a larger role in the field of library and information science. Librarians are now expected to have a basic understanding of various ICT tools and technologies, as well as the ability to use them effectively in order to provide the best possible service to their patrons thereby enhancing and facilitating quality library services.

One of the most important ICT skills that librarians should possess is proficiency in the use of library management systems and the digital dynamics of both resources and services²⁸. These systems are used to catalogue, track, and manage the library's collection of books, periodicals, and other materials. Librarians need to be able to use these systems to search for and retrieve information, as well as to update and maintain the library's collection. Additionally, librarians should be able to use these systems to track the borrowing and returning of materials, as well as to generate reports on circulation statistics and reach out to various users who are scatter all over without a physical contact¹³. Another important ICT skill that librarians should possess is

proficiency in the use of digital tools and resources. These include tools such as databases, e-books, and digital archives.

Librarians should be able to use these tools to search for and retrieve information, as well as to provide access to digital resources to patrons. Additionally, librarians should be familiar with the various formats and platforms that are used for digital resources, such as Portable Document Format (PDF), Electronic Publication (EPUB), and Hypertext Markup Language (HTML). Librarians also need to have strong computer skills in order to be able to use the various software applications that are required to perform their duties. This includes word processing, spreadsheet, and presentation software, as well as email, internet browsers, and social media platforms. Librarians should be able to use these applications to create and edit documents, spreadsheets, and presentations, as well as to communicate with patrons and other Professionals in the field¹³.

Finally, librarians should be proficient in the use of web design and development tools. This includes the ability to create, design and maintain websites, and to use web analytics tools to evaluate website traffic and performance. Librarians should also be familiar with the various web development languages such as HTML, CSS, and JavaScript.

ICT skills is demonstrated by the ability of research libraries librarians to use general ICT-based devices, applications, software and services as required; use basic productivity software, spreadsheets, and writing/presentation software; use a web browser and web services, use digital capture devices such as a camera, audio recorder and associated editing software; use institutional systems such as catalogues, data records, and use communication tools such as email, messaging, video, chat,

sharing services. It also includes ability to learn from mistakes in the use of ICT, fix problems; stay up to date with ICT as it evolves; adopt new systems, applications and approaches into practice¹³. The combination of skills that make up Information and Communication Technology ICT skills set include, Digital literacy skills, information literacy skill, and media literacy skills. There have been little or no attempt by scholars to evaluate the level of these skills with respect to how it affects service quality of librarians in research libraries.

Digital literacy refers to an individual's ability to find, evaluate, and communicate information through typing and other media on various digital platforms. It is evaluated by an individual's grammar, composition, typing skills and ability to produce text, images, audio, video and designs using ICT innovations. Otherwise known as digital content creation is the ability to create, edit and improve digital content and abide by licensing and copyright, or to revise and integrate information and provide instructions to a computer system or device¹⁵.

Information literacy skill include the ability to find, evaluate, manage, create, organise and share digital information. It also involves the ability to map and evaluate the information landscape, select and use a wide range of resource discovery tools and approaches; identify and use specialist sources of information such as portals, catalogues, gateways, archives, datasets¹³. Media literacy is more specific. It encompasses the ability to critically read, interpret and respond to messages in a range of digital media – text, graphical, video, animation and simulation, audio, data visualisation, presentations, wiki/blog articles. A media literate individual is also expected to be able to choose and use media resources to express ideas with an awareness of design, audience, impact. Media literacy also include being aware of and acknowledging the source of digital information retrieved from the internet in

whatever medium it is communicated¹⁵. The combination of these three skills are a compression of the European Initiatives Digital Competence Framework which makes up Information and Communication Technology skills (ICT) as far as this study is concerned and they are all necessary in this information driven society for effective Professional practices as far as librarianship is concern¹⁵. Any shortcoming in these skills will result in a deficient librarian thus drastically and negatively influence the quality of services rendered to the digital inclined library users.

In conclusion, librarians need to have strong ICT skills in order to be able to provide the best possible service to their patrons. These skills include proficiency in the use of library management systems, digital tools and resources, computer software applications, and web design and development tools. Librarians who possess these skills will be well-equipped to meet the demands of the modern library and information science field. More so is the need for continuous Professional development. Librarianship is by implication of the five laws of library a growing profession where a staff is not expected to be stagnant in amassing relevant knowledge to always bridge knowledge in gap whenever it is noticed all in the quest for providing quality, timely, precise and cutting edge services as any shortcoming will result in disaster. It is view of this that the study sets out to investigate the quality of services rendered by librarians in research libraries in Oyo state as an implication to the degree of Professional development and Information and Communication Technological skills of librarians.

1.2. Statement of the Problem

Agriculture Research Institutes are research based institutions that exist to meet the information needs of agricultural researchers. Their information needs are met

basically by rendering service quality. Consequently, there is the need for a continuous check on how librarians are rendering quality service to these researchers to give them the gratifying experience they desire and to meet their information needs and expectations. However, extant literature reviewed revealed that there exists a deficiency of empirical studies on the usage of quality service assessment tools with which to ascertain how librarians in Agricultural Research Institute render service quality to their users.

The preliminary investigation and observation revealed that most of the Agriculture Research Institutes in Ibadan, Oyo State scarcely inquire about their users' feedback in determining whether their expectations are met in a bid to deliver quality services. Hence, there could be a wide gap between the required expectations of the users in research institute and the kind of service being rendered. Thus, librarians in these Agricultural Research Institute are saddled with the responsibility of delivering quality services and the quality service is challenged by inadequate continuous professional development techniques such as observational learning, trainings, seminars, workshops, conferences among others and Information and Communication Technology skills such as digital literacy skills, media literacy skills, and information literacy skills.

Interactions with some librarians in Agricultural Research Institute in Ibadan revealed that majority of them do not frequently go for any professional development programme and refresher courses on the acquisition of ICT skills that could enhance efficient service quality. In other words, low level of continuous professional development technique and ICT skills have resulted to an unimpressive services being rendered and the manner in which services are rendered with a negative advert effect on the service quality. Therefore, it is against these established information that this

investigated the influence of continuous professional development technique, Information and Communication Technology skills on service quality of librarians in Agricultural Research Institutes, Ibadan, Oyo State, Nigeria.

1.3. Aim and Objectives of the Study

The study investigated the influence of Continuous Professional Development Technique, ICT skills and Service Quality of Librarians in Agricultural Research Institute, Oyo state, Nigeria. The specific objectives are to:

- i. identify the level of service quality of librarians in agricultural research institutes, Ibadan, Oyo State, Nigeria
- ii. identify the dominant continuous professional development techniques of librarians in agricultural research institute, Ibadan Oyo State, Nigeria
- iii. determine the level of information and communication technology skills of librarians in agricultural research institute, Oyo State, Nigeria
- iv. determine the relationship between continuous professional development technique and service quality of librarians in agricultural research institute, Ibadan, Oyo State, Nigeria
- v. ascertain the relationship between information and communication technology skills and service quality of librarian in agricultural research institutes, Oyo State, Nigeria

1.4. Research Questions

The study provided answers to the following research questions

1. What is the level of service quality of librarians in agricultural research institutes, Ibadan, Oyo State, Nigeria?

2. What is the dominant continuous professional development technique of librarians in agricultural research institutes, Ibadan, Oyo State, Nigeria?
3. What is the level of information and communication technology skills of librarians in agricultural research institutes, Ibadan, Oyo State, Nigeria?

1.5. Hypotheses

H₀₁: There will be no significant relationship between continuous professional development technique and service quality of librarians in agricultural research institutes, Oyo State, Nigeria

H₀₂: There will be no significant relationship between information and communication technology skill and service quality of librarians in agricultural research institutes, Oyo State, Nigeria.

H₀₃: There will be no significant joint influence of continuous professional development techniques and information and communication technology skills on service quality of librarians in agricultural research institutes, Oyo State, Nigeria

1.6. Significance of the Study

The study will be of significant to different category of stakeholders namely, Management of Agricultural Research Institutes, Librarians in research institutes, researchers, and body of Knowledge.

The study on Continuous Professional Development Technique, Information and Communication Technological skills, and Service Quality of librarians holds significant importance for the management of research institutes. It provides valuable insights into the competencies and capabilities required by librarians to meet the evolving needs of researchers and users. By understanding the specific skills and knowledge gaps, management can develop targeted training programs to enhance the librarians' professional development. This study also enables the management to make informed decisions regarding resource allocation, staffing, and technology investments to optimize the overall efficiency and effectiveness of the library services.

For librarians working in research institutes, this study holds great significance. It highlights the importance of Continuous Professional Development Technique and acquiring ICT skills to adapt to the changing landscape of information management. By identifying the specific skills and knowledge areas that need improvement, librarians can focus their efforts on enhancing their competencies, which can lead to increased job satisfaction, career advancement opportunities, and overall professional growth. The study also helps librarians understand the link between their ICT skills, service quality, and the impact they have on supporting the research activities and information needs of the institute's users.

Researchers are another key stakeholder in this study. Librarians play a crucial role in supporting researchers by providing access to relevant information, research resources, and guidance in navigating the vast amount of available data. By examining the

Professional development, ICT skills, and service quality of librarians, researchers can gain insights into the level of support they can expect from the library. A study of this nature can lead to improved collaboration between librarians and researchers, ensuring that the information needs of researchers are met effectively, ultimately enhancing the quality and impact of their research outcomes.

The study on Professional development, ICT skills, and service quality of librarians contributes to the body of knowledge in the field of library and information science. It provides empirical evidence and insights into the evolving role of librarians in research institutes and their impact on supporting research activities. The findings of this study can be used to inform the development of best practices, guidelines, and standards for professional development and service quality in libraries. It also opens avenues for further research and exploration into the relationship between librarian competencies, ICT skills, and the overall quality of library services in research institutes, ultimately advancing the field and improving information access and management practices.

1.7. Scope of the Study

The study would be carried out to investigate the influence of Continuous Professional Development Technique (CPDT) and Information and Communication Technology (ICT) skills on the service quality of Librarians in research institutes in Oyo State Nigeria. The dependent variable is service quality of Librarians in Research Institutes measured by three dimensions of Libqual model of service quality- Affect of service, Library as a place and Information control. The independent variables are Continuous Professional Development Technique (CPDT) measured by observation learning and training. The second independent variable is Information and

Communication Skills measured by media literacy, digital literacy and Information literacy.

The study population would be librarians and researchers of the eight agriculture research institutes in Ibadan, Oyo State, Nigeria namely, Forestry Research Institute of Nigeria, Ibadan (FRIN), The Cocoa Research Institute of Nigeria, (CRIN) National Cereal Research Institute (NCRI), Nigeria Stored Product Research Institute (NSPRI), National Centre for Genetic Resources and Biotechnology (NAGRAB), International Institute of Tropical Agriculture (IITA), Institute of Agriculture and Training (IAR &T), and Nigerian Institute of Horticulture Research (NIHORT).

1.8 Limitation of the Study

The major limitation encountered during the course of this low turnout of researchers for the discussion group which eventually resulted into using twenty-four instead of the proposed forty.

1.9. Operational Definition of Terms

Service Quality: refers to the degree to which provided resources and services live up to users' expectations and impressions of those resources and services by Librarians and Libraries in Agricultural research institutes, Oyo State, Nigeria

Affect of Service: This is the degree of satisfaction that emanates from the interaction of library researchers with the library Professional in Agriculture research institutes in Ibadan, Oyo State

The Information Control: This is the researchers' perceptions of their ability to effectively locate, access, and manage information resources within Agriculture research institutes in Ibadan, Oyo State library.

Library as a Place: This is the perception of researchers of Agriculture research institutes in Ibadan, Oyo State library on the comfortability, conduciveness, and welcoming space that meets their study, research, and collaboration needs.

Continuous Professional Development Techniques: Continuous Professional Development Technique refers to the ongoing processes of improving the knowledge, skills, and abilities of librarians in Agriculture research institute, Ibadan, Oyo State, Nigeria in order to enhance their performance and productivity, as well as their overall career development.

Observation learning: This is the process of learning by watching others. It is the process by which librarians in Agriculture research institute, Ibadan, Oyo State, Nigeria learn by observing seniors, subordinates and colleagues in respect to professional practices

Training: This the series of staff development programs like conferences, seminars, workshops and so on both inhouse and off-shore aimed at improving the quality of services rendered by librarians in Agriculture research institute in Ibadan, Oyo State, Nigeria

Information and Communication Skills: is the combination of several 21st century skills necessary to interact with the information driven society by librarians in Agriculture research institute, Oyo State, Nigeria

Digital Literacy skills: This refers to librarians in Agriculture research institute, Ibadan, Oyo State, Nigeria's ability to find, evaluate, and communicate information through typing and other media and on various digital platforms

Media literacy skills: The ability of librarians in Agriculture research institute, Ibadan, Oyo State, Nigeria's to critically read, interpret and respond to messages in a range of digital media – text, graphical, video, animation and simulation, audio, data visualisation, presentations, wiki/blog articles and so on

Information Literacy skills: Information literacy skill is the ability to find, evaluate, manage, create, organise and share digital information ethically without violating copyright laws by librarians in Agriculture research institute, Ibadan, Oyo State, Nigeria

Endnotes

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Chapter Two

Literature Review

This chapter presents a review of literature on Continuous Professional Development Technique (CPDT), Information and Communication Technology (ICT) skills and Service Quality of Libraries in Agriculture Research Institutes. Scholars and researchers view, opinions, arguments, bias and findings on the topic of study were reviewed under the following sub-headings:

2.1 Conceptual Review

2.1.1. Service Quality

2.1.2. Continuous Professional Development Technique (CPDT)

2.1.3. Information and Communication Technology (ICT) Skills

2.2. Theoretical Framework

2.2.1 Libqual Model of Service Quality

2.2.2 Social Learning Theory

2.2.3 Digital Competence Framework

2.3. Review of Empirical Studies

2.3.1 Continuous Professional Development and Service Quality

2.3.2 Information and Communication Technology Skills and Service Quality

2.3.3 Continuous Professional Development Technique, Information /Communication Technology Skills and Service Quality

2.4 Conceptual Model

2.5 Summary of Literature Reviewed

Endnotes

2.1 Conceptual Review

2.1.1. Service Quality

Service quality is a critical concept that describes the degree to which a service meets or exceeds customer expectations. The concept has gained significant attention in the business world in recent years because of the increasing competition and the need for businesses to differentiate themselves from their competitors. Service quality is a multidimensional concept that encompasses several dimensions. Service quality can be defined as the overall assessment of the services by the users. Service quality depends on how much a service is to meet up the consumer's expectations. A

researcher stated that service quality is the difference between customers' hope and actual services provided by the service firms. Scholars stated that users' assessment of library services is a well-known concept and recommended eleven questions for evaluating library services: how much, how many, how economical, how prompt, how accurate, how responsive, how well, how valuable, how reliable, how courteous, and how satisfied¹.

The relevance, usefulness, or value of the library's services, as seen by library patrons, is known as the "value" of such services. As time has passed, the importance of libraries as a resource for undergraduates has grown, particularly at universities. This has prompted librarians to get creative about how they may help their patrons succeed in the classroom. This is because, in the twenty-first century, library patrons have a clear idea of the types of resources and services they need and want from their local libraries². Since they are the rightful consumers, 21st-Century users are in the best position to judge the quality and worth of library services by sharing their opinions and perceptions of them. As quality is the bedrock of excellent services, this demonstrates that providing high-quality service is a competitive weapon and priority for libraries that aim to serve their patrons well.

Scholars assert that it is important to view quality assessment of library services as a management tool, used to learn whether or not the library is meeting the requirements and expectations of its patrons. Clearly, the quality and value of library services is a modern instrument used by librarians and library administration to learn about and improve the services they offer. These resources are extremely useful for modern libraries as they allow them to provide 21st-Century patrons with higher-quality services².

The importance of user feedback was reaffirmed when it was stated that "user feedback is considered as a more reliable factor in measuring the utility and effectiveness of any library" and "by developing users' focused feedback system, outlining library processes and networks, administrators and managers can quickly determine areas for improvement that directly apply to the library's goals and missions." According to its vision and goal, "the success of a library is intimately tied to how its users perceive the services given and their attitude towards the same."³

A library's service "includes all packages of activities which the library renders to the customers in order to promote and realise the goals of the parent institution," as one author puts it. Research on the supply of library services is not a new study, and as another author has pointed out, the kind and efficiency of services given differ amongst libraries. Some researchers have attempted to classify the services provided by libraries and information centres, and they have divided them into "technical services" and "readers' services," with the latter being defined as "those services that have a direct impact on the users for the satisfaction of their information needs." "lending services, reference services, reprographic services, referral services, current awareness services, selective dissemination of information, indexing and abstracting services, document delivery, electronic mail services, bibliographic services, user education/orientation services, online searching amongst others" are all examples of the types of library services that are common in academic libraries⁴. Similarly, a number of authors have noted the following services as examples of those offered by libraries: "lending services, bibliography instruction, library orientation, general and specific information provision, literature search, readers' advisory service, Selective Dissemination of Information (SDI), bibliographies compilation, indexing and abstracting services, reprographic services, and translation service, among others"⁵.

All these services and some other services which are sometimes specific to individual library must be channelled towards meeting the information need of the users.

Therefore, Librarians must have a clear understanding of variations of user needs and have the ability to acquire adequate resources and capabilities and measures to leverage them strategically to create desired services for users. Library's ability to compete with other information providers is important for increasing the user's satisfaction (service quality) because users expect resources that are valuable to solve their information issues. For example, if the library has access to a number of online full-text databases, it will be able to attract more users than other libraries. This means that the particular library has a much competitive position than others and the ability to satisfy user's expectations. Valuable resources attract users and uplift the quality. If library resources are rare among other service providers, users build up a higher perception of library quality considering that any resource they need can be accessed through the library. If the resources of the library are inimitable by others, users feel that the resources of the library are unique and can obtain the services that cannot be expected from other places. If the resources of the library are organized to trace the most expectations of users, it provokes the user to build up a higher positive perception towards the quality. Based on the above literature, we can come into propositions that the competitive position of library resource-capabilities leads to improve user satisfaction or instead the expected service quality⁶.

There are several ways to characterise the quality of a service. Overall, service quality depends on being able to identify and then fulfil customer expectations⁷. This demonstrates the critical nature of living up to users' expectations. That's why it's so important to focus on service quality. More so, customers' perceptions of service quality are measured by how well actual results measure up to their expectations⁸. It

was believed that SQ is a gauge of how well services are delivered according to user expectations, and that when these are met, the result is services of a high quality⁹. "The degree of excellence towards the resources and services offered to the users, and similarly, the users can acquire the maximum satisfaction and feel delighted," as defined by a researcher. Services that meet or exceed the expectations and impressions of their users are considered to be high-quality by another researcher. One expert defines SQ as "consistently meeting or exceeding customer expectations." According to the findings of yet another expert, "quality services mean resources and services, which satisfy users' expectations and views¹⁰." The quality of a service is measured by how well it meets the needs of the client rather than how well it is perceived. LQS are geared towards providing users with information that satisfies their demands to some extent.

Service quality can be measured in various ways: SERVQUAL, WebQUAL, SiteQUAL, Libqual, Post Service Rating, Customer Effort Score (CES), and Documentation Analysis. Library professionals should be conscious of users' beliefs in providing quality services. Traditionally the quality of a library has been defined in terms of its collection of books or assessed by the size of the library's holdings and various counts of its usage¹¹. However, nowadays, from users' perspective, users satisfaction is a prerequisite measure of service quality. For example, some researchers asserted that excellent service quality provides a high level of customer satisfaction¹². Another author defined that user satisfaction derives from a product or service's capability to satisfy necessary needs and expectations¹³. It was also stated that service quality could be accomplished by critically thinking about complete services that satisfy users' needs, that is making users the central focus of services in library¹⁴. Specifically, it was found that the public library users are high when the

service delivered is of prodigious value, improving quality of life and gratifying a crucial need for most library users¹⁵. Another researcher affirmed that satisfaction is connected with feelings of recognition, pleasure, aid, joy, and happiness¹⁶. Some researchers identified that users were satisfied with the services and resources provided by the Punjab Institute of Cardiology Library, especially library assortment and its arrangement, reference and exchange services, staff assertiveness, as well as the cooling and heating structure of the library¹⁷.

According to the proponents of service quality model, service quality can be defined as the degree to which a service meets or exceeds customer expectations. They identified five dimensions of service quality, including reliability, tangibility, responsiveness, assurance, and empathy. Later on, added another dimension, namely, the perceived value, which refers to the perceived benefits of a service relative to its cost¹⁸.

Reliability of the service refers to the ability of a service provider to deliver its service accurately and dependably. Reliability is measured by the extent to which a service provider performs its promised services consistently and accurately. Tangibility refers to the physical appearance of a service, including the appearance of facilities, equipment, Professional, and communication materials. Responsiveness refers to the willingness of a service provider to help customers and provide prompt service. It is measured by the time taken to respond to customer requests, queries, or complaints.

Assurance refers to the ability of a service provider to inspire trust and confidence in customers. It is measured by the knowledge, competence, and courtesy of the service provider. Empathy refers to the ability of a service provider to understand and meet the unique needs of individual customers. It is measured by the extent to which the

service provider is willing to listen to customers, understand their needs, and respond appropriately. Perceived value refers to the customer's perception of the overall benefits of a service relative to its cost. Measurement of Service Quality Several methods can be used to measure service quality.

One of the most commonly used tool as regards service quality in library is Libqual is model, which measures service quality by comparing the library user's expectations with their perceptions of the service. The model involves collecting data from library user's using a questionnaire that measures the three dimension of service quality. The data collected is then used to calculate the gap between customer expectations and perceptions of the service. Strategies for Improving Service Quality Improving service quality is essential for businesses that want to remain competitive and retain their customers¹⁸.

Here are some strategies that organization can use to improve their service quality: One of the best ways to improve service quality is by training employees, in this sense, librarians. Organizations should invest in training their employees to improve their skills, knowledge, and attitudes towards customers. Monitoring customer feedback is essential for organizations that want to improve their service quality. Feedback can be collected through surveys, customer complaints, and social media. Organization should use the feedback to identify areas of weakness and make the necessary improvements. Overpromising and under-delivering can lead to customer dissatisfaction. Businesses should ensure that their customers understand what they can expect from their services. Personalize the service: Personalizing the service can help businesses to improve their service quality. Businesses should take the time to understand their customers' needs and preferences and tailor their services accordingly. Use technology: Technology can be used to improve service quality in

several ways. For example, businesses can use chatbots to provide 24/7 customer service, or they can use data analytics to personalize their services.

In libraries, the quality of services provided to patrons is crucial to the continued success of any library or information centre. Governing a library, as a social institution, is a complex and nuanced endeavour. Each library's principal mission is to serve the educational, research, and other activities of its sponsoring institution. A research library is a key component of any service business that offers customised, hands-on assistance to their clientele. Institutions like libraries exist solely to serve the people who visit them. A strategy plan is being developed by the libraries with the goals of offering the highest quality services and achieving a condition of continuous improvement. Measuring quality allows one to evaluate the efficacy, efficiency, and worth of one's accomplishments. Any library or information system's strengths and weaknesses will be exposed through this procedure. To enhance the quality of their products and services in response to continuing feedback, organizations like libraries might implement a systematic method to management known as "measuring quality services"¹⁹.

A researcher describing a quality library came up with the concept of enriched library which he described as "social activity area that allows students to enjoy knowledge, learn and recreational activities in schools with their aesthetic and ergonomic design". He furthered that an enriched library is characterised by Providing equal opportunity at the point of access to information, Being equipped with materials such as audio books and electronic books, modern and aesthetic design, available pedagogical compatibility, portable shelves, included in the design, Wooden and fabric covered walls, offer of a library environment that evokes the desire for reading²⁰.
Perspectively, several assertions and opinion has been raised with regards to services,

quality of services and the factors that determines whether a service is of highest quality or not. However, it is clear that library is a services rendering organization and like every other business organization, customer satisfaction goes a long way in determining the level at which the services rendered are adjudged quality. Aside the fact that there are standards rules and condition the library must meet, the overall satisfaction of the users which it serves must be given utmost consideration. Looking at the Ranganathan five laws of library, the users is at the central of everything the library wants to do. The law makes the user the kings automatically just like every other service providing organization.

A scholar made a profound statement with regards to services quality and user satisfaction 'Service quality is an evaluation of the performance of products and services from the point of view of the client'²¹. A library offers both tangible books and services that cannot be seen or touched. Evaluating service quality as a management strategy is a relatively new concept, and professionals in the field of library and information science (LIS) are still getting used to it. Customers of today's libraries are open to receiving information from a variety of sources, and they anticipate receiving high-quality content in the shortest amount of time feasible, regardless of the information's format²¹. Libraries have been forced to become customer-oriented as a means of ensuring their continued existence in the face of competition from commercial information service providers and web technology. In order for LIS professionals to properly grasp the client expectations, it is vital for them to have an accurate understanding of how customers perceive the service quality aspects. There would be less of a divide in customers' evaluations of the quality of the service if products and services were better tailored to match consumer needs'²¹.

Taking the construct of Libqual model one after the other and the degree of significance to service quality several scholars has come up with differing findings as to which one affects users most in determining their perception of quality services. For instance, it has been concluded that the Service Quality dimension “Library as a place” is the most important factor in the satisfaction of the users. Libqual component’ Reliability which is a sub-measures of affective service also has a significant positive impact on student's satisfaction. Furthermore, in the same study, authors found that the responsiveness of librarians plays a mediating role between empathy and customer satisfaction. This means that if librarians are empathic, their responsiveness increases and ultimately students become satisfied with the library services. This means that for librarians and decision makers of the Universities. Facilities like, library building, seating arrangement, printing and scanning facilities, and e-library content should be top priorities of all the management to increase library usage and keep the students satisfied. Library management should also focus on responding to student queries on a priority basis to improve the responsiveness which has a direct relationship with the students’ satisfaction²².

Prior to the study in 2018, In the 2016 Libqual survey, many undergraduate student respondents expressed their dismay over the inadequate access to individual and group study rooms. The Georgia Southern University Library serves a student population of 20,000 but only has 30 rooms for group study use. While the Library has been implementing various methods to maximize its group study spaces throughout the building, the demand for study rooms remains high, especially during examination periods. Since it is not feasible to build more study rooms in the building, a recent attempt to address the group study spaces shortage problem was to create more comfortable seating for individual study. The current library room policy is first

come first serve. It is hoped that the new seating, coupled with a revised room policy, would lure single individuals away from occupying a group study room, thus increasing the availability of study rooms for group use¹²¹.

In March of 2017, the Georgia Southern University Library received a loan of two study chairs from a local furniture supplier to conduct a furniture testing in its top floor quiet study zone. Each chair provides an adjustable worktable to hold a laptop, side surface for writing, a privacy screen to reduce visual distractions, and power outlets underneath the seat for easy charging. The chairs also provide adaptive bolstering and lumbar support to make sitting more comfortable. Because the chairs were strategically placed by the tall windows on the top floor directly overlooking the lake, they were very popular among the students¹²¹.

In 2018, A researcher performed a study to assess students' perceptions and expectations of library services at Georgia Southern University by Libqual tool. The results showed that the level of library services in all dimensions of Libqual was higher than the minimum expectations of users and that the library had been able to meet the satisfaction of its users¹²¹. This shows a progression of evaluation on a yearly basis. Libraries must know that aside the changing world we are, library itself by nature supposed to be a growing organism therefore, constant and regular evaluation is need for continuous improvement in areas where deficiencies is noticed and all must be at the users perception because they are the reason for which the library exists.

2.1.2. The Concept of Continuous Professional Development Technique (CPDT)

Librarianship like every other profession is certified by a body of knowledge domiciled in the universities, colleges and polytechnics . Education is continuous and it can sometimes be gotten outside the four walls of a school. Like any other

professionals, librarians seek to better their skills, and competences in the discharge of their duties and in carrying out their operational as well as professional responsibilities. Continuous education and learning is important for renewing the expertise and skills needed for service delivery to the esteemed library patrons in the digital information era. High level of professional library staff enhances the quality of service delivery that any library can offer. The librarian is an active intermediary between library patrons and the resources and continuing professional Development (CPDT), a continuous basis is indispensable to ensure quality, efficient, effective and adequate service delivery in the libraries, both formal and informal ways, but it falls primarily on the individual librarian to find, participate in or even create such opportunities, which raises the question of personal motivation and drive to become better on a regular basis or as soon as a gap in knowledge is noticed²³.

Continuous Professional Development Technique is a process of ongoing learning and growth that occur throughout an individual's career. It involves the acquisition of new skills, knowledge, and competencies to improve an individual's job performance and career prospects.

Continuous Professional Development Technique is essential in today's rapidly changing and competitive business environment. It helps employees stay current with the latest industry trends, technological advancements, and best practices. This is particularly important in industries such as healthcare, IT, and finance, where new technologies and practices are constantly emerging. Continuous Professional Development Technique ensures that employees have the knowledge and skills necessary to adapt to these changes and remain productive and effective in their jobs. Continuous Professional Development Technique is also critical for career growth and advancement. It provides employees with opportunities to learn new skills and take on

new responsibilities, which can lead to promotions and higher salaries. Continuous Professional Development Technique is an essential in-service and on-going learning process that provides an opportunity to young and mid-career professionals to update and align their skills in connection with the contemporary needs of library users²⁴. Additionally, Continuous Professional Development Technique can enhance an employee's job satisfaction and motivation by providing a sense of purpose and accomplishment.

Continuous Professional Development Technique offers several benefits to both employees and organizations. For employees, it provides opportunities for career growth and development, which can lead to increased job satisfaction and motivation. Continuous Professional Development Technique also helps employees feel valued and appreciated by their organization, which can lead to increased loyalty and reduced turnover. For organizations, like libraries, Continuous Professional Development Technique can lead to improved performance and productivity. By investing in their employees' development, organizations can ensure that they have the knowledge and skills necessary to perform their jobs effectively. Additionally, Continuous Professional Development Technique can help organizations stay competitive by keeping employees up to date with the latest industry trends and practices²⁵.

Implementing Continuous Professional Development Technique requires a comprehensive strategy that includes training, coaching, mentoring, and performance feedback. Here are some of the strategies that organizations can use to implement Continuous Professional Development Technique successfully. Identify Development Needs: The first step in implementing Continuous Professional Development Technique is to identify the development needs of employees. This can be done through performance evaluations, skill assessments, and employee surveys. Develop

Training Programs: Once development needs have been identified, organizations can develop training programs to address these needs. Training programs can include classroom training, online courses, workshops, and seminars. Provide Coaching and Mentoring: Coaching and mentoring are valuable tools for continuous Professional development. They provide employees with one-on-one support and guidance, which can help them develop their skills and reach their full potential. Offer Performance Feedback: Performance feedback is critical for continuous Professional development²⁵. It provides employees with information on their strengths and weaknesses, which can help them improve their performance and achieve their goals. Encourage Continuous Learning: Finally, organizations should encourage employees to engage in continuous learning outside of formal training programs. This can include attending conferences, reading industry publications, and participating in professional organizations.

Continuous Professional Development Technique is critical for both employee and organizational success. It provides employees with opportunities for career growth and development and helps organizations stay competitive by ensuring that employees have the knowledge and skills necessary to perform their jobs effectively. To implement Continuous Professional Development Technique successfully, organizations must identify development needs, develop training programs, provide coaching and mentoring, offer performance feedback, and encourage continuous learning²⁵. By doing so, organizations can create a culture of ongoing learning and growth that benefits everyone involved.

The concept of continuing professional development (CPDT) recognizes that education is the only way in which individuals continue to learn, grow and develop as professionals throughout their careers and professional lives. CPDT is a process of lifelong learning which makes one to expand his/her personal and professional

potential to meet the present and future needs of patrons and deliver service outcomes and priorities. CPDT in the opinion of a scholar is the conscious updating of professional knowledge and the improvement of professional competence throughout a person's working life. It assures that one meets the requisite knowledge and skill levels that relate to one's evolving scope of professional practice²⁵.

CPDT is also the on-going training and education that practicing librarians embark on with a view to maintain, develop or increase knowledge, acquire new technical skills necessary for creativity and innovativeness, and keeping up to date with the rapid and numerous changes taking place in the information world²⁶. CPDT could be seen as an enabler to creativity and innovativeness. A scholar defined CPDT as a systematic method of learning that leads to growth and improvement in professional abilities, enabling individuals to function successfully in a changing work environment. The purpose of CPDT is to fill the knowledge gap that exists between acquiring educational qualifications and functioning on the job²⁷. It consists of activities and practices that equip the professionals with the relevant competencies to ultimately upgrade their knowledge and skills to meet their professional needs. Examples of CPDT activities include training courses, professional reading, work exchange, mentoring and publishing.

CPDT may take various forms and can be in the form of face-to-face programmes, or distance learning programs, can be conducted informally in the form of lectures, workshops, seminars, and conferences; as well as through formal options, such as certified training programmes or others qualifying course, Bury stated. Learning and development activities can be grouped as formal, informal, and on-the-job types. Formal education involves careful planning, has set outcomes or learning objectives and the person is conscious of their learning experiences²⁸. Formal activities include

courses and workshops offered in-house, by educational institutions or by professional association; are organized, structured programmes that explicitly aim to foster understanding, knowledge.

Informal education occurs spontaneously in many different places such as at work, at home, and through interactions with other people, takes place independently from trainer-led programmes, outside educational establishment and is not assessed. Informal activities include attending conferences, discussion with colleagues, participating in e-mail discussion lists, reading professional literature and pursuing self-directed projects. On-the-job education consists of acquisition of skills while working on the job. It may involve following written and verbal instructions as well as observing others and then attempting the task. This form of education usually involves a superior or an experienced employee passing on their knowledge and skills to the trainee.

While it is true that librarianship is a field where rapid change affects the scope, knowledge-base, and practices of the profession, continuing education is essential for professionals in any field. With the rapid advancement of information technologies, the way information is created, distributed, and accessed has changed dramatically. The proliferation of digital content, online databases, e-books, and other electronic resources has necessitated that librarians stay updated on these technologies. Librarians must adapt to new formats and platforms for information, which are continuously evolving.

The demand for CPDT in the library and information field has arisen in response to developments in Information and Communication Technologies (ICTs), shifting patterns among information consumers, and emerging directions in the field of library

and information science. Due to the nature of the profession as an information source and disseminator, librarians understand the importance of continuing their education throughout their careers. Information technology, particularly the web and its various uses, is cited by one researcher as the field of professional practice that has undergone the most rapid change over the past half a decade. Librarians need not just be proficient with these new tools, but also in the art of teaching others how to utilize them. Hence, it's important to encourage library employees to continue learning and growing in their careers by sending them to academic conferences, seminars, and workshops both in and out of the library science field.

A librarian's capacity to acquire new knowledge, refine existing expertise, and reaffirm their existing skills is greatly enhanced by continuing professional development (CPDT) initiatives. The rise of a hybrid professional class inevitably increases the demand for continuing professional development. It is of the utmost importance for librarians to expand their knowledge of information and communication technologies (ICTs) so that they can include IT into the instruction of a wide range of library services. One of the most effective ways to inspire employees is to invest in their professional development. This will allow librarians and other information professionals to better prepare themselves for the difficulties and requirements of new technologies and methods of doing work²⁹.

However, Professional development is more than just attending the activities and conferences of library association. International Federation of Library Association (IFLA) guidelines of CPDT states the (principles) and best practices as it concern the learner. These demand the individual professional: conducting regular self-assessment congruent with the job responsibilities and aspiration; participating in performance appraisals; monitoring developments that impact the professions and seek out and

uses opportunities to close competency gaps and to advance knowledge and skills; Developing a personal learning plan that will lead to both improvement in current performance and future career advancement, makes judicious choices of formal learning resources based on the best available information; Seeking learning for present responsibilities before preparing for a new position.³⁰

However, several studies have been carried out to find out the challenges faced by librarians in involving in CPDT. For instance, a study on Library Employees' Perspective of Capacity Building through Continuing Professional Development in the Republic of Maldives, It was also revealed that LIS employees in the Maldives had access to a very limited number of LIS-related CPDT programs. The CPDT programs offered by the National Library of Maldives's (NLM) were mainly targeted at new entrants to the profession as a majority of them were without any LIS qualification. As a result, appropriate training programs were lacking for supervisory and middle management employees across all types of libraries. Data analysis also revealed that the top three barriers to pursuing CPDT programs were lack of suitable training programs, too costly to pay from personal funds, and lack of opportunities for career advancement³⁰.

The above is a bit supported by the findings of some other researchers in Jamaica, where it was found that although the librarians were motivated by factors such as keeping up to date with changes in librarianship and personal satisfaction. However, challenges to participating in CPDT include, lack of funding, time constraints and lack of worthwhile options. Areas of interest for CPDT were mainly information technology-based³¹.

Aggregately, continuous professional development has been proven beyond doubt that it is a means of improvement in someone's profession with the aim of performing better than before. It is a system or program aimed at gathering more knowledge either in a formal or informal setting. Whichever way, the end is the most important, knowledge transferred and knowledge gained and the gap in knowledge bridged via acquisition of necessary competences through whatever means. Several authors has opined, asserted and concluded that continuous profession development is gotten through programs like short course, seminars, conferences, going for a higher degree, attending workshops and so on. It is therefore on this premise, the researcher decided to use the three construct of the social learning theory which are observational learning, modelling and imitation. To delineate the concept of Continuous Professional Development Technique among librarians is researcher libraries.

Bandura's Social Learning Theory is a Cognitive-behavioral Theory that was introduced by the psychologist Albert Bandura in 1977. This theory attempts to explain how people learn new behaviours, beliefs, and attitudes by seeing, imitating, and modelling the actions of others. The importance of learning through observation, imitation, and modelling is emphasised by this school of thought regarding the educational process. It proposes that human behaviour is picked up from one's surroundings through the process of reinforcement, which plays a role in determining the likelihood of a behaviour occurring. This theory has been widely utilised to explain and predict human behaviour, particularly in the fields of social psychology, clinical psychology, educational psychology, and media violence. It is one of the most influential of all cognitive learning theories.

Starting from the researcher's perspective and experiences, librarianship being a profession has degree or level of qualifications and professionalism. The higher

officers automatically become the mentor to the lower ones which becomes the mentee. From observing what the boss does, the new breeds can learn and grasp what is being done and how it is been done which sometime seems to negates the theoretical teachings in the four walls. Librarians in every cadre cannot hide the fact that learning takes place though it may not be documented or formalise but it is real as the new breeds or the incoming librarians consciously learn from the boss. Sometimes, some libraries makes it a system of learning where newly recruited librarians are attached to the older ones to learn and some libraries makes sure upon employment, the newly employed librarian go round all the sections, units or departments in the library to have a grasp of what is happening in various section. This term concept is somewhat related to knowledge management under which we have words like mentors and mentees.

Observational learning, modelling and imitation, the trio of social learning theory are built on the assumption that knowledge is transferred and gained, and attitudes are formed and inculcated through socialization. That is interaction in a social setting like homes, peer groups, religious centres and organization or people with like minds, like beliefs, and professional affiliates. This therefore means that librarians can learn among themselves through collaboration, knowledge sharing, knowledge transfer, mentoring programs, in-house workshops and seminars. Summatively, professional or Professional learning occurs in a social setting like library in three distinct ways of observation, modelling and imitation¹¹⁸.

Observational learning, also known as social learning, is the process by which individuals learn new behaviours and skills by observing and imitating others. Observational learning is a critical component of socialization and human development. It is an essential tool for learning, problem-solving, and survival.

Observational learning involves four basic steps: Attention: The learner must first pay attention to the model's behaviour. This requires the learner to focus on the model and ignore other distractions. Retention: The learner must then remember the behaviour they observed. This requires the learner to encode the behaviour into their memory. Reproduction: The learner must then be able to reproduce the behaviour they observed. This requires the learner to have the physical and mental ability to imitate the behaviour. Motivation: The learner must be motivated to reproduce the behaviour. This requires the learner to see the behaviour as desirable or rewarding¹¹⁸. Observational learning is used in many different settings, including education, healthcare, and even librarianship. For example in the Education settings like schools, teachers, tutors or lecturers often use modelling to teach students new skills and behaviours. For example, a teacher may model how to solve a math problem or how to write an essay, and then have the students imitate the behaviour. In the healthcare sector, medical professionals use observational learning to teach patients how to manage their health. For example, a nurse may model how to use an inhaler to a patient with asthma, and then have the patient imitate the behaviour. In business world, managers often use modelling to train new employees. For example, a manager may model how to interact with customers or how to use a new software program, and then have the employee imitate the behaviour. In librarianship like every other organization, a senior librarian may model how to use a system or carry out certain professional routines¹²⁰.

Observational learning can be influenced by many different factors, including: Attention: The need for the learner to pay attention to the model's behaviour. If there are distractions or if the behaviour is not perceived as important, the learner may not pay attention. Retention: The learner must remember the behaviour they observed. If

the learner has poor memory or if the behaviour is complex, they may not be able to retain the behaviour. **Reproduction:** The learner must be able to reproduce the behaviour they observed. If the behaviour is too difficult or if the learner lacks the physical or mental ability to imitate the behaviour, they may not be able to reproduce it.

The learner must be motivated to reproduce the behaviour. If the behaviour is not perceived as desirable or rewarding, the learner may not be motivated to imitate it. Observational learning is a powerful tool for learning new behaviours and skills. It is a natural and effective way of learning, and it is used in many different settings. However, the effectiveness of observational learning can be influenced by many different factors. Therefore, it is important to understand these factors and to use them to enhance the effectiveness of observational learning in library context¹¹⁹. With the explanation and scholarly assertions, learning takes place between the trainer and the trainee, mentor and mentee. The essence is to manage knowledge.

A scholar asserted that the library profession in the U.S. continues to face challenges of recruiting and retaining librarians with diverse backgrounds. Mentoring is an effective method of retention. It helps the development of trusting professional relationships among librarians; helps new librarians to adapt to the new environment; helps improve intergenerational cooperation; and helps in teambuilding. A productive mentoring relationship increases job satisfaction by new librarians, cultivates healthy work environments, and sustains the organizational culture of the libraries³².

Mentoring is a process of developing a relationship between an experienced person and an inexperienced person. The experienced person, called a mentor, helps the inexperienced person, called a mentee, by sharing their knowledge, skills, experience,

and expertise. Mentoring can be formal or informal, and it can take place in various settings such as schools, universities, workplaces, or communities. Mentoring is a powerful tool for personal and professional development. It provides an opportunity for the mentee to learn from someone who has already achieved success in their field. It also helps the mentor to develop their leadership and communication skills. In this paper, we will discuss the importance of mentoring, the benefits of mentoring, and how to become a successful mentor.

Mentoring is important for several reasons³³. First, it provides a safe and supportive environment for the mentee to learn and grow. The mentor acts as a guide and advisor, providing feedback and encouragement to the mentee. This helps the mentee to build their confidence and self-esteem. Second, mentoring helps the mentee to develop new skills and knowledge. The mentor can share their experiences and expertise with the mentee, helping them to acquire new skills and knowledge more quickly than they would on their own. Third, mentoring helps the mentee to build their network³⁴. The mentor can introduce the mentee to other professionals in their field, providing opportunities for networking and collaboration. Moreover, mentoring helps to create a culture of learning and development within an organization. When mentoring is encouraged and supported, it can help to create a more engaged and motivated workforce.

Mentoring provides many benefits to both the mentor and the mentee. Some of the benefits of mentoring include:

Personal Growth: Mentoring helps the mentee to develop their self-awareness and emotional intelligence³⁵. It also helps them to identify their strengths and weaknesses and work on areas that need improvement.

Career Development: Mentoring provides the mentee with guidance and support as

they navigate their career path. The mentor can provide advice on job search strategies, resume writing, interview skills, and career advancement.

Mentoring helps the mentee to build their professional network. The mentor can introduce them to other professionals in their field, providing opportunities for networking and collaboration. Skill Development: Mentoring helps the mentee to develop new skills and knowledge³⁶. The mentor can share their experiences and expertise with the mentee, helping them to acquire new skills and knowledge more quickly than they would on their own. Increased Confidence: Mentoring helps the mentee to build their confidence and self-esteem. The mentor provides feedback and encouragement, helping the mentee to believe in themselves and their abilities.

Leadership Development, Mentoring helps the mentor to develop their leadership and communication skills. The mentor learns how to coach and guide others, helping them to become better leaders. Personal Satisfaction: Mentoring provides both the mentor and the mentee with a sense of personal satisfaction. The mentor feels good about helping someone else to succeed, while the mentee feels good about the progress they are making. Becoming a successful mentor requires a combination of knowledge, skills, and experience. Here are some tips for becoming a successful mentor: Be a Good Listener: As a mentor, it is important to listen carefully to the mentee and understand their needs and goals. Ask open-ended questions and encourage the mentee to share their thoughts and ideas. Provide Feedback: Provide constructive feedback to the mentee on their strengths and weaknesses. Be specific and provide examples to help the mentee understand what they need to improve. Be Patient: Mentoring takes time and requires patience.

Moreover, mentoring in libraries can take several forms, based on factors such as its mission, structure, and policies³⁷. Yet, there are two main types of mentorship programmes: official and informal. Several writers have divided these methods into two broad categories: the more casual, traditional approach, and the more structured, formal mentoring, which can take the shape of peer, group, or electronic mentoring³⁸. In an informal mentoring relationship, both the mentor, who provides advice and support, and the mentee take the initiative to meet and get to know one another. Here, natural selection plays a vital role in determining compatible partners. They also point out that the activity's controlled environment belies the fact that it's casual and unplanned. Moreover, it gives each person complete autonomy over who they interact with and what they do in their free time. It is informal and aims to strengthen ties between a mentee and a person in their social circle who can serve as a mentor³⁹. According to research conducted by some authors, informal forms of mentorship are the most commonly used tactics for the professional development of librarians in Federal universities in North Central Nigeria⁴⁰.

On the other hand, formal mentoring programmes are typically launched by institutions with the goal of fostering growth in both mentees and mentors. Training employees to do their jobs effectively and contribute to the organization's success is one of the main goals of formal mentoring programmes. Yet, there may be underlying drawbacks to formal mentoring, as the combined parties may not be able to build a good connection due to their differences. According to the research of certain academics, formal mentorship is founded on a structured programme that has an organised setting, providing its participants with norms and protocols for their interactions⁴¹. In support of this, a researcher explains that administrators, who don't know the mentors or mentees very well, create specifications for matching them. The

collective experience of the mentors and mentees should be taken into account while designing formal mentoring programmes⁴². Another researcher in the same study suggested that mentoring could help CPDT efforts in library and information science administration (CPDT). They specifically called out the need for this in emerging nations where it had not received nearly as much focus. If young librarians had access to mentoring, they might more readily determine their professional goals and find their place in the organisation.

Librarians can learn by observation, imitation, and modelling in several ways which includes Shadowing. One way for librarians to learn by observation is to shadow experienced librarians as they perform their duties. By observing how experienced librarians interact with patrons, organize materials, and provide services, novice librarians can learn from their expertise and emulate their behaviors¹⁰⁸. Another way is through Professional development opportunities. Librarians can also attend workshops, conferences, and training sessions where they can observe and learn from experienced librarians who share their knowledge and experience. By observing how other librarians handle complex situations, novice librarians can model their behaviors and develop their own problem-solving skills. Furthermore, Librarians can learn through Collaborative learning. Librarians engages in collaborative learning by working with other librarians to develop best practices and share their experiences. By collaborating with others, librarians can observe how different approaches work and model their behaviors accordingly. Librarians can also benefit from mentorship programs where they can work closely with experienced librarians who can provide guidance, support, and feedback. By observing and learning from their mentors, novice librarians can model their behavior and develop their own skills and expertise¹⁰⁷.

Another measure of Continuous Professional Development is training. Training is currently becoming extensively acknowledged as a crucial mechanism for improving job-related abilities and performance. Its significance is globally recognized in fostering behavioral modifications and personal development. Training is often shaped by ideologies and principles that reflect the overarching goals of a nation's social and economic progress. This, indeed, contributes to enhancing the significance and purposefulness of the training within the professional context¹²².

Many researchers in the field of Library and Information Science (LIS) have emphasized the importance of various areas of training for librarians, beyond just focusing on Information and Communication Technology (ICT) skills. While ICT is undoubtedly crucial, there are other essential areas that require attention, such as Management & Leadership, Communication, Teaching & Training, Attitudinal Development, and Subject/Domain Knowledge¹²³. For instance, research conducted in Pakistan has shed light on these training needs: Some studies have identified shortcomings in in-service training for library staff and proposed the establishment of a national committee comprising stakeholders to address this issue. Roles and functions of libraries in research have been highlighted, advocating for librarians to acquire modern professional skills through appropriate training¹²⁴. The state of continuing education (training) for librarians in underdeveloped and developing countries of the world has been examined, and suggestions have been put forth to enhance its quality and effectiveness. The level of learning in library programs has been assessed, emphasizing the importance of practical training over theoretical knowledge. The limited training opportunities for medical librarians have been discussed, suggesting the introduction of specialized post-master diploma programs in

medical librarianship. Various aspects of training methods, providers, timing, encouragement, and ICT skills required for trainees have been explored.

The significance of continuing education and self-improvement for LIS professionals has been stressed to elevate their status in the country. Recommendations have been made for organizing refresher courses and workshops on topics of interest. The importance of training for university librarians in Pakistan has been highlighted, along with discussions on obstacles, incentives, and overall significance. The impact of computer training on librarianship in Pakistan has been assessed, revealing its positive contribution to participants' job success. Suggestions have been offered for enhancing the quality of training courses. The progress of continuing education initiatives in Pakistan has been examined, with calls for collaboration from library schools, foreign agencies, associations, and government to support librarians' professional development¹²⁵.

Information technology's vital role in training activities for librarians has been advocated. In the context of Nigerian university libraries, the significance of library education and training needs for library staff has been emphasized, underlining the benefits of training programs and staff development processes¹²⁴. A survey revealed gaps in computer literacy among library staff and inadequacies in training programs. To sum it up, these studies collectively emphasize the diverse and comprehensive training needs of librarians beyond ICT skills, encompassing management, communication, teaching, attitude development, and subject knowledge. They also underscore the importance of continuing education and training programs to enhance the professionalism of LIS practitioners.

In summary, librarians can learn by observation by shadowing experienced librarians, attending professional development opportunities, engaging in collaborative learning, and participating in mentorship programs. These approaches can help librarians develop the skills and expertise needed to provide excellent service to their patrons. Library activities like cataloguing, classification, accessioning and so many other activities needed to be transferred to the young librarians by the older ones. The knowledge can be transferred through observation- when the trainee, junior librarian automatically become the mentee and the senior librarian becomes the mentor or trainer. These knowledges are transferred through observation, imitation and modelling. After several observations, the trainee can now imitate the trainer by doing some the tasks with little or no supervision. This act automatically makes the trainer a model.

2.1.3. The Concept of Information and Communication Technology (ICT) skills

Information and Communication Technology (ICT) is a term used to describe a range of technologies that are used for communication and the processing and storage of information. ICT is a broad concept that encompasses a wide range of technologies, including computers, smartphones, tablets, the internet, and social media platforms. ICT skills refer to the abilities required to effectively use these technologies to communicate, process, and store information.

In today's Digital Age, ICT skills have become essential for individuals to succeed in both their personal and professional lives. ICT skills are necessary for individuals to communicate effectively, access and process information, and engage in a variety of digital activities such as online shopping, online banking, and social media. In the

workplace, ICT skills are increasingly becoming a requirement, with many jobs now requiring employees to have at least basic ICT skills. Many employers are now looking for individuals with advanced ICT skills, including proficiency in software applications, data analysis, and programming. ICT skills are also important for education. With the increasing use of technology in the classroom, students need to have ICT skills to succeed academically. Teachers also need to have ICT skills to effectively integrate technology into the classroom and deliver high-quality instruction.

Libraries of all types have benefited from the proliferation and widespread usage of ICT techniques thanks to the efficiencies they've brought to their operations (including the acquisition, cataloging, storage, retrieval, dissemination, and protection of patron data). As a result of developments in information and communication technology, libraries now offer not just printed materials but also digital resources and services for locating information. Users no longer need to wait around for information thanks to the shift from analog to digital channels for its distribution and consumption. In order to do their jobs effectively, LIS professionals need to be trained in the use of various ICT tools like automation, bibliographic standards, ICT-based library services, web 2.0 skills, mobile information services, integrated library management systems (ILMS), Citation Management Systems (CMS), information retrieval (IR), etc. In order to be effective in their roles, LIS professionals need to have in-demand competencies in information and communication technologies (ICT). In addition, in order to be productive in the modern digital environment, LIS professionals must regularly refresh their ICT skills. Therefore, it is imperative that LIS professionals acquire ICT skills in order to fulfil their responsibilities⁴³.

It was put that ICT as a device or tool that allows for the collection, storage, processing or the communication of information". Therefore, in this era of information, ICTs competencies can help to achieve the organizational goals where storage, organization, access and assessment of information have become vital requirements in the society in which we live, which is described as "the information society" it was claimed that librarians and other people can overcome many issues regarding the access, organization, evaluation and use of information through acquiring of digital literacy skills. Literacy is very important for national development which often effect on social, culture and economic development. In 21st century, it is necessary for every individual to become an adequately digital literate for enjoying life, living healthy and for participation in social activities within societies, retrieve the knowledge and expressing one's ideas⁴⁴.

A researcher asserted that librarians need to acquire ICT skills to compete in today's information society. More so, institutions need to include developing skills into courses to fulfil the needs of 21st-Century librarians and the expectations of future employers. In order to succeed in today's information society, LIS professionals need to continually develop and refine their ICT abilities. For academic success in today's world, LIS workers need to be flexible and open to learning new technologies, advanced abilities, and tools like Web 2.0. Today's information is created and made available in both print and digital formats; LIS workers need to be well-versed in both to effectively manage these resources. Librarians who invest in their own professional growth are better equipped to perform their jobs successfully.

Professional growth is a vital and ongoing pursuit for librarians, and it entails a commitment to continuously enhancing their knowledge and abilities throughout their careers. Librarians play a crucial role in the dissemination of information, the

facilitation of research, and the support of learning. As the information landscape evolves with the advent of digital technologies and changing user needs, librarians must stay abreast of these transformations and adapt to the dynamic nature of their profession. To ensure their effectiveness and relevance, librarians should actively seek opportunities for professional development, which may include further education, attending workshops, conferences, and engaging in peer learning. The knowledge and skills gained through these endeavors should not remain dormant but rather be put into practical use within their daily responsibilities. By using the knowledge and abilities they acquire in the course of their professional growth, librarians can offer improved services to their patrons. This might involve better understanding and implementing advanced cataloging and metadata techniques, staying current with digital resource management, fostering information literacy, or adopting innovative technologies to streamline library operations. Moreover, librarians can play a pivotal role in promoting digital literacy and information fluency, guiding users through the vast array of digital resources and equipping them with the skills needed to navigate this complex landscape. Professional growth also opens doors for librarians to explore leadership roles, take on new challenges, and contribute to the evolution of libraries in the digital age. It enables them to be more proactive in advocating for the resources and services their communities require and positions them as valuable assets in fostering knowledge dissemination and learning⁴⁵.

A study reveals that all job postings list "permanent skill, communication skill," as one of the essential qualifications for the position. The results also show that familiarity with content management and sharing technologies is highly sought for by employers. Challenges have arisen for the library and information science field due to the expansion of ICT-based information services. Another author made a related

observation: "ICT skills have become increasingly vital in the pursuit of degree-level education," which has implications for how students use and interact with e-learning materials. The focus of ICT competence is on making effective use of technology. It is not just about utilizing a software package or using operating systems, neither is it concerned with keyboarding abilities and students' ability to copy type or follow instructions. Instead, ICT skills are about the ability to use their knowledge of ICT to find, produce and present information; whether it is text, image or number, or all of this combined task". It is so evident that LIS workers must study and adjust to a quickly changing environment and develop competences and abilities to become a knowledgeable asset to the library. Library professionals then teach these skills to users and other supporting staffs assist them to search, browse and locate the right knowledge from a world of information⁴⁶.

In a study "The degree of ICT literacy among library professionals in Maharashtra's university libraries is satisfactory." The vast majority of librarians are comfortable with the fundamentals of information and communication technology (ICT) needed to run their libraries effectively, but some still need to brush up on topics like open source library automation software, digital library software, institutional repository software, etc. There is room for LIS professionals to grow their innovative ICT skills and implement them in the library to provide new ICT-based library services, according to another study. This study focused on LIS professionals working in engineering educational institutions in the Rayalaseema Region of Andhra Pradesh⁴⁷.

A researcher stresses the importance of librarians having "knowledge of digitization, metadata creation and management, preservation of digital information, and computer skills," all of which are required for work in today's digital information environments⁴⁸. The "level of ICT skill among library professionals in the Kerala

University Library system" was evaluated by other researchers. According to the results, the librarians at Kerala University have about average competence in a range of ICT-related library tasks. The professionals were unanimous in their enthusiasm for implementing ICT in libraries ⁴⁹ In addition, researchers in Tamil Nadu have analysed the "various skills of library professionals in Engineering Colleges" to classify their level of expertise as low, high, or moderate. More moderate skills were discovered among Librarian, Assistant Librarian, and Library Assistant positions, while fewer high-level positions were discovered " Some researchers have found through surveys that fewer people than they expected have the technical and interpersonal skills, networking knowledge, command of the XML language, and project management expertise that are vital for today's librarians⁵⁰.

In a study that examined the level of digital competencies for the provision of smart information service at academic libraries in Jordan, results indicated a moderate level of smart information service offered by academic libraries, as well as a moderate level of digital skills associated with the advocacy of smart information services. The results also indicated a strong and positive relationship between the level of smart information services at the investigated libraries and the level of digital competencies among the librarians. From the study it is shown that only digitally competent librarians can offer smart information services. It shows that smart information services can only be rendered to the degree at which the librarians to render is Information and Communication Technology compliant⁵¹.

Developing ICT skills can be challenging, particularly for individuals who are not familiar with technology. One of the main challenges in developing ICT skills is the fast-paced nature of technological advancements. Technologies and software applications are constantly evolving, and individuals need to keep up with these

changes to remain relevant in the workforce. This can be particularly challenging for older individuals who may not have grown up with technology and may find it difficult to adapt to new technologies. Another challenge in developing ICT skills is access to technology. Many individuals do not have access to computers, smartphones, or the internet, making it difficult for them to develop ICT skills. This is particularly true in low-income areas, where access to technology may be limited. Finally, developing ICT skills can be expensive. Many individuals may not have the financial resources to purchase computers, smartphones, or software applications required to develop their ICT skills.

Despite the challenges involved in developing ICT skills, there are several strategies that individuals can use to acquire and develop these skills. These strategies includes:

Enrolling in ICT Courses: Individuals can enroll in courses that teach ICT skills, including computer programming, data analysis, and software applications. These courses are available online and at educational institutions. **Learning from Tutorials:**

There are many online tutorials available that can help individuals learn ICT skills. These tutorials are often free and can be accessed from anywhere. **Learning from Others:**

Individuals can learn ICT skills from others who have already developed these skills. This can be done through mentorship programs or by joining online communities dedicated to ICT. **Practice:** Developing ICT skills requires practice.

Individuals can practice their ICT skills by using software applications, creating websites, and engaging in other digital activities. ICT skills are essential for individuals to succeed in both their personal and professional lives. The importance of ICT skills is expected to continue to grow as technology continues to play an increasingly significant role in society. Despite the challenges involved in developing ICT skills, individuals can acquire and develop these skills through a variety of

strategies, including enrolling in courses, learning from tutorials, learning from others, and practice. Developing ICT skills is a lifelong process, and individuals need to continuously update their skills to remain relevant in the workforce.

For this study, Information and Communication Technology Skills is delineated by the trio of digital, media and information literacy skills. To start from the formal, the phrase "digital literacy," like any trendy one, has been used in a variety of contexts ranging from the technical to the cognitive. The American Library Association's Digital Literacy Taskforce defines digital literacy as the proficiency in using information and communication technology for the purposes of finding, evaluating, creating, and communicating information. It goes on to say that someone who is digitally literate is one who is able to: find, understand, evaluate, create, and communicate digital information in a variety of formats; create, evaluate, and communicate digital information in a variety of formats; and communicate digital information in a variety of formats, retrieve data, analyze it, and evaluate its quality using a variety of tools and methods⁵².

According to the California ICT Digital Literacy Assessment and Curriculum Framework, digital literacy is "the proficiency in the use of digital technology and communications tools and/or networks for accessing, managing, integrating, evaluating, creating, and presenting information and media. "sharing knowledge is essential in today's modern culture⁵³. According to one study, a person's level of digital literacy indicates digital is information recorded numerically and mostly used by a computer, and literacy include reading and understanding media, reproducing data and images through digital manipulation, and working effectively in a digital environment, assess and use the insights received from digital settings. The ability to comprehend and make effective use of information delivered digitally from a variety

of sources is what we mean when we talk about "digital literacy"⁵⁴. Effectiveness in accomplishing tasks in a digital setting; involves reading and understanding media, coding, and problem solving.

Edith Cowan University (ECU) after consulting several definitions and explanations came up with five elements of digital literacy called framework. The ECU Library Digital Literacy Framework incorporated all of these important concepts of digital literacy to develop a definition that meets the current and future digital needs of students and staff at ECU. ECU Library defines digital literacy as 'the ability to use digital technologies to access, evaluate, create and communicate information in a socially responsible and ethical manner'. This includes the elements of information, media and data literacy, digital creation and communication, digital citizenship and identity, digital technologies and digital learning⁵⁵.

Digital literacy is the ability to digitally replicate information and imagery for the purpose of evaluation and application of learning gained in such settings. In a similar vein, the European Reference Framework defines digital literacy as "the competent and critical use of information technology for work, leisure, and communication, "by proficiency in ICT, or the use of computers for information retrieval, analysis, storage, creation, presentation, interchange, and networking over the Internet. Another scholar defines digital literacy as the capacity to effectively use digital technologies in all aspects of one's life, including cognitive, emotional, and social. A scholar mentioned that the term is used to characterize the interactions we have with electronic devices, to a large extent mediate our social interactions; yet, critics argue that the literacy linked with. There is a lot of nuance involved in taking part in digital behaviors and cultures.

A person who is digitally literate is able to engage in a wide variety of social and cultural activities online. Digital literacy includes the ability to locate devices suitable for incorporation into computing devices, the ability to generate and communicate meaning through various modalities and formats, effective participation in creative pursuits, collaborative efforts, and communication, as well as the aptitude to acquire optimal skills for deploying digital tools in diverse scenarios.

The ability to think critically, creatively, and independently in the digital world is what we call "digital literacy." use of discretion and security measures when interacting with digital technologies in any context. The term "digital literacy" might mean different things to different people. make good use of a computer or a piece of software. Nevertheless, there is much more to digital literacy than just using technology. more than just being able to use a computer or knowing how to utilize one. The focus is on cooperation and security and being able to convey ideas clearly. It's about being sensitive to and accepting of people from different backgrounds encourages original thinking. Knowing how and when to use digital tools is essential for today's workforce among which library and librarians hold a very sensitive position. Technologies are useful and applicable to a given task, and when they are not.

More so, an organization defined digital literacy as “the ability of an individual to utilise computer systems for purposes such as; research, information creation and communication in order to participate effectively at home, at school, in the workplace, and in the community⁵⁶. This definition clearly identified, research, information creation and information communication as key digital literacy skills. Other definitions also highlight different skills. For instance, another definition of digital literacy present it as the capacity to make use of digital devices to safely and

appropriately access, manage, interpret, integrate, communicate, evaluate, and produce information for work, education, and business purposes. It encompasses competencies known variously as computer literacy, ICT literacy, information literacy, and media literacy⁵⁷.

To complement the above, digital literacy is defined as the ability to use digital technology, communication tools, and networks to acquire and assess knowledge, connect with others, and complete practical activities. It is also characterized as the ability to use digital tools securely and effectively for learning, collaboration, and information creation. In addition to the complexity regarding its definition, digital literacy as an embodiment of the knowledge, skills and attitudes required for thriving and succeeding in a digital society is also known by many other terms such as ICT literacy, media literacy, new literacy, digital competence and so on. The definitions that have been given to each of these related concepts have bear close resemblance to each other but each of the definition usually left something out which renders them ineligible as an umbrella term for digital literacy. Despite the fact that different definitions of digital literacy have been propounded by scholars, the central focus of all of them is on the information processing and retrieval utilizing new technologies, as well as communication and content development using ICTs deliverables.

Furthermore, digital literacy skills is a complete set of system, which comprise of different tools and designed to gather, store, process and communicate information. Digital literacy skills play a significant role in increasing Professional skills of collaboration, civic participation, information retrieval and social interaction. With digital literacy skills, library professionals will be more prepared for instant messaging, blogging, social networking and other digital activities. These skills also

help librarians for provision of better library services to their users according to their needs of information and education.

Media Literacy otherwise known as collaborative and communication skills according to the European Union of digital competence framework, is the ability to access, enjoy, interpret, analyze, produce, and evaluate messages in all varieties and combinations of print, visual, and digital formats. Media literate individuals can use communications media to solve problems. Media literacy skills are defined as the abilities to access, analyze, evaluate, create, and act using all forms of communication. They have a critical, informed understanding of the way that both individuals and organizations construct media messages. In addition, they recognize the role of the audience in both processing those messages and creating meaning from them. They are aware of the political, social, cultural, economic, and educational role of the mass media in society including knowledge of how media organizations operate. Through these understandings, media literate individuals are able to assess their own relationship to the media, and assign value, worth and meaning to media use and media messages. Communication and collaboration involves using digital technologies for interaction, communication, and cooperation while taking into account generational and cultural differences participation in society through both public and private digital services, as well as active citizenship to control one's online reputation, identity, and presence⁵⁸.

Elaborately, with the ever-evolving and increasing media world, the definition of media literacy has also shifted. Formerly, media literacy was simply defined as "the ability to access, analyze, evaluate, and create media in a number of ways." The Center for Media Literacy (CML), a forerunner in the field of media literacy education, provides a more thorough definition as follows: "Media Literacy is a 21st

century approach to education. It provides a framework for gaining access to, evaluating, and producing messages in a wide range of formats, from print and video to the web. Literacy in the media helps people develop the critical thinking and expressive abilities that are vital to participating in a democratic society. Expanding on this definition, "media literacy refers to an analytical, reflective understanding of print and electronic mass media, including film, their aesthetic components, institutional structures, socioeconomic contexts, and an ability to interact with media in preparing audio-visual products and in influencing media decision makers," as stated by the National Institute of Media Literacy Education⁵⁹. Media literacy is an approach that can be seen as either a new form of literacy or an augmentation of the definition of literacy as we know it today. Those advocating for the significance of media literacy recognize the pervasiveness of media in our lives and the fact that media is a part of modern culture; thus, the emphasis is often not placed on protecting or isolating young people from media and its messages, but on recognizing the role of the mass media and its subsequent influence while encouraging people to become "competent, critical, and literate in all media forms." The goal of media literacy education is to equip students with the tools they need to evaluate and create their own media⁶⁰.

Media literacy is the ability to critically analyze and evaluate various forms of media such as news, advertisements, and social media posts. In today's digital age, media literacy is essential to navigate and understand the information presented to us. In this literature review, we will examine the importance of media literacy skills and the various approaches taken to promote it. Media literacy skills are crucial in today's society, where we are constantly exposed to a vast amount of information. Research has shown that individuals with higher levels of media literacy are better able to

comprehend and evaluate the information presented to them⁶¹. Moreover, media literacy skills enable individuals to distinguish between facts and opinions, identify bias, and critically evaluate the source of information⁶². Several approaches have been taken to promote media literacy skills, including education programs, media literacy curriculum, and digital literacy tools. Education Programs: Education programs aimed at promoting media literacy skills have been implemented in various countries worldwide. For instance, in Canada, Media Smarts, a non-profit organization, offers educational resources to promote media literacy skills among children and young people⁶³. Similarly, in the United States, the National Association for Media Literacy Education (NAMLE) provides resources to educators to promote media literacy skills in schools⁶⁴.

Media Literacy Curriculum, Media literacy curriculum has been implemented in several countries worldwide. For instance, in England, media literacy is a mandatory subject in the national curriculum for students aged 5-16⁶⁵. Similarly, in Finland, media literacy is integrated into the national curriculum for students aged 7-19⁶⁶. Digital Literacy Tools: Various digital literacy tools have been developed to promote media literacy skills. For instance, NewsGuard is a browser extension that evaluates the credibility of news sources and provides ratings to users⁶⁷. Similarly, FactCheck.org is a website that fact-checks political claims and provides information on their accuracy⁶⁸.

As a result of the vast amount of knowledge available in today's society, information literacy is critical. People will not become educated citizens simply by being exposed to a large amount of information; they must learn how to use it effectively without breaching ethical standards. An information literate person may "reflectively explore information," "understand how information is produced and valued," and "use

information in developing new knowledge and engaging ethically in communities of learning," according to the Association of College and Research Libraries. In the United Kingdom, the term "information professional" is defined by the Chartered Institute of Library and Information Professionals, who emphasize the need of understanding "when" and "why" information is required⁶⁹.

To be information literate, a person must be able to understand when information is needed and the ability to search, assess, and use effectively the needed information," as stated by the American Library Association (ALA) Presidential Committee on Information Literacy in 1989⁷⁰. The question "Are information literacy teaching and bibliographic instruction the same?" was posed in a 1990 paper by academic Lori Arp⁷¹. It was stated that neither term had a clear definition among experts in the field of theory or practice. Further research was required to clarify the issue and further define the scope of the inquiry. Information literacy is a human right in the digital age, according to the 2005 Alexandria Proclamation, which states, "Information literacy empowers people of all walks of life to seek, evaluate, use, and create information effectively to achieve their personal, social, occupational, and educational goals, and promotes social inclusion in all nations." Traditional literacy, computer literacy, research skills, and critical thinking are additional instructional outcomes associated to information literacy. In response to the widespread spread of false information, fake news, and disinformation, educators and librarians are increasingly interested in the field of information literacy. Educators, according to the literature, should pressure governments and businesses to sponsor educational programs in information literacy if they want citizens to be as productive as possible in a democratic and pluralistic society.

Information literacy skills refer to the ability to locate, evaluate, and use information effectively and efficiently. In today's digital age, these skills are more important than ever, as individuals are inundated with a constant stream of information from a variety of sources. This literature review examines the importance of information literacy skills and explores the research conducted in this field. The ability to locate, evaluate, and use information is critical for success in both academic and professional settings. According to the Association of College and Research Libraries (ACRL), information literacy skills are essential for lifelong learning and "encompass the knowledge, skills, and dispositions necessary to identify, understand, evaluate, and use information ethically and effectively"⁷². In addition, the ACRL notes that information literacy skills are essential for participating in a democratic society, as they enable individuals to make informed decisions and engage in critical thinking. Numerous studies have examined the importance of information literacy skills and the impact they have on individuals' academic and professional success. For example, a study conducted some researchers found that students who possessed strong information literacy skills were more likely to achieve higher grades and complete their coursework more efficiently⁷³. Similarly, a study another author found that information literacy skills were positively correlated with academic performance and that students who possessed these skills were more likely to engage in critical thinking⁷⁴. In addition to their impact on academic success, information literacy skills are also critical for success in the workplace. A study by the Pew Research Center found that 80% of American workers use the internet on a daily basis as part of their job, and that 77% of these workers believe that digital skills are essential for success in the workplace. Similarly, a survey conducted by the Association for Talent Development found that 87% of

employers believe that information literacy skills are essential for their employees' success⁷⁵.

Libraries have leveraged the promotion of information literacy to increase their relevance in the modern information environment. On January 10, 1989, a report was published by the American Library Association's Presidential Committee on Information Literacy that discussed the significance of information literacy, ways to improve one's information literacy skills, and the need for a new kind of school: the Information Age School. The complete title of this document is the Final Report of the Presidential Commission on Information Literacy. A coalition of more than 90 national and international organizations, the National Forum on Information Literacy was formed in response to the Committee's recommendations later that year⁷⁶.

The "Seven Pillars of Information Literacy" model was published in 1999 by the Society of College, National and University Libraries (SCONUL) in the United Kingdom. The model's purpose was to "facilitate further development of ideas amongst practitioners in the field... stimulate debate about the ideas and about how those ideas might be used by library and other staff in higher education concerned with the development of students' skills." Since then, several other nations have also adopted information literacy criteria for their own populations. The National Forum on Information Literacy, together with UNESCO and the National Commission on Libraries and Information Science, sponsored an international conference in Prague in 2003 to discuss the significance of information literacy within the context of a global setting. In attendance at the conference were representatives from twenty-three different countries. The Prague Declaration that emerged as a result of these discussions referred to information literacy as "the key to social, cultural, and economic development of nations and communities, institutions, and individuals in

the 21st century" and declared that acquiring information literacy was "part of the basic human right of lifelong learning." During the first term of President Barack Obama in the United States, information literacy was elevated to the level of a national priority, and the month of October was proclaimed as National Information Literacy Awareness Month⁷⁷.

In a study on Digital Literacy Skills Among Librarians in University Libraries in the 21st Century in Edo and Delta States, Nigeria, the findings show that electronic mailing, social networking, use of PDAs, mobile phones and internet surfing are the major DLS amongst librarians. It was also discovered that librarians acquired DLS through colleague's assistance, trial and error, IT programmes and formal education while librarian's level of use of DLS is low amongst other findings⁷⁸.

In an assessment study of digital literacy skills and knowledge-based competencies among librarians working in university libraries in Africa. The study found that librarians working in university libraries in Africa rated their database search skills, uploading documents to online platforms, skills in using different social media, sending and receiving e-mails skill, digital library development skills, skills in applying new technologies into library services, ability to create different file formats and ability to use open source software as very high. While, metadata development skills, and library website development skills were rated to be moderate and low. Overall, the librarians rated their level of digital literacy skills possessed to be moderate, and differences emerged between librarians in Nigeria and South Africa with regard to digital literacy skills possessed⁷⁹.

Over all, Researchers have examined librarians' proficiency with digital technologies. One study evaluated the information literacy levels of Madonna University, Okija's

library staff. Researchers discovered that librarians' lack of digital literacy meant that library services to patrons were likewise subpar. In addition, the library had access to most forms of information and communication technology, but librarians were averse to employing them in service provision⁸⁰. Another researcher looked into the level of technological knowledge held by university of the Punjab librarians. It was discovered that librarians have the information technology capabilities essential to implement library automation. Yet, providing information services to such people necessitated a higher level of technological expertise⁸¹. In addition, another researcher assessed the degree of digital literacy among library staff in Tamil Nadu's engineering college libraries. He discovered that while many librarians had sufficient expertise in areas like internet use and computer literacy, very few had the same level of expertise in computer programming⁸². The digital literacy levels of faculty and law students at India's Banaras Hindu University were also investigated. They discovered that the vast majority of respondents used internet resources on a daily basis to keep their expertise up to date. And they were using a search engine and fundamental search strategies to find what they wanted.

It is very clear not only to know but to accept the fact that ICT competences which is a combination of digital, media and information literacy has inevitably become the survival skills. Even some scholars were unable to differentiate between the trio as their explanation of each cut across. The truth remains that they are a survival skill of the 21st Century that librarians must embrace otherwise the library and librarians may go into extinction and stay out of relevance. Moreover, these trio (digital, media and information literacy) are tools to the librarians that if effectively utilized they can help foster librarianship as a course and as a discipline. They are tools in the sense that they can be harnessed into library routines and services to make it faster, better and

more efficient, they lessen the monotonous works of library and librarians and they. From studies, the use of these skills poses a great danger to the illiterates as they can be violated and used unethically but to the librarians who understand the nitegrity as well as the integrity of information in respect to information creation, processing, dissemination and overall utilization of ICTs and its components are viable tools for effectiveness and efficiency.

2.2. Theoretical Framework

2.2.1 Libqual Model

The Libqual model is a well-known assessment tool used in libraries to measure and evaluate the quality of library services from the perspective of users. It was developed by the Association of Research Libraries (ARL) in collaboration with Texas A&M University Libraries and has been widely adopted by libraries around the world since its introduction in the early 2000s. The Libqual model is based on the premise that user perceptions of library service quality can be assessed through a combination of qualitative and quantitative data. It seeks to measure three key dimensions of library service quality which are Affect of Service, Information Control, and Library as Place.

Affect of Service, this dimension focuses on the user's emotions and feelings related to the library service experience. It includes factors such as the willingness of library staff to help, the politeness and friendliness of staff, and the responsiveness of the library to user needs. Information Control, this dimension assesses the user's perception of their ability to access and control information resources effectively. It includes factors such as the ease of finding information, the reliability of search tools, and the availability of resources in the desired format. Library as Place, this dimension evaluates the user's perception of the library as a physical space. It includes

factors such as the comfort and cleanliness of the library, the availability of quiet study areas, and the adequacy of seating and workspaces.

To gather data on these dimensions, the Libqual model employs a combination of qualitative and quantitative methods. It typically involves a web-based survey administered to library users, which includes a series of questions designed to capture their perceptions and expectations of library services. The survey employs a Likert scale, where users rate statements on a scale of importance and satisfaction. The survey responses provide quantitative data that can be analyzed to calculate gaps between users' expectations and perceptions of library service quality. These gaps indicate areas where improvements may be needed to meet user expectations.

In addition to the quantitative data, the Libqual+® model also encourages libraries to collect qualitative data through open-ended questions in the survey. These qualitative responses offer insights into specific issues or concerns raised by users, providing valuable context to the quantitative findings. Once the data is collected, libraries can analyze and interpret the results to identify areas of strength and areas for improvement. The Libqual model provides a set of benchmarking tools and resources to help libraries compare their results with peer institutions and track their performance over time.

By using the Libqual model, libraries have gained a better understanding of user perceptions and expectations, enabling them to make informed decisions about resource allocation, service improvements, and strategic planning. It promotes a user-centered approach to library services and helps libraries align their offerings with the needs of their patrons. Over the years, the Libqual model has evolved and been refined to address emerging trends and changes in library services. It has been widely

adopted by academic, research, and public libraries worldwide, providing a standardized framework for assessing and improving library service quality.

Situating the model to the library, the affective dimension of the model consists of five sub-measure which are reliability, assurance, tangibles, empathy, and responsiveness. Reliability refers to the ability of the service provider to perform the promised service consistently and accurately. Customers expect the service provider to deliver on their promises, and reliability is the cornerstone of any service-based business. Reliability is measured by the extent to which the service provider delivers the service as promised, the accuracy of the information provided, and the ability to meet deadlines and schedules¹¹⁴.

Assurance refers to the knowledge and professionalism of the service provider and its staff. Customers expect the service provider to have the necessary knowledge and skills to provide the service, and assurance is measured by the extent to which the service provider inspires confidence and trust in the customer. Assurance is also about communication, such as how well the service provider explains the service to the customer, how responsive they are to the customer's needs, and how well they handle complaints and feedback. Tangibles refer to the physical aspects of the service, such as the appearance of the service location, the equipment used, and the appearance of the service Professional. Customers expect the service provider to provide a clean, attractive, and professional environment. Tangibles are measured by the physical appearance of the service location, the equipment used, and the appearance and demeanor of the service Professional¹¹⁵.

Empathy refers to the service provider's ability to understand and address the customer's needs and concerns. Customers expect the service provider to listen to

their needs, understand their concerns, and respond appropriately. Empathy is measured by the extent to which the service provider is sensitive to the customer's needs and concerns, how well they listen and respond to the customer, and how well they show care and concern for the customer. Responsiveness refers to the service provider's ability to provide timely and appropriate service to the customer. Customers expect the service provider to be responsive to their needs and requests, and to provide quick and efficient service. Responsiveness is measured by the speed of service, the willingness of the service provider to help the customer, and the ease of access to the service^{114, 115, 116}.

Library as a place which is otherwise known as tangibility refers to the physical appearance of the library and its facilities. In librarianship, tangibles may include the physical condition of the library building, the quality of the furniture and equipment, and the availability of technology such as computers and printers. Reliability: This dimension refers to the ability of the library to deliver its services dependably and accurately. In librarianship, reliability may be evaluated by how well the library staff meets patrons' needs, how quickly they respond to requests, and the accuracy of the information they provide¹¹⁷.

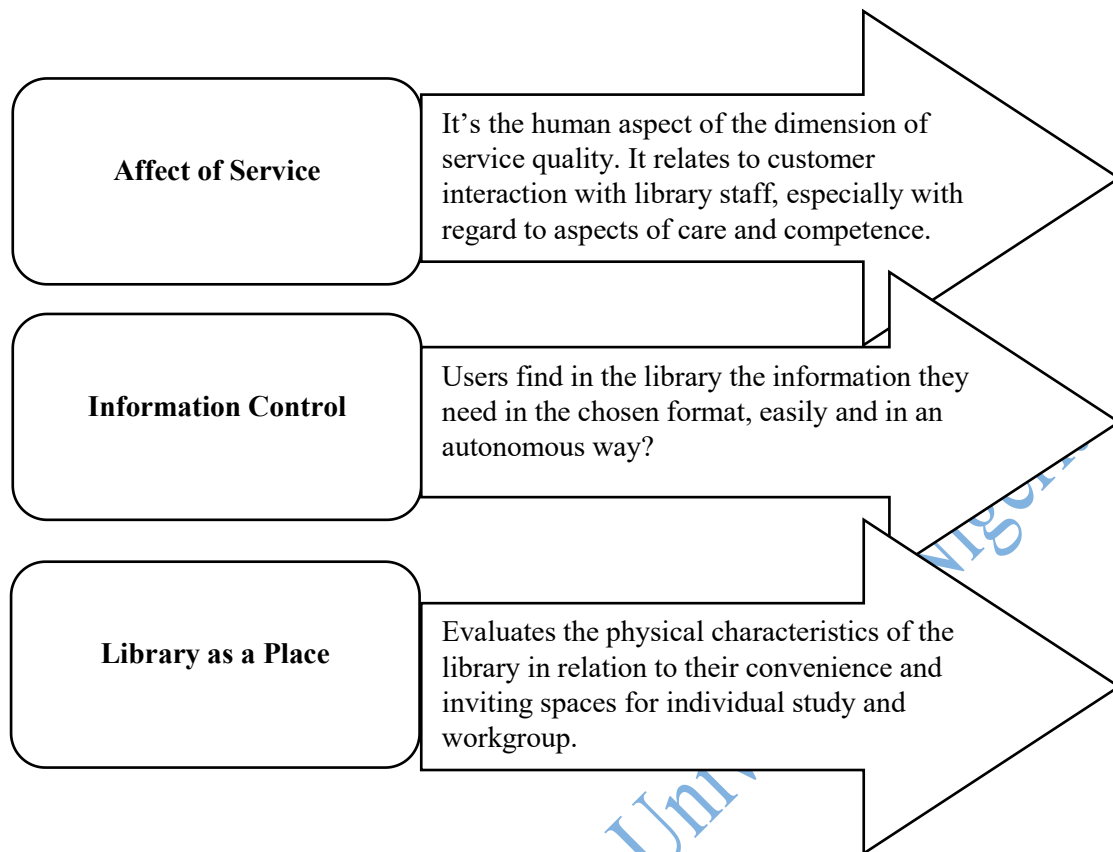


Fig. 2.1. Libqual model of service quality by The Association of Research Libraries (ARL)¹⁷⁷

2.2.2. Social Learning Theory by Bandura (1977)

Social Learning Theory is a psychological theory that emphasizes the importance of observing and modelling the behaviour, attitudes, and emotional reactions of others as a means of learning. This theory was developed by Albert Bandura, a Canadian psychologist, in the mid-20th century. According to social learning theory, people learn new behaviours through observation, imitation, and reinforcement. Observational learning occurs when people observe the behaviour of others and its consequences, which can then influence their own behaviour. People are more likely to imitate behaviours that they perceive as rewarding, while they are less likely to imitate behaviours that are punished.

Social learning theory also emphasizes the role of cognitive processes in learning. People can learn by thinking about the behaviour they observe and the potential consequences of their own actions. This process is called cognitive modelling, which involves thinking about how to perform a behaviour rather than just imitating it. The theory also emphasizes the importance of personal agency, or the belief that individuals can influence their own behaviour and their environment. This means that people are not passive recipients of their environment, but rather active agents who can shape their own learning experiences. Overall, social learning theory emphasizes the importance of observing and modelling behaviour, cognitive processes, and personal agency in learning new behaviours. It has been applied to a wide range of areas, including education, therapy, and social psychology.

Although it was later asserted that Human behaviour can be explained by more than just social learning theory. Instead, behavioural theories and other forms of environmental psychology explain behaviour as the effect of external factors rather than innate tendencies. Social psychologists, for example, argue that people's actions are influenced by their relationships with others and their immediate surroundings. One of the key tenets of social learning theory is that we pick up new skills and knowledge by watching and emulating others around us. According to the notion, a person's learning and behaviour can be affected by their physical characteristics, emotional responses, and social surroundings. It also implies that the probability of a behaviour can be affected by reinforcement, such as incentives or punishments. Furthermore, the idea proposes that an individual's behaviour may be influenced in a positive or negative direction depending on whether they have been exposed to a positive or negative role model. This is a classic illustration of social learning theory, which is frequently invoked to justify why kids copy their parents' actions¹⁰⁹.

Role modelling can result in either positive or bad outcomes, despite the fact that social learning theory holds that it is crucial to learning. Behavioural explanations that just consider cognitive processes, environmental variables, and other learning theories fall short of providing a complete picture. Peer competition, for instance, can have a good effect on learning and behaviour, but exposure to aggressive role models might have the opposite effect. Overall, Bandura's Social Learning Theory is a significant psychological theory since it proposes that learning occurs through observation and imitation of others. According to this theory, a number of variables—including reinforcement, role models, and cognitive processes—can affect the learning process and result in either good or negative actions. In addition, this theory has been applied extensively in clinical psychology, social psychology, and even media violence. Social learning is based on the concept of observational learning¹¹⁰. The theorists defined that Observational learning, also known as social learning, is the process by which individuals learn new behaviour and skills by observing and imitating others. Observational learning is a critical component of socialization and human development. It is an essential tool for learning, problem-solving, and survival. In this study, we will explore the principles of observational learning, its application in different settings, and the factors that influence its effectiveness.

Observational learning involves four basic steps: Attention: The learner must first pay attention to the model's behaviour. This requires the learner to focus on the model and ignore other distractions. Retention: The learner must then remember the behaviour they observed. This requires the learner to encode the behaviour into their memory. Reproduction: The learner must then be able to reproduce the behaviour they observed. This requires the learner to have the physical and mental ability to imitate the behaviour. Motivation: The learner must be motivated to reproduce the behaviour.

This requires the learner to see the behaviour as desirable or rewarding. Observational learning is used in many different settings, including education, healthcare, and business. Here are some examples of how observational learning is applied in different settings: Education: Teachers often use modelling to teach students new skills and behaviors¹¹¹. For example, a teacher may model how to solve a math problem or how to write an essay, and then have the students imitate the behaviour. Healthcare: Medical professionals use observational learning to teach patients how to manage their health. For example, a nurse may model how to use an inhaler to a patient with asthma, and then have the patient imitate the behaviour. Business: Managers often use modelling to train new employees. For example, a manager may model how to interact with customers or how to use a new software program, and then have the employee imitate the behaviour.

Observational learning can be influenced by many different factors, including, Attention: The learner must pay attention to the model's behaviour. If there are distractions or if the behaviour is not perceived as important, the learner may not pay attention. Retention: The learner must remember the behaviour they observed. If the learner has poor memory or if the behaviour is complex, they may not be able to retain the behaviour. Reproduction: The learner must be able to reproduce the behaviour they observed. If the behaviour is too difficult or if the learner lacks the physical or mental ability to imitate the behaviour, they may not be able to reproduce it. Motivation: The learner must be motivated to reproduce the behaviour. If the behaviour is not perceived as desirable or rewarding, the learner may not be motivated to imitate it. Observational learning is a powerful tool for learning new behaviours and skills. It is a natural and effective way of learning, and it is used in many different settings¹¹². However, the effectiveness of observational learning can be influenced by

many different factors. Therefore, it is important to understand these factors and to use them to enhance the effectiveness of observational learning.

Social learning suggests that individuals like librarians learn by observing the behaviour of others and the consequences that follow. This theory can be applied to librarianship in a number of ways. Firstly, librarians can use social learning theory to design effective instruction and training programs for library staff. By observing other librarians as a professional role model or on the job training and the behaviours that lead to successful library use, individuals can learn how to navigate the library and access its resources more effectively carry out professional duties like cataloguing, classification, users orientation and so on. This can lead to a more positive job experience which in turn enhances user experience and increased usage of library resources¹¹³.

Secondly, librarians can use social learning theory to promote collaborative learning and group work within the library. By creating spaces and programs that encourage group work and collaboration, individuals can learn from each other and develop new skills and knowledge. Furthermore, social learning theory can be used to develop and promote information literacy skills within the library. By observing and modelling information literacy behaviours and practices, librarians can help individuals to develop critical thinking skills and become more effective users of information. In summary, social learning theory provides a useful framework for understanding how individuals learn and how librarians can design effective programs and services to support learning within the library, among librarians and inculcate the aspect of knowledge management which is socialization otherwise known as tacit to tacit knowledge transfer¹¹⁴.

However, while social learning theory has been influential in explaining how individuals learn through observation and modelling, it has limitations and does not fully account for the complexity of human behaviour. For instance, it ignores individual differences. Social learning theory assumes that individuals learn by observing and imitating others. However, it does not account for the fact that people have different cognitive and emotional processes, motivation levels, and learning styles. Some individuals may be more or less receptive to social learning than others.

2.2.3 European Initiatives Digital Competence Framework

The framework provides a standardized method for the European Union's working population to assess their own skill levels, establish personal development objectives, locate relevant educational resources, and advance their careers. More than 20 instruments, covering a wide range of societal sectors and EU member states, have been influenced by the Digital Competence Framework. The framework identifies five categories of essential digital skills:

Ability to express information needs; search, retrieve, store, and manage digital data, content, and information; and evaluate the reliability and accuracy of information sources are all examples of information and data literacy. The capacity to interact, communicate, and collaborate with others through the use of digital technologies, with due regard for cultural and generational diversity, in order to manage one's digital identity and online reputation, and to actively participate in society by means of the use of digital public and private services (media literacy). The capacity to develop, edit, and improve digital content while adhering to license and copyright standards; or the aptitude to rework and integrate data and give directions to a

computer system or device. Protecting one's own and one's employer's devices, as well as one's own and one's employer's data and sensitive information in digital environments, is an important part of digital safety, as is knowing how technology affects one's mental and physical health and being aware of the environmental impact of digital. Problem-solving skills, including the ability to recognize issues and find solutions in a variety of digital settings, proficiency with digital tools for enhancing processes, services, and products, and awareness of technological developments,



Fig. 2.2. European Initiatives Digital Competence Framework

2.3. Review of Empirical Studies

2.3.1 Continuous Professional Development and Service Quality

Continuous Professional Development Technique and service quality are crucial factors that organizations should prioritize to remain competitive and satisfy their customers. This review aims to provide an empirical analysis of the literature on continuous professional development technique and service quality. A study conducted by group of researchers investigated the relationship between continuous professional development technique and service quality in the hotel industry. The study revealed that Continuous Professional Development Technique had a significant positive impact on service quality. The authors recommended that hotels should invest in the continuous development of their Professional to improve service quality and enhance customer satisfaction⁸³. Another study that examined the effect of continuous professional development technique on service quality in the healthcare industry. The study found that continuous professional development technique had a significant positive impact on service quality. The authors suggested that healthcare organizations should prioritize Continuous Professional Development Technique to improve service quality and patient satisfaction⁸⁴. Moreover, a study that explored the relationship between continuous professional development technique and service quality in the restaurant industry. The study revealed that continuous professional development technique had a significant positive impact on service quality. The authors recommended that restaurants should focus on the continuous development of their Professional to improve service quality and customer satisfaction⁸⁵. In addition, a study that investigated the impact of continuous professional development technique on service quality in the banking industry. The study found that continuous professional development technique had a significant positive impact on service quality. The authors recommended that banks should invest in the continuous

development of their Professional to improve service quality and enhance customer satisfaction⁸⁶.

Furthermore, a study that examined the relationship between continuous professional development technique and service quality in the retail industry found that continuous professional development technique had a significant positive impact on service quality. The authors recommended that retailers should prioritize the continuous development of their Professional to improve service quality and customer satisfaction⁸⁷. Overall, the empirical evidence suggests that continuous professional development technique has a significant positive impact on service quality across various industries. Organizations should invest in the continuous development of their Professional to improve service quality, enhance customer satisfaction, and remain competitive in the market.

Service quality is broadly measured by users satisfaction, this means that the degree at which user are satisfied with library products, librarians attitudes and services rendered is the degree at which such library is adjudged to have meet the standard. This is based on the assumption that library being a service organization where the customers (users or clientele) are the king and must be treated as such. The user automatically becomes the decider and their satisfaction is paramount to the determinant of the degree to which library services is termed quality. In a study conducted on Library Employees' Perspective of Capacity Building through Continuing Professional Development in the Republic of Maldives 49 responses using interview for data collection, the findings revealed that only 30.7% of the respondents had participated in any CPDT learning programs⁸⁸. These will automatically have negative effect on the services delivery because it takes un updated and upgraded librarians to offer updated and upgraded services.

For instance, some researchers conducted a study on user's satisfaction on Library Resources and Services in Tezpur University (India). The finding shows that majority 71 (44.65%) of the respondent were satisfied with the text books, 63 (39.62%) of the respondent were highly satisfied with the online database resources and 63 (39.62%) of the respondent were also satisfied with the regular supply of newspapers/magazine. The finding also revealed that majority of the respondents were satisfied with the electronic information services, library orientation programme to fresher, current awareness services, reservation of library resources to users, reprographic services. It was however, discovered that users were dissatisfied with the mobile alert services⁸⁹. In a related study which evaluated the use of library materials and services in private universities in Nigeria. Among the objectives of the study was to investigate the degree of users satisfaction in the library materials and perception of services. The study shows that 60% of the respondents agreed that the textbooks were adequate, 72% of the respondents agreed that the supply of newspaper in the library was regular and 59.9 % respondents accepted that the reference services was perfect⁹⁰.

In contrast with the above finding is the finding of a study on Users' Satisfaction with Library Information Resources and Services: A Case Study College of Health Sciences Library Niger Delta University, Amassoma, Nigeria. It was found that respondents with a mean score of 2.54 respondents accepted that they were highly dissatisfied with the newspapers services in the serial section. A mean score of 2.19 respondents agreed that they were dissatisfied with the number of available computers in the library for users to source online information. A mean core of 2.08 respondents accepted that the reference materials in their subject areas were not up to date. It was also seen that a mean score of 2.04 respondents accepted that they were dissatisfied with the national and international journals because they were not up to date. It could

be seen from the table that respondents with a mean score of 1.87 respondents accepted that they were highly dissatisfied with the books on the shelves. More so, the same study revealed that Respondents with mean score of 1.57 accepted that they were dissatisfied with project and thesis collection resources in the library. Respondents with mean score of 1.51 did agree to the fact that electronic resources such as CD ROMs were not comprehensive Respondents with mean score of 1.47 accepted that they were highly dissatisfied with the library bulletin and newsletters. Respondents with mean score of 1.42 accepted that the subscription of online databases were not regular and were inadequate online databases resources in subject areas had mean score of 1.39 respondents that agreed to this fact⁹¹.

Aa study examined the ICT Skills and Competencies of 60 Library and Information Science Professionals working in College Libraries, University of Delhi. All the 60 filled in questionnaires (20 Librarians, 20 Professional Assistants, and 20 Semi-Professional Assistants) the study found that that only 13 per cent LIS respondents have added an academic degree in their profession, whereas, 88 per cent did not acquire any academic qualification in their career after joining the library⁹². This means that a huge percentage of 88% of the respondents out of 60 librarians has not upgraded their professional skills as far as formal education is concerned. The implication is that the librarians would have accumulated a huge gap in knowledge which in indirectly or directly have impact on the services rendered based on the pace at which the library is moving with the current cataclysmic changes being caused by information and communication technologies.

In a study on the impact of service quality on user satisfaction: A case study of selected public libraries in Bangladesh, It was shown that the coefficient of multiple determination is $R^2=.629$. This means that 62.9 percent variations in the dependent

variable i.e. library user satisfaction are described by independent variables that include tangibles, reliability, Responsiveness, Assurance, empathy and the remaining 37.1% can be attributed to other factors that are not studied. The value of adjusted R² (61.6%) is very close to R² (62.9) which indicates the addition of more independent variables contributes to explaining the level of library user satisfaction. More so looking at the hypothesis, that tangibles, reliability, Responsiveness, Assurance, and empathy are significant predictors to measure library user satisfaction. It was shown that, Hypotheses 1, Hypotheses 2, Hypotheses 3, Hypotheses 4 Hypotheses 5 are supported because all P-value is less than .05⁹³. To buttress further, a study on Service quality of libraries of Indian council of agricultural research institutes of Kerala, India also used SERVQUAL model to examine if there is an impact of library services on user satisfaction. In their study, they used a sample of 180 students and found that most of the Universities in India have a poor service quality, which is the main reason behind low user satisfaction and footfall in libraries⁹⁴.

In another study on Service quality assessment model for academic libraries, A survey was conducted among 552 respondents, including teachers, students and researchers from ten private university libraries of Bangladesh, it make use of SERVQUAL model. The findings showed that the overall mean of minimum service expectation was 4.73, desired service expectation was 5.84, and actual service performance was 5.11 indicated that the users of the selected private university libraries were satisfied with the service provided by their libraries. Among the 28 statements of the five dimensions of service quality, “convenient library hours” occupied the highest perceived mean of 5.45, followed by another top-five perceived services were “library staff are always available in the library to help users” scored 5.34, “the library has the suitable space that encourages study and learning” scored 5.29, “the internal

environment is calm, welcoming and conducive to study” scored 5.24 and both “library staff have the ability to guide users properly” and “library staff deal with users in a considerate manner” scored 5.22. On the other hand, the service statement “Library resources adequately cover your field of study” forms the lowest perceived mean of 4.82, followed by another lowest five perceived services were “Digital Institutional Repository is rich” scored 4.85, both “The library is fully automated” and “Library resources are updated” scored 4.93, “Library staff inform users regularly regarding the current progress of the library” scored 4.94, and “Library staff are giving individual attention to meet research needs” scored 5.03. The actual service performance of all items existed within the tolerance zone of the respective items indicating the users were satisfied with the service provided by their university libraries. Furthermore, Among the five dimensions of service quality, the highest overall performance was 5.19 for tangibles, followed by 5.14 for competence, 5.14 for demeanor, 5.13 for responsiveness and, consequently, 4.97 for resources formed the lowest perceived score. The actual service performance is 4.97 (MSE = 4.53-DSE = 5.70) for resource, 5.14 (MSE = 4.74-DSE = 5.86) for competence, 5.13 (MSE = 4.76-DSE = 5.85) for responsiveness, 5.14 (MSE = 4.78-DSE = 5.84) for demeanour, and 5.19 (MSE = 4.84- DSE = 5.94) for tangibles. It is found that all dimensions existed within the tolerance zone of the respective dimensions indicating the users were satisfied with the staff’s competence, demeanour and responsiveness, as well as tangible facility and resource of the libraries⁹⁵.

In another descriptive survey of Undergraduates’ Perception of Library Service Quality and Value in the 21st-Century in Southeast Nigeria: A Case Study, The population of the study consists of 14,196 registered undergraduates of PFANL, From the list of services, the researchers observed through a checklist that

the following services were available- reference services, users' orientation services, computer/internet services, reprographic services, loan services, assistance/support services, serial services, bindery services, cataloguing, and classification services, circulation services, user registration and clearance services, current awareness services, research support services, open and closed access services. On the other hand, the following services were not available; bibliographic control services, disability support services, book reserve services and recreation services. Empirically, the finding shows that the respondents perceived provision of serial services (3.32), circulation services (2.53), reference services (2.95), assistance by library Professional (2.82), and user orientation services (2.56) as of high/good quality, commendable and encouraging while respondents attest that computer/internet services (2.27) and reprographic services (2.44) provided in the library are not satisfactory in this 21st century. In other words, the respondents' perception of these two service quality is low. Furthermore, it was also indicated that the respondents' perceived provision of serial service (3.31), circulation services (2.51), reference services (2.84), and assistance/ supportive services by library Professional (3.07) as valuable and more commendable. While respondents attest that computer/internet services (2.17), reprographic services, and user orientation services provision were not satisfactory, commendable, and encouraging⁹⁶. In the same study, factors that affect the users perception of library service quality in this 21st century in PFANL are insufficient current information resources (3.19), an unfriendly attitude of the staff (2.99), slow internet connectivity (3.32), limited access, and insufficient availability of modern facilities (2.97), insufficient training on technology use (2.66) and unsteady power supply (2.51)⁹⁷.

In a study that use Libqual model to analyze the gap between customer's perception and expectation, concerned with the services at the University Sultan Zainal Abidin (UniSZA) Library Assessing the effects of service quality on customer satisfaction, the researchers came up with six dimensions of service quality; namely general services, search for materials, library collection, staff, environment and environment, it was found that the service quality had significant impact on customer satisfaction. Specifically, the probability of getting a critical ratio as large as 6.221 in absolute value is less than 0.001. In other words, the regression weight for service quality in the prediction of customer satisfaction is significantly different from zero at the 0.001 level (two-tailed). As is shown, the beta estimate between service quality and customer satisfaction is very high ($\beta = 0.619$) which is greater than 0.50 indicating that this predictor constructs (General Service, Search for Material in Library, Library Staff, Library Collection, Facilities, and Library Environment) are very importance to increase the level of customer satisfaction⁹⁸.

To buttress further, a study that evaluated the effects of SERVQUAL dimensions on user satisfaction at Eastern University Library, Bangladesh. A modified SERVQUAL instrument was adapted to the local arrangements and included 30 statements under five dimensions with a seven-point Likert scale for evaluating the effects of library service quality on user satisfaction. A survey was conducted among 51 teachers and 163 undergraduate and 38 postgraduate students. The effects of five SERVQUAL dimensions were computed through multiple regression analysis, where the five dimensions were used as independent variables and user satisfaction was used as the dependent variable. The regression model was established as significant ($p < 0.001$) and explained the 56.9% variation in user satisfaction. The results recommended that tangible facilities ($p < 0.001$), staff responsiveness ($p < 0.001$) and the resources ($p <$

0.004) of the library significantly influenced user satisfaction⁹⁹. Staff responsiveness which mostly arises as a result of Continuous Professional Development Technique had significant influence on the service quality thus influencing the users satisfaction

2.3.2 Information and Communication Technology Skills and Service Quality

Technological advancement has forced libraries of every type to change their traditional services and routines by adopting emerging technologies to respond to the changing information needs of their users who are now more technologically inclined and prefer to access information remotely and in a timely manner. The emergence of Information and Communication Technology has given the librarian and the library as an institution little or no chance to remain traditional. They are forced to embrace the trends thus the need for upskilling in all areas especially in the digital world as satisfaction of users does not only rely on the quality of manual library services but the digital library services as well.

Specifically, there have been several empirical studies that have examined the relationship between information and communication technology (ICT) skills and service quality. Here are some examples. For instance, a study by examined the impact of ICT skills on service quality in the banking industry in Kuwait. From the 800 questionnaires, 700 responses were received, representing an effective response rate 87.5%. it shows that there are significant differences between the perceptions of the customers of the three Islamic banks in relation to the technology dimension. The statistical significance of the alternative hypothesis can be seen in the P-value (P-value= .000). The alternative hypothesis is, therefore accepted, which implies that there are differences between the customers of KFH, KIB, and Boubyan Bank in regarding technology dimensions as indicators of service quality. The study found

that employees' ICT skills had a significant positive effect on service quality. This means that the quality of services they rendered is a off-shoot of the various ICT skills acquired over time¹⁰⁰. More so, a study that investigated the relationship between ICT skills and service quality in the Iranian banking sector. The results showed that there was a positive and significant relationship between ICT skills and service quality¹⁰¹. Another recent study that explored the impact of ICT skills on service quality in the hospitality industry in South Korea, found that ICT skills had a significant positive effect on service quality¹⁰². A study investigated the relationship between ICT skills and service quality in the Indian healthcare sector. The study found that there was a positive and significant relationship between ICT skills and service quality. Overall, these studies suggest that ICT skills are an important factor in determining service quality in various industries. Having employees with strong ICT skills can lead to better customer service experiences and higher levels of satisfaction¹⁰³.

In a study on ICT Skills and Competencies of 60 Library and Information Science Professionals working in College Libraries, University of Delhi, results showed that 63.3 per cent received training by software suppliers, while 61.7 per cent received the formal education, followed by on the job training by 53.3 per cent respondents. The dependency on Refresher course has been ranked least (31.7%). It is clear that Workshop or seminar/conferences got an edge over others¹⁰⁴.

2.3.3 Continuous Professional Development Technique, Information /Communication Technology Skills and Service Quality

Several scholars have opined that the area of Information and communication Technology has not been fully exploited by librarians in their quest to improve and

develop professionally especially in the developing nations of the world. For instance, in a study on the facts of continuing professional development for LIS professionals in Pakistan: a literature review. The researchers found that albeit many initiatives have been taken by library and information science (LIS) schools and professional associations for developing the capabilities of librarians and information professionals, however, these initiatives remained spasmodic and limited to developing surface-level skills. Some emerging areas need to be addressed including information/digital literacy, research data management, data analysis and visualization and the skills to establish institutional repositories¹⁰⁵. Being equipped with such skills will add quality to services rendered by librarians.

In a study on the level of digital competencies for the provision of smart information service at academic libraries in Jordan, the researcher before the findings asserted that technological advancement has forced libraries to change their traditional services and routines by adopting emerging technologies to respond to the changing information needs of their users who are now more technologically inclined and prefer to access information remotely and in a timely manner. The results indicated a moderate level of smart information service offered by academic libraries, as well as a moderate level of digital skills associated with the advocacy of smart information services. The results also indicated a strong and positive relationship between the level of smart information services at the investigated libraries and the level of digital competencies among the librarians¹. From the study it is shown that only digitally competent librarians can offer smart information services. These competences can be learned through continuous development programs or settings in the library. It shows that smart information services can only be rendered to the degree at which the librarians to render is Information and Communication Technology compliant

2.4. Conceptual Model

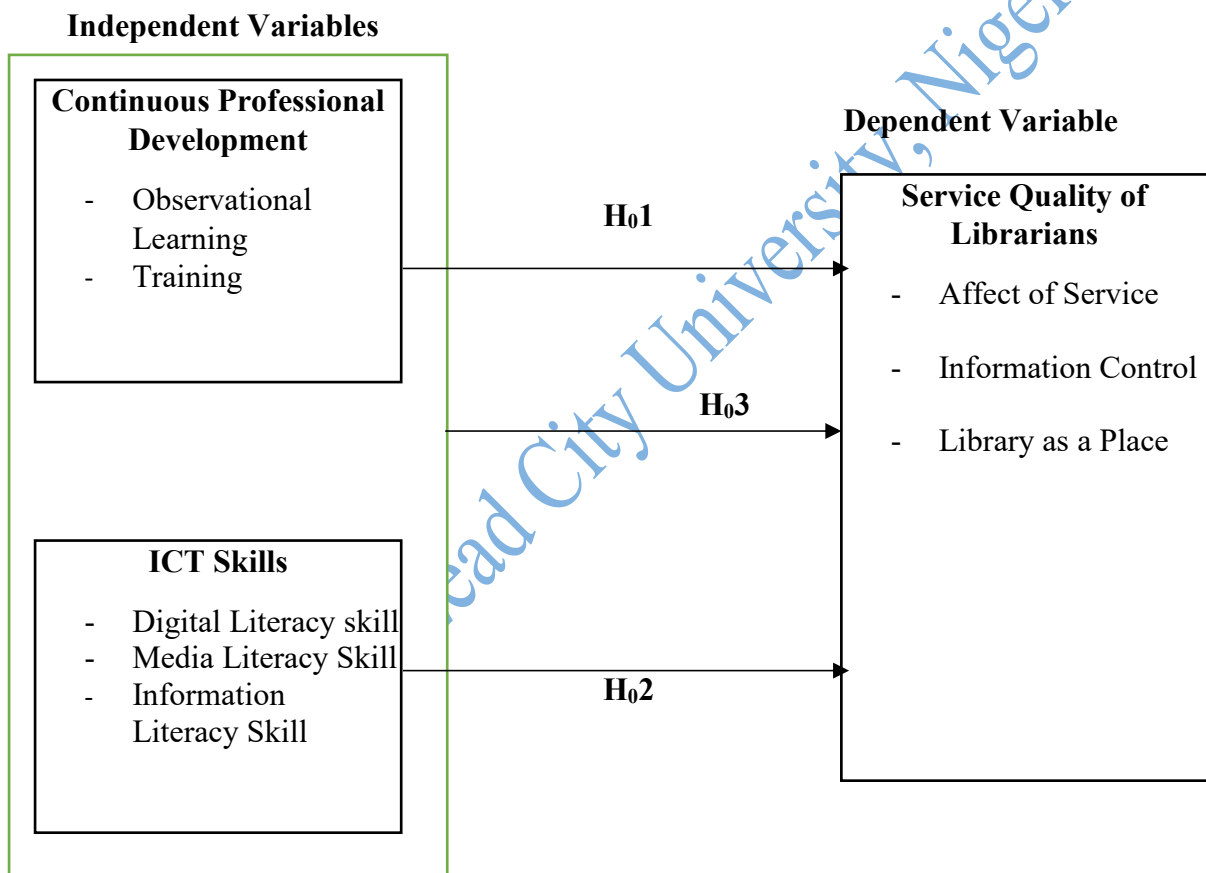


Fig. 2.3. Conceptual Model of predictors and measures of service quality of Librarians in Agriculture Research Institutes in Oyo State.

The conceptual model was adapted from Libqual, Social learning theory and the European Initiatives Digital Competence Framework.

Libqual is made of three dimensions namely Affect of service, Library as a place and Information Control^{8, 72}. The Libqual model is a valuable tool for service providers to assess and improve the quality of their service delivery. And it is therefore important for library as a service organization to evaluate its effectiveness in terms of services and the whole library activities up to the physical structure of the library from the users perspective and with the users satisfaction in mind.

Information and Communication Technology is at the crux of every veritable services that library want to render and as such for libraries and librarians to be relevant, they must be ready to adopt and continually upgrade in the area of ICT enabled services. ICT in this study is measured by the trio of Information Literacy skill, Digital literacy skill and Media literacy skill¹²⁷. Information literacy refers to the set of skills and competencies required to effectively identify, locate, evaluate, organize, and use information from various sources. These skills are essential in today's information-driven world, where we are inundated with data from various sources. Information literacy skills include the ability to assess the credibility and reliability of information sources, analyze and interpret data, and use information ethically and responsibly. It also involves understanding how information is created, disseminated, and used in various contexts, such as in academic research, professional settings, and personal decision-making. Librarians possessing a strong information literacy skills can enhance academic and professional success, as well as enable individuals to make informed decisions in their personal lives. It is a crucial component of lifelong learning and essential for success in the digital age.

Continuous Professional Development Technique (CPDT) is crucial for librarians to keep up-to-date with new technologies, changing trends in information management, and to improve their skills and knowledge. CPDT can be achieved through various

methods such as attending workshops, conferences, online courses, and learning from colleagues and mentors^{127 128}. Learning by observation, and training is also an effective way to enhance CPDT. Observing and imitating successful librarians can help to develop a range of professional competencies, including communication, customer service, teamwork, and problem-solving. Observational learning is particularly beneficial for new or inexperienced librarians who can learn from the expertise and experiences of more seasoned colleagues. Librarians can benefit from watching others interact with patrons, manage collections, and navigate complex issues. This can include observing how colleagues handle challenging situations or resolve conflicts with patrons¹²⁹. Imitation can also be useful for learning best practices in areas such as cataloguing, preservation, and reference services. Overall, CPDT is an essential part of a librarian's professional life, and learning by observation, and training can be an effective method to improve their skills and knowledge. By continuously developing their competencies, librarians can better serve their patrons and stay relevant in a rapidly changing information landscape.

Digital literacy refers to the ability to effectively use and navigate digital technologies, including computers, software, and the internet. It encompasses a range of skills, including basic computer literacy, information literacy, media literacy, and social media literacy. Basic digital literacy skills include understanding how to use a computer, navigate the internet, and use common software programs. Information literacy skills involve the ability to locate, evaluate, and use information from a variety of sources, while media literacy skills involve the ability to critically analyse and evaluate media messages. Social media literacy skills involve understanding how to use social media platforms effectively, responsibly, and safely. This includes understanding privacy settings, recognizing online threats, and engaging in positive

online behaviours. Overall, digital literacy skills are becoming increasingly important in today's digital age, as technology continues to play a critical role in many aspects of daily life, from education and work to social and personal communication. Therefore, librarians cannot but be equipped with digital skills to stay effective.

Media literacy skills refer to the ability to access, analyse, evaluate, and create media messages across various forms of media. In today's digital age, media literacy skills are crucial for individuals to navigate the vast and complex world of media and information. Some key skills of media literacy include: Understanding the purpose of the media message and the intended audience, Evaluating the credibility and reliability of the sources used in the media message. Identifying bias and propaganda in media messages. Differentiating between fact and opinion in media messages. Recognizing the role of media ownership and how it can influence the content of media messages. Understanding the ethical and legal issues surrounding media use and production. Creating media messages that effectively communicate a message while adhering to ethical and legal standards. Media literacy skills are important for individuals of all ages, especially as the use of digital media continues to grow and become more ubiquitous in our daily lives. By developing media literacy skills, individuals can become more critical consumers and creators of media, better equipped to navigate and engage with the complex and diverse media landscape.

Librarianship has evolved largely due to the emergence of Information and communication Technological innovations, a concept the library and librarians must explore, harnessed to stay relevant in digital age through Continuous Professional Development Technique programs, learning and knowledge dissemination and management.

2.5. Summary of Literature Review

The libraries have evolved over the years to become knowledge centres and cultural hubs that provide services beyond the conventional lending of books. With the advent of information and communication technology (ICT), libraries have embraced the digital age, offering services that include online catalogues, electronic resources, and virtual reference services. The quality of services offered by libraries is a critical factor in the satisfaction of users. Therefore, librarians must possess ICT competencies and undergo Continuous Professional Development Technique to deliver high-quality services. This literature review explores the concepts of service quality, ICT competencies of librarians, and continuous professional development.

Service quality is a multidimensional construct that involves customer perceptions of the service delivery process and outcomes. In the library context, service quality is a critical factor in user satisfaction and loyalty. Various studies have identified dimensions of service quality in libraries, including reliability, responsiveness, assurance, empathy, and tangibles. Reliability refers to the ability of the library to deliver services consistently and accurately. Responsiveness relates to the willingness of librarians to assist users promptly and efficiently. Assurance concerns the knowledge and professionalism of librarians, while empathy is the ability to

understand and meet the needs of users. Tangibles refer to the physical facilities, equipment, and materials available in the library. One of the essential factors in service quality is the attitude of librarians towards users. Librarians must have a positive attitude and provide excellent customer service to satisfy users. Studies that explored the impact of librarians' customer service orientation on users' satisfaction with library services. The study found a significant positive relationship between librarians' customer service orientation and user satisfaction with library services. Therefore, librarians must possess the necessary competencies to provide quality services to users.

The integration of ICT in libraries has led to the development of new services and increased access to information. Therefore, librarians must possess ICT competencies to provide these services effectively. ICT competencies refer to the knowledge, skills, and attitudes required to use ICT to achieve specific objectives. The International Federation of Library Associations and Institutions (IFLA) has developed guidelines for ICT competencies for librarians. These guidelines cover various areas, including information seeking, management, and use; ICT literacy and skills; digital preservation; and e-resource management.

One of the critical ICT competencies for librarians is the ability to use electronic resources. Electronic resources include e-books, e-journals, databases, and other digital materials. Therefore, librarians must possess the skills to access, search, evaluate, and retrieve electronic resources. Studies that explored the ICT competencies of librarians in Nigerian university libraries. The study found that librarians possessed moderate to high ICT competencies, with e-resource management being the most critical competency.

Continuous Professional Development Technique (CPDT) refers to the process of acquiring and updating knowledge, skills, and attitudes to meet professional requirements. CPDT is essential for librarians to keep up with the evolving demands of the library profession, including technological advancements and changing user needs. CPDT can take various forms, including formal education, on-the-job training, conferences, workshops, and mentoring. One of the critical factors in CPDT is the willingness of librarians to engage in professional development activities. A study explored the factors influencing librarians' participation in CPDT activities in Iranian university libraries. The study found that factors such as time constraints, lack of incentives, and lack of support from management hindered librarians' participation in CPDT activities. Therefore, libraries must provide a conducive environment for librarians to engage in CPDT activities.

There is no way a study of this nature will not include user satisfaction because users like customers in business organization has been found to be the most valuable source of information for evaluation of a service or overall effectiveness of the organization. Library as an example of a service rendering organization cannot be do without a constant and regular evaluation using Libqual to find out the strength and weakness of the library from the users perspectives and make provision for necessary adjustment. Librarians as information providing must embrace the concept of reskilling, and learning new things to meet up with the demand of the user in a changing wold.

Libqual was found to be a very reliable tools for overall library operation as it gives room for adaptation. Scholars adapted the model in relation to the population, and the nature of the study they want to do and overall, it has been a very veritable tool for researches.

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Chapter Three

Methodology

3.1 Research Design

The study adopted a descriptive survey research design. Mixed method which is a combination of quantitative and qualitative was be adopted for this study. This method was adopted because of the flexibility it provides the researcher to gather relevant data through appropriate instruments such as questionnaires and focus group in order to measure, perceptions and the dynamics of the phenomenon under study from both the service provider(Librarian) and the customers(researchers). Most

importantly, it allows for an accurate representation of the variables under study and the interrelationships between them.

3.2. Population of the Study

The population for this study consists of all the 101 librarians and 24 purposively selected researchers from all the (8) eight agricultural research institutes in Ibadan, Oyo State.

The table 3.1 shows the population of librarians in the agricultural research Institutes, Ibadan, Oyo State, Nigeria.

Table 3.1: Population distribution of librarians

S/N	Name of agriculture research institutes	Number of Librarians.
1	FRIN: Forestry Research Institute of Nigeria, Ibadan. Jericho Ibadan Oyo State	31
2	NIHORT: Nigerian Institute of Horticulture Research. Idi-Ishin, Ibadan Oyo State	17
3	IITA: International Institute of Tropical Agriculture. Moniya, Ibadan, Oyo State	11

4	IAR&T: Institute of Agriculture and Training. Moor Plantation, Apata, Ibadan, Oyo State	18
5	CRIN: Cocoa Research Institute of Nigeria. KM 14 Ijebu Ode Road Oyo, Idi Ayunre Oyo State	5
6	NAGRAB: National Centre for Genetic Resources and Biotechnology. Moor plantation, Ibadan, Oyo State	4
7	NCRI: National Cereal Research Institute. Moor Plantation, Apata, Ibadan, Oyo State	8
8	NSPRI: Nigeria Stored Products Research Institute. Onireke Rd, Ibadan, Oyo State	7
	Total	101

Table 3.1: Population distribution of librarians

Source: Administrative Offices of Agricultural Research Institutes, Ibadan, Oyo State.

3.3. Sample and Sampling technique

The study made use of total enumeration. Since the population of the study is just one hundred and one (101), the researcher decides to make use of all as the study respondents. And 24 researchers were purposively selected for focus group discussion. Thus, all 101 librarians and 24 researchers in the eight agricultural research institutes participated in the study

3.4. Description of Research instruments

The instrument for the dependent variable (Service quality) of this study is an adapted standardized scale based on libqual model of service quality². A focus group of three researchers each from all the eight agriculture research institute making a total of 24 respondents was created via (Whatsap) social media platform with the aim of discussing questions related to affect of service, library as a place and information

control. The examples of the questions are: In few words describe the attitude of Library Staff as with respect to there: Responsiveness to your information needs, Willingness and readiness to help, User friendliness, Reliability in the services rendered and information provided and the Empathetic nature of librarians.

For staff (Librarians) Section A consists of questions on demographic information of respondents which is self- developed. The biodata of the respondents is measured by six variables such as: Name of institution, Staff cadre, section of the library where he/she works, Age range, and Gender. Section B: contains questions Continuous Professional Development as adapted from a related study that uses Social learning theory³. Example of questions are; As a librarian, I learn everyday by observing my Superiors; I always learn new professional skills from my superiors. Each item is measured on a 4-point Likert scale of 4= Strongly Agree; 3=Agree; 2=Disagree; and 1= Strongly Disagree. Section C: contains question on Information and Communication Technology skills as adapted from the European Digital competence framework⁴. Example of questions includes; I have the ability to create and edit digital content in different formats. I can express myself through digital means; I can modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge' Each measure on a 4-point Likert scale of 4- Strongly Agree; 3=Agree; 2= Disagree; and 1= Strongly Disagree

3.5 Validity of the Research Instrument

The instrument for this study was adapted from an established scale, it was also checked for face validity by the supervisor and other scholars in the field of Library and Information Science. Corrections and observations made were incorporated into the final copy which was administered on the study respondents.

3.6. Reliability of the Instrument

Reliability is a measure of the degree to which a research instrument yields consistent results after repeated use. The reliability of the instrument was tested through a pretest using 30 librarians in Nigerian Store Product Research Institute (NSPRI), Ilorin, Kwara State, Nigeria. The reliability of the instrument was tested using Cronbach co-efficients? The Cronbach alpha for service quality is 0.79, for continuous professional development was 0.87 while that of ICT skill was 0.92

3.7 Method of Data Collection

A letter of introduction and project attestation was obtained from the Department of Information Management, Lead City University, Ibadan which was used to gain permission to conduct the survey on the librarians of the selected agriculture research institutes libraries. The questionnaire was administered physically with the assistance of two research assistants who were trained by the researcher. The whole data collection exercise from all the institutions under study covered a period of six weeks combined.

3.8 Method of Data analysis

The data collected from the survey was coded and analysed using the IBM SPSS statistics software version 2020. The demographic data was analysed using descriptive statistics such as simple frequency tables and percentages. The research questions one, two and three were analysed using descriptive statistics while, Hypothesis 1 and 2 were be analysed using simple linear regression and hypothesis 3

was be analysed using multiple linear regression with all hypotheses tested at 0.05 level of significance.

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Endnotes

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Chapter Four

Results and Discussion of Findings

This chapter dealt with data presentation, analysis and the interpretation of the results. The analysis is guided by the specific objectives and hypotheses that were formulated in the study. The first section shows the presentation of the descriptive analysis using tables showing percentages and interpretations below the tables. Section two presents inferential statistics and discussion of findings comes at the later end of the chapter. The results presented were based on the research questions and hypotheses, which the study set out to answer and understudy. The Decision rule: -1.0.-1.49 = very low, 1.50-2.49 – low, 2.50 -3.49 = High, 3.50-4.00 = Very high. Hypothesis will be tested at 0.05 level of significance.

4.1. Questionnaire Return Rate

A total of one hundred and one (101) copies of questionnaire were administered, Eighty one (81) copies responses was received all duly filled. The usable questionnaire represented 80.2% response rate.

4.2. Response rate:

Table 4.1. Response Rate.

Research Institute	Frequency	Percent
FRIN	24	29.6
NIHORT	17	21.0
IITA	7	8.6
IAR&T	15	18.5
CRIN	4	4.9
NAGRAB	4	4.9
NCRI	4	4.9
NSPRI	6	7.4
Total	81	100.0

Source: Field work, 2023

4.2: Demographic Data Analysis of Respondents

Table 4.2: Demographic distribution of respondents (Librarians)

Demographics	Items	Frequency	Percent	
Gender	Male	23	28.4	Source: Researcher, 2023
	Female	58	71.6	
	Total	81	100.0	
Age	25-29	3	3.7	Table
	30-34	16	19.8	
	35-39	16	19.8	
	40-44	23	28.4	
	45-49	16	19.8	
	50 and Above	7	8.6	
	Total	81	100.0	
Staff Cadre	Library Officer	21	25.9	4.3 is div ide d int
	Librarian II	14	17.3	
	Librarian I	11	13.6	
	Senior Librarian	20	24.7	
	Principal Librarian	3	3.7	
	Asst. Chief Librarian	4	4.9	
	Chief Librarian	8	9.9	
	Total	81	100.0	

o three sections, each providing information on different demographic aspects which are, Gender, Age, and Staff Cadre. The table indicates that there are a total of 81 respondents in the dataset. Of these, 23 respondents (28.4%) are male, while 58 individuals (71.6%) are female. This suggests that the dataset is predominantly female, with a higher percentage of female individuals compared to male respondents. Moreover, the table provides information about the age distribution of the respondents. The largest age group in the dataset is "40-44" years, with 23 respondents (28.4%) falling in this category. The age groups "30-34" and "35-39" each have 16 respondents (19.8%) in them. The age group "50 and Above" has the smallest representation, with only 7 respondents (8.6%). Furthermore, the table provides information about the job

titles or staff cadres of the individuals. The most common staff cadre in the dataset is "Library Officer," with 21 respondents (25.9% of the total). Other significant staff cadres include "Senior Librarian" (20 respondents, 24.7%) and "Librarian II" (14 respondents, 17.3%). "Principal Librarian" and "Asst. Chief Librarian" have smaller representations in the dataset, with 3 individuals (3.7%) each." Chief Librarian" has 8 respondents (9.9%).

4.3. Analysis of Research Questions

4.3.1. Research Question One: What is the level of service quality of librarians in agriculture research institutes, Ibadan, Oyo State, Nigeria?

Table 4.3: Level of service quality of librarians in agriculture research institutes, Ibadan, Oyo State, Nigeria

Options	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean
Researchers can access the Library Portal from anywhere	42 (51.9%)	23 (28.4%)	8 (9.9%)	8 (9.9%)	3.22
Researchers can access Library Portal 24/7.	41 (50.6%)	26 (32.1%)	10 (12.3%)	4 (4.9%)	3.28
Library provide up to date information.	36 (44.4%)	33 (40.7%)	4 (4.9%)	8 (9.9%)	3.20
Library Portal is user friendly	33 (40.7%)	38 (46.9%)	8 (9.9%)	2 (2.5%)	3.26
Weighted Mean					3.2
Affect of Service					
Librarians provide an accurate answer to enquiry	38 (46.9%)	40 (49.4%)	3 (3.7%)		3.43
Librarians are proficient in information searching	41 (50.6%)	36 (44.4%)	4 (4.9%)		3.46
Librarians are user friendly	44 (54.3%)	37 (45.7%)			3.54

Librarians always Assists in finding the needed information	44 (54.3%)	37 (45.7%)			3.54
Weighted Mean					3.5
Library as a Place					
Books are arranged accordingly on the right shelf	64 (79.0%)	14 (17.3%)	3 (3.7%)		3.75
Materials are easy to retrieve	59 (72.8%)	20 (24.7%)		2 (2.5%)	3.68
Library collection is up to date	35 (43.2%)	29 (35.8%)	11 (13.6%)	6 (7.4%)	3.15
Library collection is adequate	31 (38.3%)	24 (29.6%)	20 (24.7%)	6 (7.4%)	2.99
Weighted Mean					3.4
Grand Mean					3.4

Decision rule 1.00 - 1.99 = very low, 2.00 - 2.50 = low, 2.51 – 2.99 = Moderate, 3.00 – 3.49 = high, 3.50-4.00= very high.

Source: Researcher, 2023

Table 4.3 provided a survey of library services and user satisfaction based on the three measures of libqual model namely, affect of service, library as a place and information control. In the aspect of Information Control, the table revealed 42(51.9%) of the respondents strongly agree, 23(28.4%) agree, 8(9.9%)disagree and 9.9% strongly disagree that researchers who are library users can access the library portal from anywhere with a means score of 3.22 which suggests moderate agreement. Moreso, Majority of the respondents 41(50.6%) strongly agree and 26(32.2%) agreed that researchers can access library portal 24/7. However, a significant number of 10(12.3%) disagreed while 4(4.9%) strongly disagreed with the assertion that researcher can access library portal 24/7. The average mean of 3.28 showed a moderated agreement. Moreso, majority of the respondents 36(44.4%) strongly agree, 33(40.7%) agreed while 4(4.9%) disagreed and 8(9.9%) strongly disagreed that

library provides up to date information. The mean score for this statement is 3.20, indicating a moderate level of agreement with this statement. Furthermore, majority 33(40.7%) of the respondents strongly agreed, 38(46.9%) agreed while 8(9.9%) and 2(2.5%) strongly disagreed that library portal is user-friendly. The mean score for this statement is 3.26, indicating a generally positive sentiment toward the user-friendliness of the library portal.

Affect of Service as a measure of service quality. The table 4.3 revealed that majority 38(46.9%) of the respondents strongly agreed, 40(49.4%) agreed while only 3(3.7%) disagreed that librarians provide an accurate answer to inquiry. The means score of 3.43 indicates a strong agreement with the accuracy of librarians assistance. Moreso, 41(50.6%) strongly agreed, 36(44.4%) agreed while (4.9%) disagreed that librarians are proficient in information searching. The mean score for this statement is 3.46, indicating a strong agreement with the proficiency of librarians in information searching. Furthermore, 44(54.3%) of the respondents strongly agreed and 37(45.7%) agreed that librarians are user-friendly. The mean score for this statement is 3.54, indicating a strong agreement with the user-friendliness of librarians. Finally on affect of service as a measure of service quality, majority 44(54.3%) and 37(45.7%) agreed that librarians always assist in finding the needed information. The mean score for this statement is 3.54, indicating a strong agreement with the helpfulness of librarians in finding needed information.

The third dimension of service quality which is Library as a Place. The table 4.3 revealed that 64(79%) of the respondent strongly agreed while 14(17.3%) agreed, however 3(3.7%) disagreed that books in the library are arranged accordingly on the right shelf. The mean score for this statement is 3.75, indicating a strong agreement

with the organization of books. Moreso, 59(72.8%) of the respondents strongly agreed and 20(24.7%) agreed while 2(2.5%) disagreed that information resources are easy to retrieve. The mean score for this statement is 3.68, indicating a strong agreement with the ease of retrieving materials. Furthermore, 35(43.2%) of the respondents strongly agreed, 29(35.8%) agreed while 11(13.6%) disagreed and 6(7.4%) strongly disagreed that library collection is up to date. The mean score for this statement is 3.15, suggesting a moderate level of agreement with the recency of the library's collection. Finally on the adequacy of library collection, majority 31(38.3%) of the respondents strongly agreed, 24(29.6%) agreed while a significant number of 20(24.7%) and 6(7.4%) strongly disagreed that library collection is adequate. The mean score for this statement is 2.99, indicating a somewhat lower level of agreement regarding the adequacy of the collection. The grand mean, calculated across all the statements, is 3.4. This suggests that, on average, respondents have a positive perception of the library services and holdings.

4.3.2. Research Question Two: What is the dominant continuous professional development technique of librarians in agriculture research institutes, Ibadan, Oyo State, Nigeria?

Table 4.4: The dominant continuous professional development technique of librarians in agriculture research institutes, Ibadan, Oyo State, Nigeria

	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean
Learning by Observation					
As a librarian, I learn everyday by observing my Superiors	35 (43.2%)	43 (53.1%)	1 (1.2%)	2 (2.5%)	3.37
I always learn new professional skills from my superiors	31 (38.3%)	47 (58.0%)	1 (1.2%)	2 (2.5%)	3.32

I learn professional competences by observing my colleagues	21 (25.9%)	53 (65.4%)	3 (3.7%)	4 (4.9%)	3.12
I like performing professional activities with my colleagues	27 (33.3%)	50 (61.7%)	2 (2.5%)	2 (2.5%)	3.26
Weighted Mean Training: Area of Training Needs					3.3
Information Technology	79 (97.5%)	2 (2.5%)			3.33
Management & Leadership works	35 (43.2%)	42 (51.9%)	2 (2.5%)	2 (2.5%)	3.36
Communication Skills	31 (38.3%)	44 (54.3%)	4 (4.9%)	2 (2.5%)	3.28
Subject & Domain Knowledge	26 (32.1%)	46 (56.8%)	5 (6.2%)	4 (4.9%)	3.16
Training Methods Preferred					
Attending Conferences, Seminars and Workshops	47 (58.0%)	28 (34.6%)	4 (4.9%)	2 (2.5%)	3.48
In-house training	38 (46.9%)	39 (48.1%)	2 (2.5%)	2 (2.5%)	3.40
Practical works	40 (49.4%)	37 (45.7%)	2 (2.5%)	2 (2.5%)	3.42
Lecture/Discussions	36 (44.4%)	36 (44.4%)	7 (8.6%)	2 (2.5%)	3.31
Need for further Training					
For more knowledge	53 (65.4%)	24 (29.6%)	2 (2.5%)	2 (2.5%)	3.58

For skills development	50 (61.7%)	26 (32.1%)	3 (3.7%)	2 (2.5%)	3.53
For attitudinal change	45 (55.6%)	32 (39.5%)	2 (2.5%)	2 (2.5%)	3.48
For promotion	38 (46.9%)	36 (44.4%)	3 (3.7%)	4 (4.9%)	3.33
Weighted Mean					3.4
Grand Mean					3.4

Decision rule 1.00 - 1.99 = very low, 2.00 - 2.50 = low, 2.51 – 2.99 Moderate, 3.00 – 3-49 = high, 3.50-4.00= very high.

Source: Researcher, 2023

The table 4.4 above is a survey of various aspects related to learning and training preferences among librarian's (Continuous professional learning). Respondents were asked to express their agreement or disagreement with statements using a scale ranging from "Strongly Agree" to "Strongly Disagree. From the table 4.4 with regards to Learning by Observation, it was revealed that majority of the respondents 35(43.2%) strongly agreed, 43(53.1%) agreed while 1(1.2%) disagree and 2(2.5%) strongly disagreed that as a librarian they learn everyday by observing their superiors. The mean score for this statement is 3.37, indicating a strong agreement that librarians learn from their superiors through observation. Moreover, majority 31(38.3%) strongly agree, 47(58%) agree while 1(1.2%) disagreed and 2(2.5) strongly disagree that they always learn new professional skills from their superiors. The mean score for this statement is 3.32, suggesting a strong agreement that librarians acquire new skills from their superiors through observation. Furthermore, many of the respondents 21(25.9%) strongly agreed, 53(65.4%) agreed while 3(3.7%) and 4(4.9%) strongly disagree that they learn professional competences by observing their colleagues. The mean score for this statement is 3.12, indicating a moderate agreement that

professional competences are learned by observing colleagues. Finally, on learning by observation, majority of the respondents 27(33.3%) strongly agreed, 50(61.7%) agreed while 2(2.5%) disagree and 2(2.5%) strongly disagreed that they like performing professional activities with their colleagues. The mean score for this statement is 3.26, suggesting a moderate agreement that librarians enjoy working with colleagues on professional activities.

Looking at training as a measure of continuous professional development in this study, the table 4.4 showed that in the aspect of areas of training need, 79(97.5%) of the respondents, 36(44.4%) strongly agreed and agreed while 37(45.7%) and 6(7.4%) strongly disagreed that their area need for training is information technology. The means score of 3.33 showed that there is high need for knowledge in the area of information technology. More so, 35(43.2%) strongly agreed, 42(51.9%) agreed while the total of 4(5%) disagreed that they need knowledge in management and leadership works. The mean score of 3.36 showed high need for knowledge in the area of management and leadership. With regards to communication skills, majority of the respondents 31(38.3%) strongly agreed, 44(54.3) agreed while 4(4.9%) and 2(2.5%) strongly disagreed that they need training in the aspect of communication skills. With the mean score of 3.28, it is clear that the need for training on communication skill is high. Moreso, 26(32.1%) of the respondents strongly agreed and 46(56.8%) agreed while 9(11.1%) disagreed and strongly disagreed that they need training on subject and domain knowledge.

In the area of Training Methods Preferred, the table 4.4 showed that majority of the respondents strongly agreed 47(58.0%), 28(34.6%) agreed while 4(4.9%)2 (2.5%) that they prefer Attending Conferences, Seminars and Workshops. The means score of 3.48 showed an a high agreement that staff prefer attending conference, seminars and

workshops. Majority of the respondents 39(48.1%) agreed and 38(46.9%) strongly agreed while 4(5%) disagreed that they prefer in-house training. The means score of 3.40 showed a high level need and preference for in-house training among respondents. Furthermore, majority 40(49.4%) of respondents strongly agree and 39(48.1%) agreed while 4(5%) disagreed that in-house training is preferred. The means score of 3.40 shows a high level preference for in-house training. Finally, with respect to mode of training preferred, 72(88.4%) of the respondents preferred lectures and discussion while 9(11.1%) disagreed with the method. The mean score of 3.31 showed a high level preference for lecture and discussions as a training method.

On the need for further training, many of the respondents 77(95%) strongly agreed and agreed that the need for further training is for more knowledge while 4(5%) disagreed and strongly disagreed with this assertion. The means score of 3.58 showed that there is high need for further knowledge among respondents. Moreover, Majority 76(93.8%) of the respondents agreed that they need training for attitudinal change while 5(6.2%) disagreed. The mean score of 3.48 indicates that there is high level need for training for attitudinal change among respondents. Finally, on the need for further training, majority 74(91.3%) of the respondents agreed that they need training for promotion. However, 7(8.6%) disagreed the training they need training for promotion. The means score of 3.33 showed there is high level need training need for respondents promotion.

Summarily, respondents indicate a high need for training in various areas, with weighted mean scores ranging from 3.16 to 3.48. The preferred training methods include "Practical works" (weighted mean of 3.42) and "In-house training" (weighted mean of 3.40). Respondents also express a preference for "Lecture/Discussions" (weighted mean of 3.31). Respondents express a strong need for further training,

primarily for "more knowledge" (weighted mean of 3.58) and "skills development" (weighted mean of 3.53). There is also a need for training for "attitudinal change" (weighted mean of 3.48) and "promotion" (weighted mean of 3.33).

The grand mean, calculated across all statements, is 3.4. This suggests an overall positive sentiment among respondents regarding their willingness to learn, their training needs, and preferences for training methods.

4.3.3. Research Question Three: What is the information and communication technology skill of librarians in agriculture research institutes, Ibadan, Oyo State, Nigeria?

Table 4.5: Information and communication technology skill of librarians in agriculture research institutes, Ibadan, Oyo State, Nigeria

Options	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean
Digital Literacy					
I have the ability to create and edit digital content in different formats.	29 (35.8%)	44 (54.3%)	8 (9.9%)		3.26
I can express myself through digital means.	32 (39.5%)	45 (55.6%)	4 (4.9%)		3.35
I can modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.	33 (40.7%)	38 (46.9%)	10 (12.3%)		3.28
I understand how copyright and licenses apply to data, information and digital content.	30 (37.0%)	44 (54.3%)	7 (8.6%)		3.28
Weighted Mean					3.3
Media Literacy					

I can interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.	33 (40.7%)	42 (51.9%)	6 (7.4%)		3.33
I can share data, information and digital content with others through appropriate digital technologies.	34 (42.0%)	41 (50.6%)	4 (4.9%)	2 (2.5%)	3.32
I can create and manage one or multiple digital identities, to be able to protect one's own reputation.	32 (39.5%)	41 (50.6%)	6 (7.4%)	2 (2.5%)	3.27
I understand the behavioural norms and know-how while using digital technologies and interacting in digital environments.	36 (44.4%)	34 (42.0%)	7 (8.6%)	4 (4.9%)	3.26
Weighted Mean					3.3
Information Literacy					
I can articulate information needs, search for data, information and content in digital environments.	40 (49.4%)	33 (40.7%)	6 (7.4%)	2 (2.5%)	3.37
I can create and update personal search strategies.	33 (40.7%)	36 (44.4%)	6 (7.4%)	6 (7.4%)	3.19
I can analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content	35 (43.2%)	33 (40.7%)	9 (11.1%)	4 (4.9%)	3.22
I can organise, store and retrieve data, information and content in digital environments.	40 (49.4%)	37 (45.7%)	4 (4.9%)		3.44
Weighted Mean					3.3
Grand Mean					3.3

Decision rule 1.00 - 1.99 = very low, 2.00 - 2.50 = low, 2.51 – 2.99= Moderate, 3.00 – 3-49 = high, 3.50-4.00= very high.

Source: Researcher (2023)

The table 4.5 provided an assessment of digital literacy, media literacy, and information literacy skills among respondents. Participants were asked to express their agreement or disagreement with various statements related to these literacy areas using a scale ranging from "Strongly Agree" to "Strongly Disagree." With regards to digital literacy skills, Majority of the respondents 44(54.3%) strongly agreed and 29(35.8%) agreed while 8(9.9%) disagreed to having the ability to create and edit digital content in different formats. With the mean score of 3.26, it is indicated that there is a moderate ability in creating and editing digital content in different formats. Moreso, 32(39.5%) of the respondents strongly agreed and 45 (55.6%) agree while 4(4.9%) disagreed that they can express themselves through digital means. The means score of 3.35 indicates a high level digital literacy skills with regards to expressing self through digital means. Moreover, majority 33(40.7%) strongly agreed and 38(46.9%) agreed while 10(12.3%) disagreed that they can modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge. The means score of 3.28 indicates a moderate level of this skill. Furthermore, majority 30(37.0%) agreed and 44(54.3%)strongly agreed 7(8.6%) disagreed that they understand how copyright and licenses apply to data, information and digital content with a 3.28 mean score showing moderacy in the particular skill.

For media literacy, table 4.5 showed that 33(40.7%) of the respondents strongly agreed and 42(51.9%) agreed while 6(7.4%) disagreed that they can interact through a variety of digital technologies and to understand appropriate digital communication means for a given context. The means score of 3.33 showed a high level Knowledge of respondents with regards to this skill. Moreso, 75(92.6%) agreed and strongly

agreed while 6(7.4%) disagreed that they can share data, information and digital content with others through appropriate digital technologies. The mean score of 3.32 showed a high level knowledge of respondents regarding this skill. Furthermore, 73(90.1%) agreed and strongly agreed while 8(9.9%) disagreed that they can create and manage on or multiple digital identities, to be able to protect one's own reputation. The means score of 3.27 showed a moderate level of knowledge of this skill. Moreover, 70(90.1%) of the respondents agreed and strongly agreed while 11(13.5%) disagreed that they can create and manage one or multiple digital identities, to be able to protect one's own reputation. The mean score of 3.26 showed a moderate level of this skills among the respondents.

For Information Literacy, table 4.5 showed that majority 73(90.1%) of the respondents agreed and strongly agreed while 8(9.9%) disagree that they can articulate information needs, search for data, information, and content in digital environments. The mean score for this statement is 3.37, indicating a strong agreement that respondents can effectively search for digital information. Moreso, 66(85.1%) of the respondents agreed and strongly agreed while 12(14.8%) disagreed that they can create and update personal search strategies. The mean score for this statement is 3.19, suggesting a moderate agreement that respondents can develop and update search strategies. Furthermore, 68(83.9%)making majority of the respondents agreed and strongly agreed while 13(16%) of the respondent disagreed that they can analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. The mean score for this statement is 3.22, indicating a moderate agreement that respondents possess critical evaluation skills. Finally, 77(95.1%) agreed and strongly agreed while 4(4.9%) disagreed that they can organise, store and retrieve data, information and content in digital environments. The

mean score for this statement is 3.44, indicating a strong agreement that respondents can effectively manage digital information. The grand mean, calculated across all statements, is 3.3. This suggests an overall positive perception among respondents regarding their digital literacy, media literacy, and information literacy skills.

4.4. Test of Hypotheses

4.4.1: Hypothesis 1: There will be no significant influence of continuous professional development technique on the service quality of librarians in agricultural research institutes, Oyo State, Nigeria

Table 4.6a-c: Influence of continuous professional development techniques on service quality of librarians in agricultural research institutes.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.512 ^a	.262	.253	.46125

a. Predictors: (Constant), Continuous Professional Development

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.972	1	5.972	28.073	.000 ^b
	Residual	16.807	79	.213		
	Total	22.779	80			

a. Dependent Variable: Service Quality

b. Predictors: (Constant), Continuous Professional Development

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.260	.403		3.129	.002
	Continuous Professional Development	.630	.119	.512	5.298	.000

a. Dependent Variable: Service Quality

Table 4.6a-c presents the results of the simple regression analysis for the relationship between Continuous professional development on Service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria. From the results in Table 4.6a, Continuous professional development has a significant relationship on the Service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria ($R = 0.512^a$, $p < 0.05$). The coefficient of determination (Adj. R^2) of 0.253 also shows that Continuous professional development explains 25.3% of the Service quality among Librarians of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria while the remaining 74.7% discrepancy in the Service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria is explained by other variables which are not considered in this study.

Table 4.6b presents the results of ANOVA (Overall Model Significance) of regression test which revealed that Continuous professional development has significant relationship with Service of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria. This can be explained by the F-value (28.073) and high p-value (0.000^b) which is statistically significant at 95% confidence interval. Hence, the result posited that continuous professional development has a strong significance influence on the Service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria. Furthermore, the results of regression coefficients in table 4.6c revealed that at 95% confidence level, a unit change in Continuous professional development will lead to a 0.630 increases in the Service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria, given that all other factors are held constant.

On the strength of this result (Adj. $R^2 = 0.262$, $F(1,79) = 5.972$, $p = 0.001$), the null hypothesis one (H_01) which states that there will be no significant influence of

continuous professional development on the service quality of research libraries in Oyo state is thereby rejected.

Overall, the regression model indicates that "continuous professional development" is a significant predictor of "service quality," and the relationship is positive. In other words, an increase in continuous professional development is associated with an increase in service quality. This finding is statistically significant and suggests that investing in continuous professional development can lead to improved service quality.

4.4. 2: There will be no significant influence of information and communication technology skill on service quality of librarians in agriculture research institutes, Oyo State, Nigeria.

4.7a-c: Significant influence of information and communication technology skills on service quality of librarians in agriculture research institutes.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.452 ^a	.205	.195	.47889

a. Predictors: (Constant), ICT skills

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.662	1	4.662	20.328	.000 ^b
	Residual	18.118	79	.229		
	Total	22.779	80			

a. Dependent Variable: Service Quality

b. Predictors: (Constant), ICT Skills

Coefficients^a

Model	Unstandardized Coefficients	Standardized	t	Sig.
		d		

		Coefficients				
		B	Std. Error	Beta		
1	(Constant)	1.880	.336		5.594	.000
	ICT Skills	.454	.101	.452	4.509	.000

a. Dependent Variable: Service Quality

Table 4.7a-c presents the results of the simple linear regression analysis for the influence of ICT skills on service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria. From the results in Table 4.6a, ICT skills has a significant relationship on the service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria ($R = 0.452^a$, $p < 0.05$). The coefficient of determination (Adj. R^2) of 0.195 also shows that ICT skills explains 19.5% of the service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria while the remaining 79.5% discrepancy in the service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria is explained by other variables which are not considered in this study.

Table 4.7b presents the results of ANOVA (Overall Model Significance) of regression test which revealed that ICT skills has significant relationship with service quality among Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria. This can be explained by the F-value (20.328) and p-value (0.000^b) which is statistically significant at 95% confidence interval. Hence, the result posited that ICT skills has a strong significance influence on the service quality of Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria. Furthermore, the results of regression coefficients in table 4.6c revealed that at 95% confidence level, a unit change in ICT skills will lead to a 0.454 increases in the service quality of

Librarians in Agriculture Research Institutes, Ibadan, Oyo State, Nigeria, given that all other factors are held constant.

On the strength of this result ($Adj.R^2=0.205, F(1,79)= 20.328, p=000$), the null hypothesis two (H_02) which states that there will be no significant influence of ICT skills on service quality of library in agricultural research institutes, Ibadan, Oyo State is hereby rejected.

Overall, the regression model indicates that "ICT skills" is a significant predictor of "service quality," and the relationship is positive. In other words, an increase in ICT skills is associated with an increase in service quality. This finding is statistically significant and suggests that possessing ICT skills can lead to improved service quality.

4.4.3: There will be no significant joint influence of continuous professional development techniques and information and communication technology skills on service quality of librarians in agriculture research institutes, Oyo State, Nigeria.

Table 4.8a-c: Significant joint influence of continuous professional development techniques and information and communication technology skills on service quality of librarians in agricultures research institutes.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.532 ^a	.283	.264	.45773

a. Predictors: (Constant), Continuous Professional Development, ICT skills

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.438	2	3.219	15.363	.000 ^b
	Residual	16.342	78	.210		
	Total	22.779	80			

a. Dependent Variable: Service Quality

b. Predictors: (Constant), Continuous Professional Development, ICT skills

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients	Standardized Coefficients			
		B	Std. Error	Beta		
1	(Constant)	1.162	.405		2.870	.005
	ICT skills	.195	.131	.195	1.490	.140
	Continuous Professional Development	.468	.161	.380	2.911	.005

a. Dependent Variable: Service Quality

Table 8a-c showed the output of a multiple regression analysis, used to assess the relationship between the dependent variable "service quality" and two independent variables: "continuous professional development" and "ICT skills." table 8a shoed the r-squared value (0.283) indicates that approximately 28.3% of the variability in "service quality" can be explained by the independent variables "continuous professional development" and "ICT skills." this value represents the goodness of fit of the regression model, suggesting that the model explains a moderate portion of the variance in the dependent variable. the adjusted r-squared value (0.264) adjusts the r-squared value for the number of predictors in the model. it is slightly lower than the r-squared value, suggesting that there may be some overfitting or that the additional predictors ("continuous professional development" and "ICT skills") might not contribute significantly to explaining the variance in the dependent variable. the standard error of the estimate (0.45773) represents the average amount by which the actual values of the dependent variable ("service quality") differ from the predicted values by the regression model.

Table 8b showed the ANOVA table assessing the overall statistical significance of the regression model. the "f" statistic (15.363) is highly significant ($p < 0.001$), indicating that at least one of the independent variables ("continuous professional development" and "ICT skills") is significantly related to the dependent variable "service quality."

Table 8c showed the coefficients table provides information about the contribution of each predictor variable ("continuous professional development" and "ICT skills") to the dependent variable while controlling for other variables. the constant term (1.162) is the estimated value of the dependent variable ("service quality") when both "continuous professional development" and "ICT skills" are zero. in this context, it represents the expected service quality when there is no continuous professional development or ICT skills.

The coefficient for "ICT skills" (0.195) is not statistically significant ($p > 0.05$). this suggests that, in this model, "ICT skills" may not have a significant impact on "service quality." the coefficient for "continuous professional development" (0.468) is statistically significant ($p < 0.01$), it suggests that a one-unit increase in "continuous professional development" is associated with a 0.468-unit increase in "service quality."

The regression model indicates that "continuous professional development" is a significant predictor of "service quality," while "ICT skills" does not appear to have a significant impact in this context. the relationship between "continuous professional development" and "service quality" is positive, indicating that an increase in continuous professional development is associated with an increase in service quality. It is on this strength of this result (Adj. $R^2 = 0.64$, $F(2,78) = 15.363$, $p = 0.000$) that the null hypothesis three (H_03) which state that there will be no combined influence of continuous professional development and ICT skills on service quality in agriculture

research institute libraries, Ibadan, Oyo State. This means ICT skills may not necessary be a problems once the library staff are development professionally and on a regular basis.

4.5. Analysis of Focus Group

A discussion group of five researchers from each of the eight research institutes making 40 was formed out of which 24 making three each responded with 16 men and 8 women. The aim is to understand the service quality from researcher's perspectives using the three dimensions of libqual. Starting with Information control, from the responses gotten, many (18) of the respondents accepted that library in research institute provides up to date information resources and that the resources are adequate. They meant that the resources in the library are recent and that the library is easily accessible to them (6) of the respondents have reservations concerning the adequacy of the resources. The qualitative data collected however revealed some sort of disparity as regards the adequacy of the resource. The librarians believed that the resources provided are not adequate. The reason for this disparity could be attributed to several factors like librarian's believe that library suppose to be a growing organism.

Moreso, many of the respondents (16) also have reservations concerning the ease of access to the library information resources. However, the remaining (8) attested positively to the ease of access to library information resources. Comparing this assertions to the qualitative data collected where the librarians believed that library is accessible, there seems to be an imbalance in the opinion of the researchers and the librarians in this context and this calls for serious evaluation of the library information access system because according the law that governs library, all-round users satisfaction is key.

For the affect of service, A moderate disposition of librarians to users and users information need was reported. Virtually all the respondents agreed that librarians at a moderate level provide accurate answer to their information enquiry and that librarians are proficient in information searching. To a high degree, most of the respondents agreed that librarians always put a friendly countenance anytime they are approached for query and thus they always assists in finding the needed information physically and online. This therefore showed that librarians being the human face of the library can either make or mar library patronage with attitude but in this case they have been able to portray the library well.

For Library as a place. All the respondents agreed that the information resources in the library to their best of knowledge are arranged accordingly and this is because of the ease with which they get what they are looking for although mostly with the aid of a librarian. Many (16) of the respondents also have reservation with the library building and organization of the library resources as well as the sitting arrangement of the library. Three of the respondents clearly say they are not satisfied with the physical arrangement and settings of the library. Finally, in a question that gives room for suggestion on the betterment of the library. All the respondents suggested that the library should get new information resources and go sophisticated with the integration of 21st century technological innovation that can foster quality and viable research looking at the inevitable place research in agriculture plays in the national economy.

Summarily, There are disparities in the user's perception and librarians perceptions of library service quality. It is very clear that customers in the business world are always

right and they are the best evaluating tool for the library in measuring the quality of services rendered if the library will be objective.

4.6. Discussion of Findings

The aim of the study is to determine the influence of continuous professional development and Information & Communication Technology (ICT) on service quality of librarians in Agriculture research institute, Oyo state, Nigeria. To achieve this aim, the researcher came up with three research question and three hypotheses respectively. The first research question is based on the level of quality of services rendered by librarians in agricultural research institute measured using the three dimensions of libqual model.

The study found a high level quality of service rendered among the respondents with a grand mean of 3.4. The finding is in line with several related studies while it also negates others. For example, a survey was conducted among 51 teachers and 163 undergraduate and 38 postgraduate students. The effects of five servqual dimensions were computed through multiple regression analysis, where the five dimensions were used as independent variables and user satisfaction was used as the dependent variable. The regression model was established as significant ($p < 0.001$) and explained the 56.9% variation in user satisfaction. The results recommended that library as a place ($p < 0.001$), affect of service ($p < 0.001$) and information control ($p < 0.004$) of the library significantly and positively influenced user satisfaction¹. Further negating this study finding is a study in Nigeria where it was found that respondents were highly

dissatisfied with the newspapers services in the serial section, number of available computers in the library for users to source online information, the reference materials, the national and international journals because they were not up to date as well as the books on the shelf². This dissatisfaction will invariably result in dwindling library patronage.

The second research question which is based on the ICT literacy skills of librarians, the grand mean, calculated across all statements, is 3.3. which suggests an overall positive perception among respondents regarding their digital literacy, media literacy, and information literacy skills. Negating this study, a survey revealed gaps in computer literacy among library staff and inadequacies in training programs. To sum it up, the study collectively emphasize the diverse and comprehensive training needs of librarians beyond ICT skills, encompassing management, communication, teaching, attitude development, and subject knowledge. They also underscore the importance of continuing education and training programs to enhance the professionalism of LIS practitioners³. To support further, a scholar asserted that the incorporation of Information and Communication Technology (ICT) into library services has provided libraries with a great opportunity to satisfy their users' needs and wants. The study affirmed that the level of ICT use in library operations significantly influenced the level of library services delivered by both Jiangsu University (JU) library and University of Ghana (UG) library⁴. This mean that ICT skill is a survival skill of the 21st century that every librarian must equip himself with for effectiveness and efficient library services.

To support further, a study that found that librarians had ICT skills like web applications skills, library networking skills, cloud technology skills, and that there is a significant relationship between web application skills, library networking skills and

cloud technology skill, and effective library services delivery⁵. This means that librarians who has ICT skills will be effective in rendering services to users. Furthermore, negating this study, it was found in a study on the Influence of ICT skills on job performance of librarians in university libraries of South-South, Nigeria found that that the majority of the respondents were not skilful in system management, web application and tools such as system troubleshooting, webinar/digital conferencing tools, Web 2.0, website designing and digital communication⁶. All though the study recorded a high level ICT literacy skills among librarians, it must be noted that technology is evolving and further training and retraining is inevitable for continuous relevance.

The third research question which was based on the Continous professional development techniques of the respondents. The grand mean, calculated across all statements, is 3.4. This suggests an overall positive sentiment among respondents regarding their willingness to learn, their training needs, and preferences for training methods. This however negates the findings of a study in college libraries in University of Delhi where a huge percentage of 88% of the respondents out of 60 librarians has not upgraded their professional skills as far as formal education is concerned⁷. The implication is that the librarians would have accumulated a huge gap in knowledge which indirectly or directly will have impact on the services rendered based on the pace at which the library is moving with the current cataclysmic changes being caused by information and communication technologies.

Looking at the importance of observational learning as means of mentoring young librarians by professionals, this study found that most librarians learn professional skills by observing superiors and colleagues with a mean score of 3.3. Unlike this finding, it was reported that the library profession in the U.S. continues to face

challenges of recruiting and retaining librarians with diverse backgrounds. Therefore, mentoring becomes an effective method of retention as it help in the development of trusting professional relationships among librarians, helps new librarians to adapt to the new environment, helps improve intergenerational cooperation, and helps in teambuilding⁸. Furthermore, looking at the areas where respondents thinks they need information, this study revealed a means score of 3.33 which means that majority of the respondents agreed that they need information in the area of information technology. This was supported by authors who affirmed that research has shown that training in ICT skills can lead to improved service delivery, library administration, efficiency, and job performance of librarians⁹.

Furthermore, the test of hypothesis one showed that continuous professional development have significant influence on the service quality of service of Librarians in Agriculture Research Institutes, Ibadan, Oyo state, Nigeria. On the strength of the linear regression analysis result (Adj. $R^2=0.262$, $F(1,79)= 5.972$, $p =0.001$), the null hypothesis one (H_01) which states that there will be no significant influence of continuous professional development on the service quality of research libraries in Oyo state is rejected. The regression model indicates that "continuous professional development" is a significant predictor of "service quality," and the relationship is positive. in other words, an increase in continuous professional development is associated with an increase in service quality. this finding is statistically significant and suggests that investing in continuous professional development can lead to improved service quality.

To corroborate the findings, a study found that CPD has a positive impact on library professionals, and library services are improved through these activities. Information services are provided quickly and efficiently, and better virtual reference services are

provided to the users¹⁰. To buttress further, it was opined that the skills and quality of library educators are critical factors in knowledge sharing and improving learning outcomes, especially in the present technological innovations, dynamic growth, and developments in the field of library and information science. CPD is therefore indispensable for library educators to engage in continuous professional development for additional knowledge and skill acquisition¹⁰.

From the above findings, Continuous professional development (CPD) is an essential aspect of improving service quality in libraries and the quality of service delivery is the most important factor among library information science educators, and the satisfaction level of users is important to improve libraries and the quality of services. Moreover, a citation impact study shows that research activity pertaining to CPD of librarians is very low. Therefore, low research productivity in CPD of librarians may inhibit informed decision making due to lack of availability of scientific research output. As a result, libraries may continue to have an unskilled and irrelevant workforce that does not meet the changing demands of the 21st century users. Especially African countries and other developing nations¹¹. This means that there is need for more research on the continuous professional development of librarians for regular upgrade to meet the 21st century demand for better library services.

Similarly, hypothesis two found that ICT skills is significantly associated with service quality. Therefore, on the strength of the result of the regression analysis ($Adj.R^2=0.205, F(1,79)=20.328, p=000$), the null hypothesis two (H_02) which states that there will be no significant influence of ICT skills on service quality of library in agricultural research institutes, Ibadan, Oyo State is hereby rejected. The regression model indicates that "ICT skills" is a significant predictor of "service quality," and the relationship is positive. In other words, an increase in ICT skills is associated with an

increase in service quality. This finding is statistically significant and suggests that possessing ICT skills can lead to improved service quality.

In support of the findings of this study, a study examined the impact of ICT skills on service quality in the banking industry in Kuwait showed that there are significant differences between the perceptions of the customers of the three Islamic banks in relation to the technology dimension. The statistical significance of the alternative hypothesis was seen in the P-value (P-value= .000). The alternative hypothesis is, therefore accepted, which implies that there are differences between the customers of KFH, KIB, and Boubyan Bank in regarding technology dimensions as indicators of service quality. The study found that employees' ICT skills had a significant positive effect on service quality. This means that the quality of services they rendered is an off-shoot of the various ICT skills acquired over time¹².

More so, the multiple regression analysis indicates that "continuous professional development" is a significant predictor of "service quality," while "ICT skills" does not appear to have a significant impact in this context. the relationship between "continuous professional development" and "service quality" is positive, indicating that an increase in continuous professional development is associated with an increase in service quality. It is on this strength of this result (Adj. R2 = 0.64, $F(2,78) = 15.363$, $p = 0.000$) that the null hypothesis three (H_03) which state that there will be no combined influence of continuous professional development and ICT skills on service quality in agriculture research institute libraries, Ibadan, Oyo State. This means ICT skills may not necessary be a problems once the library staff are developing professionally and on a regular basis. ICT skills could eventually become one out of the numerous skills to be acquired.

In a study that combine the duo of staff training and ICT skill and their significance to quality service, it was revealed that there was no policy in place to regulate ICT training of librarians where a majority were yet to attend training once in the last five years, hence there was inadequate training of librarians on ICT skills. Moreover, there was evidence in the study that training in ICT skill would engender improved service delivery, library administration, efficiency, job performance and reduction in job stress. Moreso, findings also revealed that inadequate training, poor planning and implementation, non-sponsorship of librarians, absence of policy for evaluation and assessment are factors militating against ICT skills acquisition¹².

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Chapter Five

Conclusion

5.1 Summary of Findings

The findings of this study which examined the influence of continuous professional development technique, information and communication technology skills (ICT) and service quality of librarians in agriculture research institutes, Ibadan, Oyo state, Nigeria can be summarized as follows;

1. The study found a high level service quality with a grand mean score of 3.4. However, the mean score of 2.99, indicates a somewhat lower level of agreement regarding the adequacy of the collection in agriculture research institute library, Ibadan, Oyo State.
2. The study found a moderate agreement that professional competences are learned by observing colleagues and superiors. A serious need for knowledge in the area of information technology was also found and a moderate preference for Conferences, Seminars and Workshops was found. Moreso, on the mode of training the study found a very high preference for lectures and group discussion. Finally, the study

- found a very high need for further training among librarians in agriculture research institute libraries, Ibadan, Oyo State.
3. The study found an overall positive perception among librarians in agricultural research institute in Ibadan, Oyo State regarding their digital literacy, media literacy, and information literacy skills.
 4. The test of hypothesis showed that continuous professional development have significant influence on the service quality of librarians in agriculture research institutes, Ibadan, Oyo state.
 5. Similarly, the test of hypothesis two showed that ICT skills have significant influence on the service quality of librarians in agriculture research institutes, Ibadan, Oyo state.
 6. The third hypothesis found a combined influence of continuous professional development and ICT skills on service quality of librarians in agriculture research institutes, Ibadan, Oyo state. However, it was found that only continuous professional development has significant influence on service quality while ICT skills is not significant.

5.2 Conclusion

This study has provided valuable insights into the service quality, professional competences, training preferences, and perceptions of librarians in agriculture research institute libraries in Ibadan, Oyo State. The findings revealed a commendable high level of service quality, with an overall grand mean score of 3.4, reflecting the dedication and commitment of librarians in delivering quality services. However, the slightly lower mean score of 2.99 regarding the adequacy of the collection indicates a

need for attention and improvement in this specific area. The study also shed light on the importance of continuous professional development, highlighting a significant influence on the service quality of librarians. The preference for traditional modes of training, such as lectures and group discussions, suggests a more conventional approach to skill enhancement. Furthermore, the identified need for knowledge in information technology, coupled with a moderate preference for Conferences, Seminars, and Workshops, underscores the importance of staying abreast of technological advancements in the field.

Interestingly, librarians in agriculture research institute libraries expressed a positive overall perception of their digital literacy, media literacy, and information literacy skills. This positive self-assessment suggests a proactive approach to acquiring and maintaining relevant skills in the ever-evolving information landscape.

The findings of the hypotheses testing reaffirmed the significance of continuous professional development and ICT skills in influencing service quality. While both factors combined had a positive influence, the study revealed that only continuous professional development had a significant impact on service quality, whereas ICT skills did not emerge as a significant contributor.

5.3 Recommendations

Based on the findings and conclusions reached in this study, the following recommendation are considered application;

1. A quality service can only be rendered using quality library resources, the library need to be well equipped with relevant and adequate information resources that best meet the need of researchers.
2. The necessity of continuous training via both in-house training session and formal training through conferences, seminars and workshops as well as taking new courses is important and a necessity
3. Information and Communication Skills is a necessary and survival skill of the 21st century that librarians must be equipped with to stay relevant.
4. Research libraries must do everything possible to see to the constant and regular need for continuous professional development of the library staff.
5. ICT skills training should be prioritized while internally organized training programmes should be highly encouraged in the research libraries. The management should make some financial commitment in support of research librarians for training and retraining on ICT skills for improved job
6. That library management should regularly organise training and retraining for librarians on ICT skills of library services to the patrons while relevant policies should be put in place for continuous evaluation and training of librarians

5.4 Contribution to Knowledge

The research analysis and findings have made a significant contribution to the field of library and information science, as well as to society as a whole. These contributions encompass empirical, theoretical, and conceptual dimensions. In terms of conceptual contributions, the study has developed a conceptual model that delineates all the constructs used in the research. This model elucidates the interrelationships among

these concepts. Regarding theoretical contributions, the study has provided support for previous research, validating the LibQUAL model as a robust framework for assessing library service quality and underscoring the importance of ongoing professional development. On an empirical level, the research collected, analyzed, and presented primary quantitative data from librarians and researchers. This data has allowed for the establishment of facts related to ICT skills, continuous professional development, and service quality in the context of librarians in agricultural research institutes located in Ibadan, Oyo state, Nigeria.

5.5. Suggested Areas for Further Studies

Research on CPD of librarians is dominant in academic libraries, hence there is need for more studies to be conducted in Research institute libraries in the following areas:

1. Continuous professional development programs in Research libraries, Oyo State.
2. Digital literacy skills training and service quality of Librarians in Research Institute, Oyo State.
3. Evaluating User's satisfaction on Research Libraries services: A case of research libraries in Nigeria.

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**Appendices
Appendix i**

Questionnaire

**Department of Information Management, Faculty of Communication and
Information Science, Lead City University, Ibadan, Oyo State, Nigeria.**

Dear Respondent,

I am a Master degree student of the above-named Department and Institution. I seek your indulgence to help attend to this questionnaire to the best of your ability. It is aimed at gathering relevant data on *Service Quality of Librarians*. Your response is strictly confidential and will be used only for research purposes.

Thanks.

Section A: Demographic Information

Please tick (✓) as appropriate

- a. Name of Institution:
- b. Gender: Male (), Female ()
- c. Age Range: 25 – 29 (), 30 – 34 (), 35 – 39 (), 40 – 44 (), 45 – 49 (), 50 and above ()
- d. Staff Cadre: Librarian II (), Librarian I (), Senior Librarian (), Principal Librarian (), Asst. Chief Librarian (), Chief Librarian (), Deputy Librarian () Librarian

Section A: Research Questions

Service quality of librarians in Agriculture research institutes, Ibadan, Oyo State, Nigeria?

Keys: SA = Strongly Agree; A = Agree; D = Disagree; SD = Strongly Disagree

S/N	Items	SA	A	D	SD
	Information Control				
1	Researchers can access the Library Portal from anywhere				
2	Researchers can access Library Portal 24/7.				
3	Library provides up to date information.				
4	Library Portal is user friendly You need generate more items that will reflect scope, timeliness, convenience, ease of navigation, modern equipment and self reliance				
	Affect of Service				
5	Librarians provide an accurate answer to queries				
6	Librarians are proficient in information searching				
7	Librarians are user friendly				
8	Librarians always Assists in finding the needed information You need to generate more items on assurance, reliability and empathy				
	Library as a Place				
9	Books are arranged accordingly on the right shelf				
10	Materials are easy to retrieve				
11	Library collection is up to date				
12	Library collection is adequate Generate more items on facilities, equipment etc.				

Section C: Questions on Continuous Professional Development Technique

Question 2: Continuous Professional Development Technique of Librarians in research institutes in Oyo State, Nigeria?

Keys: SA: Strongly Agree; A: Agree; D: Disagree; SD: Strongly Disagree

S/N	Items	SA	A	D	SD
	Learning by Observation				
1	As a librarian, I learn everyday by observing my Superiors				
2	I always learn new professional skills from my superiors				
3	I learn professional competences by observing my colleagues				
4	I like performing professional activities with my colleagues				
	Training: Area of Training Needs				
5	Information Technology				
6	Management & Leadership works				
7	Communication Skills				
8	Subject & Domain Knowledge				
	Training Methods Preferred				
9	Attending Conferences, Seminars and Workshops				
10	In-house training				
11	Practical works				
12	Lecture/Discussions				
	Need for further Training				
13	For more knowledge				
14	For skills development				
15	For attitudinal change				
16	For promotion				

Section C: Question on ICT skill sets of Librarians

Question 3: ICT skills of Librarians in research Institutes, Ibadan, Oyo State, Nigeria?

Keys: SA: Strongly Agree; A: Agree; D: Disagree; SD: Strongly Disagree

S/N	Items	SA	A	D	SD
	Digital Literacy Skills				
1	I have the ability to create and edit digital content in different formats.				
2	I can express myself through digital means.				
3	I can modify, refine, improve and integrate information and content into an existing body of knowledge to create new, original and relevant content and knowledge.				
4	I understand how copyright and licenses apply to data, information and digital content.				
	Media Literacy Skills				
5	I can interact through a variety of digital technologies and to understand appropriate digital communication means for a given context.				
6	I can share data, information and digital content with others through appropriate digital technologies.				
7	I can create and manage one or multiple digital identities, to be able to protect one's own reputation.				
8	I understand the behavioural norms and know-how while using digital technologies and interacting in digital environments.				
	Information Literacy skills				
9	I can articulate information needs, search for data, information and content in digital environments.				
10	I can create and update personal search strategies.				
11	I can analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content				
12	I can organise, store and retrieve data, information and content in digital environments.				

**Focus Group Discussion
(Researchers)**

Section A:

Questions on Affect of Service

In few words describe the attitude of Library Staff with respect to there:

- a. Willingness and readiness to help in search for information
- b. Attentiveness to users explanations

Questions on Library as a place

In few words describe the library physical structure and everything in it with respect to:

- a. Arrangement and recency of information resources
- b. Suitability of Library environment to users and learning

Questions on Information Control

In few words describe the Library Information resources with respect to:

- a. Ease of access to information resources

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Biodata

A. Personal Data

- 1. Name: **Theresa Folasade ODUSANYA**
- 2. Sex: Female
- 3. Date of Birth: 7th February, 1974

4. Marital Status	Married
5. Stat of Origin	Osun State.
6. Address	2, Lasisi Ogo Oluwa Street, Olopomewa Eleyele Ibadan, Oyo State
7.	Telephone: 08023807169, 08137147777 E-Mail: otheresafolasade@gmail.com

B. Institutions Attended with Dates

Lead city University, Ibadan	2021 – 2022
Lead City University, Ibadan	2019 – 2020
Tai Solarin University of Education, Ijagun, Ogun Sate	2017 – 2018
Osun State Polytechnic, Iree, Osun State	1999 – 2001
Osun State Polytechnic, Iree, Osun State	1996 – 1998

C. Educational Qualifications Obtained with Dates

Master in Library and Information Science (MLIS)	In View
Bachelor in Library and Information Science (BLIS)	2020
Post-Graduate Diploma in Library and Information Science	2018
Higher National Diploma in Business Administration (HND)	2001
National Diploma in Business Administration (ND)	1998

D. Work Experience

Sept. 2002 – Aug. 2003	Afijio Local Government, Jobele, Oyo State (NYSC) Treasury Department <ul style="list-style-type: none"> • Preparation of salary for Payment • Preparation of Contractors' Bills for Payment
Oct. 1998 – Oct. 1999	Jonsul Plastics Industries, Block 2 Magazine Road, Jericho Ibadan, Oyo State Marketing Sales Personnel Officer <ul style="list-style-type: none"> • Preparation of Sales Monthly Returns • Preparation of Contractors/Buyers Bills for Payment • Supervision and Issuance of receipts of Daily Sales

- Jan. 2004 – 2009** **Alleluya Group’s NNPC, Enugu/Port-Harcourt**
Marketing Representative
- Preparation of Sales Monthly Returns
 - Preparation of Buyers Bills for Payment
 - Supervision and Issuance of receipts of Fuel Supplied
- Aug. 2010 – 2013** **Federal College of Forestry, Ibadan**
Higher Executive Officer (Admin)
- Students Admission Processes
 - Documentation of Students and Keeping of Records
- Aug. 2013 – 2016** **Federal College of Forestry, Ibadan**
Senior Higher Executive Officer (Admin)
- Fresh Students Registration
 - Students Documentation and Records Keeping
- Jan 2016 – Jan. 2020** **Federal College of Forestry, Ibadan.**
Principal Executive Officer II (Admin)
- Preparation of Staff Leave Roaster
 - Processing Staff Annual Leave
 - Keeping Staff Records
 - Updating Record of Service of Staff
- Dec. 2020 – Dec. 2021** **Federal College of Forestry, Ibadan**
Principal Executive Officer I (Admin)
- Preparation of Staff Leave Roaster
 - Processing Staff Annual Leave
 - Keeping Staff Records
 - Updating Record of Service of Staff
- Dec. 2021 – Date** **Federal College of Forestry, Ibadan**
Senior Librarian
- Supervision and Coordination of Circulation Unit

E. Unpublished Academic Projects

1. The Impact of Co-operative Societies in Nigeria Economy Project Submitted for the Award of
National Diploma, Osun State Polytechnic (1998)
2. The Impact of Purchases and Procurement in an Organization Project Submitted for the Award of
Higher National Diploma, Osun State Polytechnic (2001)

3. Total Quality Management as a Correlate of Organizational Productivity

Project Submitted for the
Award of
Post Graduate Diploma in
Library & Information
Technology, TASUED,
(2018)

4. Performance of Social Media Use on the Perceived Academic Performance of Federal
College of Forestry Students, Ibadan Oyo State

Project Submitted for the
award of Bachelor of
Library and Information
Science (BLIS) Lead
University, Ibadan.

F. Referees

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Date

The University Compliance Certification

This is to certify that this thesis by Theresa Folasade ODUSANYA with Matriculation
Number LCU/PG/002795 in the Department of Information Management, Lead City
University, Ibadan, has fully complied with the approved university format and style.

Signature

Date

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