



## INVESTIGATING INFORMATION COMMUNICATION TECHNOLOGY (ICT) USE AND SERVICE DELIVERY OF LIBRARIANS IN STATE UNIVERSITIES IN SOUTH-WEST, NIGERIA

**Adegoke, Oluwatoyin**

[toyin.adegoke941@gmail.com](mailto:toyin.adegoke941@gmail.com)

**Ikonne, Chinyere, N.**

Babcock University, Ilishan Remo,  
Ogun State, Nigeria

[ikonnec@babcock.edu.ng](mailto:ikonnec@babcock.edu.ng)

&

**Adereolu, Ojo**

Ekiti State University, Ado-Ekiti, Nigeria  
[adereolu1267@gmail.com](mailto:adereolu1267@gmail.com)

### Abstract

Service delivery is the interaction between librarians and the users of the library in order to satisfy their academic objectives. Survey research design was adopted for this study. The study population was 90 librarians from six state universities in South-west Nigeria. Total enumeration was used for the study. Questionnaire was used to collect data. Cronbach's alpha reliability coefficient for the constructs ranged from 0.72 to 0.86. A response rate of 89% was obtained. Data were analysed using descriptive and inferential (simple and multiple regression) statistics at 5% level of significance. Findings revealed that ICT use had no combined significant influence on service delivery of librarians in state universities in South-west, Nigeria. Also, ICT use had no significant influence on the service delivery of librarians in state universities in South-west; Nigeria. The study concluded that ICT use did not enhance service delivery of librarians in state universities in South-west, Nigeria. The study recommended that the management of the state university libraries should explore other factors that could enhance service delivery other than ICT use.

**Keywords:** Information Communication Technology (ICT) use, Information, Service delivery, Librarian, State universities in South-west, Nigeria.

### Introduction

Service delivery refers to as the means of providing and delivering service to individuals in entities or organizations. It defines a relationship between an organization providing services to clients who are the recipients of the service delivered. Service delivery according to Guitoo and Williams (2015), has to do with both the provision of tangible public goods and intangible services performed by government institutions, organizations, private companies, non-profit organizations, and individual service providers and library inclusive. Service delivery in the libraries involves the activities that librarians engage with in providing information resources that are available to the questions and queries of users and to meet their information needs (Vincent, Ikonne, & Faith, 2023). It is the

process of ensuring that library patrons have easy and efficient access to all the resources and services they require for a fulfilling library experience. It also means that all services and resources in a library are easily accessible and user-friendly.

Edom and Edom (2019) stated that library services are assistance provided by a librarian to users in the form of assisting them in obtaining the information they seek from the library. They further pointed out that resources must be organized and catalogued so that the patrons can easily locate them and that the library should be a friendly environment that promotes study and inquiry. They also noted that things like convenient chairs, quiet study rooms, group workspaces, and other amenities should be

provided. For them, library service delivery is a complex process that extends beyond lending books. It is about empowering individuals and communities by offering them access to a variety of resources and services. It is all about fostering a passion of learning, encouraging personal and community growth.

University libraries are service-oriented which means that no library might deliver a full range of services without librarians ensuring that users are able to locate the information they need to fulfill their information needs. In addition, Suryakanth and Prashant (2023) noted that university libraries are created to address the information demands of the users by offering pertinent information resources and services. The delivery of library service can be divided into traditional and advanced categories. Sheba (2021) identified traditional library services provided in university libraries as including interlibrary loan services, abstracting services, cataloguing, reprographic, bibliographic, circulation, reference, and information. Other traditional services include User services, Reference Services, Current Awareness Services, Document Delivery, Inter-library Loan, Audio-Visual Services, and Customer Relations. Furthermore, advanced category services include access to internet and Internet-based tools and resources including Electronic Information Sources and digital archive of private and public documents. Akpan, (2018) emphasized that librarians should effectively provide users with print and non-print materials as well as timely information services in order to promote the delivery of services to patrons in the library. In addition, one of the primary duties of librarians is the management of the library and its resources, which mean that, librarian, must have access to information resources, and appropriately handle of information resources in order to provide services in an effective and efficient manner. Hence, service delivery in the academic library guarantees that all services are provided to patrons throughout the library's life cycle because libraries are to provide patrons with an in-depth overview of their services in order to know what to expect and what not to

expect when they visit. Therefore, effective service delivery is considered to be fundamental.

According to Sapru (2020), low service delivery in libraries is due to the fact that not rendering services on time is as good as service not delivered to the library users as it fails to meet the information needs of the patrons. Based on this, Awujoola and Omorinkoba (2021) also pointed out that librarian's impatience and unwillingness to assist information seekers, harsh and unpleasant attitude when interacting with users has contributed to the low level of service in library. Usoro (2019) and Udem et. al (2020) further stated that some of the problems that are causing or may be leading to low service delivery include uncomfortable infrastructure, inadequate staff strength, unskilled staff, and inadequate space, and Internet connectivity. As a result of these, it is necessary that the service of the librarian be improved at all levels through effective and efficient service delivery, in order for the service to meet the expectation of the patrons and a priority for the university libraries. It is on this basis that Zhang et al. (2021) stated that, libraries should focus more from being collection-centered to user-centered that will meet information needs of the users accurately and timely.

Various factors have been identified to measure service delivery. Prakosa et al. (2017), listed factors such as tangible, reliability, responsiveness, guarantee-knowledge and courtesy and empathy. However, in this study, service delivery was assessed using indicators identified by Parasuraman et al. (1985), to include tangibility, reliability, responsiveness, assurance and empathy. However, the capacity of a librarian to deliver service could also be influenced by other factors which include ICT use.

Rawwary et al. (2020) opined that ICT has increased the efficiency with which everyday duties in the library are carried out. This means that the basics of using a library and how to make the best use of the library resources are taught to the patrons using ICT. In

essence, this is seen as a method used in providing information resources for improving the quality of teaching, learning, and research while remaining consistent with institutional goals. In recent years, libraries have undergone significant transformations. This shift caused by ICT has had an effect on how information services are delivered. Nonetheless, ICT is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. ICT refers to any communication device or application, including radio, television, cellular phones, computers and networks, hardware and software, satellite systems, and so on, as well as the various services and applications that are in line with them which are crucial to the current and future development of society and nation. ICT has had an impact on all aspects of life, including the library. Computer programs, databases, communication networks, analysis and design methods, programming languages, artificial intelligence, knowledge bases, and other tools are used in ICT.

Raji (2018) defined ICT as a generic term that refers to the technologies that are used to collect, store, edit and communicate information in various format. It means that use of ICT improves access to digital information, bridges the digital divide, and improves living standards. However, Implementation of ICT in libraries is a method of improving library information services and it is an essential tool for providing value-added information that supports sustainable development. Many institutions and organisations, including libraries, face variety of challenges in integrating ICTs into their services. Hence, information provision is critical to any nation's development and growth, and is made to enable the use of ICTs in all sectors, including national ICT and library services, which has impacted service delivery in many ways like, collection development, circulation, reference and information services, resource sharing, and other services.

According to Ade (2020), ICTs are new technologies that cannot be ignored in Africa. He went on to say that ICTs are important tools

that must be used to facilitate communication, achieve organizational goals, improve integration, and enhance productivity. The introduction of ICT has indeed aided library services by allowing many librarians to use their ICT abilities to reach out to library users. Additionally, Lidiya and Evgeniya (2024), identified the following ICT-based library services: Provision of web access to OPAC, electronic document delivery, restoration services, online instruction/user education, online readers advisory services, networked information resources and so on. All these services are rendered in the library, depending on the type of library, the type of patrons, and the objectives. ICT use has a profound impact on the transformation of libraries' operation and service delivery that has provided libraries with powerful tools, systems, and platforms for more efficient and effective information management, organization, and dissemination. On the other hand, ICT has transformed libraries into dynamic hubs of knowledge and innovation, from digital catalogues and databases to online access to resources, which have been able to improve information access, streamline workflows, provide personalized services, and connect with users in new and engaging ways thanks to ICT applications. ICT has also enabled libraries to expand their collections, digitize resources, provide users with remote access, provide virtual reference services, and participate in collaborative initiatives. Libraries, with ICT at their core, are adapting to the digital age, embracing emerging technologies, and evolving to meet the changing needs of their patrons. In accordance, ICTs has had an impact on how information services are delivered. information dissemination has given way to electronic modes of communication, dissemination and access to information have improved as a result of the development and application of ICTs in library operations, and libraries have been exempted from new roles in the provision, distribution, and transmission of information, because, advancements in ICT have made it easier to satisfy the information needs of users regardless of time or location. The librarian no longer plays a negative role in discharging their duty. It is no longer a

bookkeeper, but rather a portal to a wide range of information sources.

Furthermore, ICT impacts the role of librarians by delivering services that librarians can leverage to enhance information retrieval processes, provide reference assistance through various digital channels, including email, chat and video conferencing. It facilitates the use of integrated library management systems that helps librarians efficiently manage tasks such as cataloguing, acquisition and circulation. Librarians collaborate with ICT use to share information seamlessly, it develop and deliver digital literacy programs by empowering them to make the most of library services, librarians conduct instructional sessions and workshops through online platforms, reaching a broader audience for teaching effective use of library resources, this integration of ICT into library services empowers librarians to be more effective, responsive, and innovative in meeting the diverse information needs of their patrons. However, ICT has resurfaced as a library. Printed documents are no longer sufficient to store information. Compact disc read only memory (CDROM) databases, electronic document delivery, automated cataloguing, and online trading and retrieval systems, Open Access Catalogue (OPACs), social media, RFID, electronic database are common which means ICT has impacted greatly on the quality of information provided through libraries. The importance of ICT in library operations cannot be overstated. Many manual library routines and operations are now being converted to computerised operations via ICT techniques for better and faster services to end users. However, a country without functional libraries and information centres may lack access to information that would allow it to develop sustainably. In this age of globalisation when the entire world is connected, information gains power through permanent storage and widespread distribution, which could be accomplished through ICT.

Several factors have been found to account for service delivery in organizations, without much reference to the library setting. Meanwhile, the researcher discovered from the literature that

less attention has been paid to ICT and service delivery of librarians in the South-west Nigeria. Besides, how far ICT impacts service delivery of librarians in universities in South-west Nigeria has not been empirically verified, which constitutes a gap that the research intends to fill. In recognition of this gap, the present study sets to investigate information communication technology use and service delivery of librarians in South-west, Nigeria.

### **Objective of the study**

The general objective of this study is to investigate the influence of ICT use on service delivery in State universities in South-west, Nigeria. The specific objectives are to:

- 1) examine the level of service delivery of librarians in state universities in South-west, Nigeria; and
- 2) ascertain the use of ICT (type, purpose and frequency) in state universities in South-west;

### **Research Questions**

This study seeks answers to the following questions:

- 1) What is the level of service delivery of librarians in state universities?
- 2) What is the ICT use of librarians in state universities?

### **Review of Related literature**

#### **Service delivery**

Service delivery is concerned with the provision of a service by a government body to a community that it was promised such services, it is also an extent to which the service provided meet or exceed the expectation of the beneficiaries (Shittu, 2020). Service delivery is a key component that shows the interaction between service providers and clients in which the provider offers services, as information or as an activity, and the client finds value or loses value.

An organization will be ranked excellent if the service is done fast. It is therefore important to review if policies are in place and if they give desired impact and how citizens respond to them (Kathuri, 2014). The library is also an organization that is responsible for meeting the needs of patrons through service delivery, service is often regarded as the fundamental value or basic competency for librarians, professional service enhances quality and reliability in the minds of patrons because service is the hallmark of professionalism (Hicks, 2016). Service delivery in libraries revolves around providing effective and efficient services to library users. The responsibility of librarians has influenced the degree to which they carry out obligations professionally, service delivery is a job significantly performed by librarians to patrons irrespective of age, status, and academic qualifications.

However, Uyar (2019), stated that librarians must provide optimal library services in order to create quality services. Hence, service delivery in libraries revolves around providing effective and efficient services to library users and it includes various aspects such as understanding user needs, designing and implementing library services, improving access to library resources, promoting information literacy, evaluating and improving service delivery. According to Agoh and Omekwu (2021), library and information service deliveries are essential library processes and activities deployed by libraries to deliver information services and resources to library users, intending to enhance productivity.

Effective service delivery in libraries has numerous advantages, including increased user satisfaction, increased use of library resources, and improved information literacy skills. This involves carrying out user surveys and assessments, identifying information and resource requirements, analyzing user feedback for service improvement, developing service policies and procedures, creating user-friendly spaces and facilities, providing a variety of service channels, cataloguing and organizing library materials, implementing digital library

services, providing interlibrary loan and document delivery services, developing information literacy programs, and providing information literacy services. However, Ayolugbe et al. (2021) postulated that the success of every academic library in the present digital library environment largely depends on the quality of information service delivery offered to meet the changing and dynamic information needs of library users. Library service delivery includes activities, services, and interfaces performed by librarians that comprise the creation, storage, retrieval, as well as appropriate dissemination of information. As a result, it is critical to note that library service delivery is concerned with the provision of a solution to customers' needs and is the central key of a library's existence.

Generally, the quality-of-service delivery varies from one area of the service industry to another, but according to Azzam (2023), tangibility, reliability, responsiveness, assurance and empathy are the primary variables that influence service quality.

### **Information Communication Technology Use**

Milken Exchange on Education Technology (2019), ICT conceptualized as computer-based tools that address an organization's information and communication processing needs, including hardware, software, networks, and various devices. Its applications in university teaching and learning activities are numerous, including e-teaching and integrated systems that support learning and communication. According to Vannasouk, Say, Sithane, Khamseng, Thongsy, Phonesy, Phoutsakhone, Senglamphanh, Khammeung, Sybounheang and Chintana (2023), ICT is not something that can be dabbled in casually. It requires a given concept to operate or practice. To be familiar with its operation and use, one must first understand it and then practice it over time.

Mabawonku (2017), Agbo and Eyinnah (2022) affirmed the relevance of ICT embedded services and their application among librarians to make them more effective in the delivery of

various library operations. Its importance is due from its ability to improve communication and connectivity, thereby increasing productivity and efficiency in a variety of areas. Individuals now have easy access to vast amounts of information and knowledge thanks to ICT, which has revolutionized learning and education. In addition to these, Efa, Abu, Almaududi, Lili and Muhamad (2023), were of the opinion that ICT facilitates convenient retrieval of information, affords avenues for remote education, enables networking among professionals, and offers tools for enhancing productivity. This facilitates the human resources to augment their skill set, broaden their knowledge base, establish professional connections, and leverage existing career prospects. Barzkar (2020), was of the opinion that ICT plays a role of developing sustainable competitive advantage for organizations through implementing knowledge management. Information communication technology has also been found to have transformative impact on librarianship (Mark & Oliver, 2023), enhances library administration competitive advantage and organization's flexibility (Umar, 2024).

In Nigerian university libraries, ICT has become an indispensable educational tool for teaching, learning, and personal development of users, both staff and students. Furthermore, Peter, and Jude (2023), submitted that the use of ICT has not only introduced new ways of information handling in universities, it also brings about change in the very structure of information and its communication concepts like universal bibliography, accessibility to and availability of documents irrespective of location, high personalized services, full text searches storage and retrieval with speed and accuracy. As a result, university librarians must ensure that the method by which library users are taught to use library ICTs is firmly rooted within the relevant subject for academic purposes. They should be able to help library users quickly and effectively search for and find high-quality information. As a result, university librarians must ensure that the method by which library users are taught to use library ICTs is firmly rooted within the relevant subject for

academic purposes. They should be able to help library users quickly and effectively search for and find high-quality information

Libraries are no exception to the impact of ICT on how services are offered. Since the arrival of digital technologies, libraries' ability to serve their patrons has changed tremendously. As a result of the integration of ICT, information is now more easily available and services are delivered more effectively. According to Davis, Bagozzi and Warshaw (1989), understanding computer technology adoption is critical to understanding how ICT affects service delivery. To begin with, ICT improves the efficiency of a variety of library activities, such as resource management, circulation, and cataloguing. Automated library administration systems automate these tasks, freeing up librarians' time for user support and information services. ICT also makes it easier to access a wide range of digital resources, allowing librarians to offer a broader range of items to users, such as multimedia content, online databases, and e-books. This acceptance is shown in the use of online databases, automated procedures, and digital technology in the context of libraries, which improve the overall effectiveness of library services.

### **Methodology**

This study adopted a survey research design. The study population was 90 using total enumeration technique to capture respondents in state universities in South-west, Nigeria. A structured- questionnaire was used to gather data for this study. A pre-test of the instrument was conducted, and the Cronbach's analysis was used to determine the reliability of the instrument used for the study. The reliability coefficient value obtained ranged from 0.72 to 0.86 and was considered very good reliability and therefore, was accepted for the study. Ninety questionnaires were distributed among librarians. However, eighty (80) copies of the questionnaire retrieved, properly filled and found useful. The data was analysed using descriptive statistics and inferential statistics. The descriptive statistic such as percentage,

mean, standard deviation was generated to answer all the research questions raised.

## Presentation and Discussion of Results

### Library Service Delivery of Librarians

Library service delivery	VHL Freq. (%)	HL Freq. (%)	LL Freq. (%)	VLL Freq. (%)	Mean $\bar{x}$	Standard Deviation (SD)
<b>Tangibles (Mean = 3.51, SD=0.55)</b>						
The visual appeal of library facilities to patrons is	48 (60.0)	30 (37.5)	1 (1.3)	1 (1.3)	3.58	0.50
The ability to appear professional as a librarian	42 (52.5)	37 (46.3)	1 (1.3)	0 (0)	3.55	0.60
The library equipment is modern and in good condition enhancing easy access to information is	42 (52.5)	36 (45.0)	2 (2.5)	0 (0)	3.55	0.50
The location of the library in an inviting environment is	40 (50.0)	39 (50.0)	1 (1.3)	0 (0)	3.53	0.50
<b>Reliability (Mean = 3.50 SD= 0.56)</b>						
My ability as a professional librarian to provide an error-free information to library users is	44 (55.0)	35 (43.8)	0 (0)	1 (1.3)	3.52	0.50
My ability to perform virtually all promised services accurately to patrons who make use of the library facilities is	42 (53.2)	36 (45.0)	1 (1.3)	1 (1.3)	3.52	0.50
My capability to provide the right services to customers who use the library for the very first time and subsequently is	39 (48.8)	41 (51.2)	0 (0)	0 (0)	3.52	0.58
My understanding to meet patrons' needs dependably whenever I am approached with their problem is	39 (50.6)	37 (48.1)	0 (0)	1 (1.3)	3.51	0.53
<b>Responsiveness (Mean = 3.50, SD = 0.51)</b>						
My proficiency to keep patrons abreast of when service would be provided to meet patron's information needs is	43 (53.8)	37 (46.3)	0 (0)	0 (0)	3.51	0.53
My willingness to help patrons when an information need request is made is	42 (52.5)	37 (46.3)	1 (1.3)	0 (0)	3.49	0.60
My skills as a librarian to ensure that patron's time is not wasted through prompt service provision	42 (52.5)	37 (46.3)	1 (1.3)	0 (0)	3.49	0.50
My availability as a librarian to meet the needs of users is	37 (46.3)	43 (53.8)	0 (0)	0 (0)	3.49	0.55
<b>Assurance (Mean = 3.48, SD = 0.50)</b>						
My knowledge as a professional to answer users'	41	38	1	0	3.49	0.50

queries is	(51.2)	(47.5)	(1.3)	(0)		
My experience as a librarian to assure users of the confidentiality of personal information is	39 (48.8)	41 (51.2)	0 (0)	0 (0)	3.48	0.53
My expertise to ensure that patrons are confident when they demand information is	37 (46.3)	42 (52.5)	1 (1.3)	0 (0)	3.48	0.50
My capacity to make library feel secure when interacting with me as a librarian is	35 (43.8)	45 (56.3)	0 (0)	0 (0)	3.48	0.58
<b>Empathy (Mean = 3.48, SD = 0.50)</b>						
Convenient operating hours in the library that meet the information needs of patrons are	47 (58.8)	33 (41.3)	0 (0)	0 (0)	3.47	0.50
My capability to ensure that I deal with users in a considerate manner as much as I can is	41 (51.2)	39 (48.8)	0 (0)	0 (0)	3.44	0.50
The way I show compassion while handling user's request irrespective of their manners of approach is	32 (40.0)	47 (58.8)	0 (0)	0 (0)	3.42	0.50
My ability as a librarian to give users maximum attention when I am approached is	32 (40.0)	48 (60.0)	0 (0)	0 (0)	3.39	0.49
<b>Average Overall Mean</b>					<b>3.50</b>	<b>0.52</b>

#### Field Survey, 2024.

Table 4.1 presents the result of descriptive statistics on librarian's opinion on the level of their service delivery. From the table, it can be deduced that the respondents considered their service delivery to be high (mean = 3.50, SD = 0.52), on the scale of four-point. Among the measures of library service delivery, tangibles were considered highest (mean = 3.51, SD=0.55), reliability (mean = 3.50, SD = 0.56), responsiveness (mean = 3.50, SD = 0.51), assurance (mean = 3.48, SD = 0.50) and empathy (mean = 3.48, SD = 0.50), which was rated the lowest among the librarians. Specifically, under tangible the visual appeal of the library facilities was perceived to be highly rated (mean=3.58), while location of the library in an inviting environment was considered to have a moderate response (mean=3.53). This may imply that the equipment in the libraries is modern and in good condition thereby, enhancing easy accessibility to information.

Furthermore, reliability (mean=3.50 SD=0.56), responsiveness (mean=3.50), provision of error-free services as professionals was rated (mean=3.52), as well as understanding to meet patrons' needs (mean= 3.51) which was considered the lowest among the indices of

reliability. This implies that the respondents ensure that library services are rendered to their patrons. Under responsiveness, librarian's proficiency to keep patrons' abreast (3.51) while availability of the librarian to meet needs of users is reported to be lowest in level (mean=3.49). This may imply that users get the needed assistance required from the respondents, while assurance was rated (mean=3.48). Librarians indicated that the answer queries of user with a rating of (mean=3.49), and capacity to feel secure when interacting (3.48).

The last indicator is empathy (mean=3.48), this implies that librarians meet the information needs of the patrons (mean=3.47), and librarians give maximum attention to users when approached (mean=3.39). Implication here is that librarians are empathetic in discharging their services to users. This may imply that librarians are compassionate with their patrons; hence this selfless attitude is what every library user may desire or expect in return from professional librarians. Under reliability, librarians rating was (mean=3.41), librarians provided promised services well (mean=3.45), as well as provision of error-free services as professionals was rated

(mean=3.35) which was considered the lowest among the indices of reliability. This implies that librarians in public universities in South-west Nigeria ensure that library services are rendered to their patrons. The last indicator is the assurance which was rated lowest (mean=3.36). Librarians indicated that the answer queries of user with a rating of (mean=3.50) and dealing

with user's courtesy as (mean=3.06). This implies that librarians are lagging in an area among the service delivery indicators. Hence, librarians in the public universities in South-west Nigeria should deliberately work on their level of assurance so that users can feel a sense of freedom and belonging when it comes to users and librarian relationship.

### Information Communication Technology used by librarians

Information Communication Technology use	SA Freq. (%)	A Freq. (%)	D Freq. (%)	SD Freq. (%)	Mean $\bar{x}$	Standard Deviation (SD)
Types of ICT used (Mean = 3.44, SD = 0.55)						
Computer	43 (53.85)	37 (46.3)	0 (0)	0 (0)	3.55	0.50
Electronic Database	37 (46.31)	40 (50.0)	0 (0)	3 (3.8)	3.45	0.53
Scanner	38 (48.7.5)	40 (50.0)	1 (1.3)	1 (1.3)	3.45	0.58
RFID	37 (46.3)	40 (50.0)	3 (3.8)	0 (0)	3.45	0.53
Camera	36 (45.0)	41 (51.2)	3 (3.8)	0 (0)	3.43	0.55
Mobile Apps	33 (41.3)	40 (50.0)	7 (8.8)	0 (0)	3.38	0.59
Barcode Reader	30 (39.0)	44 (57.1)	2 (2.6)	1 (1.3)	3.34	0.60
Level of ICT (Mean = 3.38, SD =0.64)						
Computer	41 (51.2)	34 (42.5)	4 (5.0)	1 (1.3)	3.47	0.62
Scanner	39 (48.8)	37 (46.3)	2 (2.5)	2 (2.5)	3.44	0.64
RFID	35 (43.8)	40 (50.0)	5 (6.3)	0 (0)	3.38	0.61
Mobile Apps	37 (46.3)	37 (46.3)	5 (6.3)	1 (1.3)	3.38	0.67
Camera	37 (46.3)	38 (47.5)	3 (3.8)	2 (2.5)	3.35	0.68
Network	30 (37.5)	48 (60.0)	0 (0)	2 (2.5)	3.32	0.62
Barcode Reader	30 (37.5)	46 (57.5)	3 (3.8)	1 (1.3)	3.31	0.61
Purpose of ICT use (Mean = 3.44, SD = 0.60)						
For better library practice	47 (58.8)	29 (36.3)	4 (5.0)	0 (0)	3.52	0.60
Operational efficiency	40 (50.0)	35 (43.8)	5 (6.3)	0 (0)	3.44	0.62
Accuracy of library services	36 (45.0)	40 (50.0)	4 (5.0)	0 (0)	3.42	0.57
Flexibility of information search	35 (43.8)	42 (52.5)	2 (2.5)	1 (1.3)	3.38	0.61
Average Overall Mean					3.42	0.59

## Field Survey, 2024.

The result in Table 4.3 reveals the ICT used by the respondents. The findings show in general that the respondents strongly agreed to the use of ICT in the library ( $\bar{x} = 3.42$ ); the type of ICT

used ( $\bar{x} = 3.44$ ), ICT used ( $\bar{x} = 3.38$ ), and the purpose of ICT used ( $\bar{x} = 3.44$ ). Therefore, the respondents strongly agreed to ICT use in the library.

### ICT Use and Service Delivery by the Respondents

Variables	B	Std. Error	Beta ( $\beta$ )	t	p	Adj.R <sup>2</sup>	F	df(residual)	p
(Constant)	54.310	7.776		6.985	.000	.017	1.445	3(75)	.237
Type of ICT used	.380	.228	.150	1.668	.099				
Level of ICT used	.020	.229	-.011	.086	.932				
Purpose of ICT used	.425	.379	.155	1.122	.265				

Dependent Variable: Use of Electronic Information

Field Survey, 2024. Note:  $\beta$ = Standardized Coefficient, significant at 0.05

The result in Table 4.3 revealed that ICT use has no significant influence on library service delivery in public universities in South-west Nigeria ( $Adj.R^2 = 0.017$ ,  $F(3,75) = 1.445$ ,  $p > 0.00$ ) This result showed that ICT use account for 0% ( $Adj.R^2 = 0.017$ ) which does not explain any variation in service delivery of librarians in the state university libraries. The model shows that improving ICT use by one unit on a measurement scale will not increase service delivery. This result showed that ICT use is not a significant predictor of library service delivery in state universities in South-West, Nigeria. This implies that the level of ICT use of the librarians cannot determine their service delivery. The finding simply implies that ICT use cannot be used to predict library service delivery in state universities in South-west Nigeria.

### Discussion of the Findings

This study investigated the influence of ICT use on service delivery of librarians in state universities in South-west Nigeria. The discussion of findings was based on the result of the three research questions in this study. The findings from this study revealed that librarians in state universities in South-west Nigeria

exhibit a high level of library service delivery. Examination of the four dimensions of library service delivery indicates that librarians exhibit a high level of responsiveness and empathy. Tangible was of the highest level. In other words, the level of library service delivery was high.

Specifically, the factors that contributed mostly to library service delivery were that the libraries in South-west state universities had infrastructural facilities (tangibles) which aided library services. This finding is in consonance with the study of Oden and Owolabi (2021), who found a high level of service delivery among librarians in public university especially in the area of tangible but this study disregards its result regarding reliability. The findings of the present study also lend credence to the study of Mbua et al. (2021) that reported tangibles to have impacted greatly on service delivery of librarians.

Findings from this study reveal that ICT use by librarians in state universities; South-west Nigeria mostly enables the librarians in rendering various library services to users with ease. This study also shows the type of ICT use

for service delivery in state university libraries include: computer, scanner, camera, RFID, mobile apps, barcode reader, electronic databases and network. This concord with Osuchukwu, Obuezie and Ogwuche (2017) findings, and the outcome of Akpoo (2019) on the ICT tools available in the library for library services. It also agrees with Adeniran et al. (2020) that carried out an investigation on uses and application of ICT using University of Nigeria Nsukka (UNN). Their findings showed that the facilities mostly, on the frequency of ICT use for service delivery in university libraries, it was revealed that computer, printers, and camera were mostly used on daily basis, with the scanners, while database and the Internet are mostly used on weekly basis.

Some of the ICT used are utilized both on daily and weekly basis, while ICT use like RSS feed, List serves, and Wiki are never used or utilized on monthly basis if used at all. In order word, the frequency of ICT use for service delivery in state universities libraries in South-west, is moderate, implying that it is not frequently used due to technological knowhow by library personnel. The findings agree with that of Osuchukwu, Obuezie and Ogwuche (2017) who stated that student utilized the ICT use and resources available frequently and to a very great extent.

### Conclusion

This study analyzed the influence of ICT on service delivery in state universities in South-west, Nigeria. The result of this study provided both empirical and statistical evidences on the influence of ICT use (type of use, level of use, and purpose of use) on library service delivery (tangibles, reliability, responsiveness, assurance and empathy) in state universities in South-west, Nigeria.

Based on the findings of this research, the study concluded that Librarians deliver a high effective library services, specifically in the aspect of tangibles, reliability, responsiveness, assurance and empathy as a result of ICT use.

### Recommendations

Based on the research finding, this study proposed the following recommendations:

1. Librarians should maintain the visual appeal of the library facilities thereby maintaining the design in the way that is both inviting and functional.
2. There should also be a continuous maintenance of modern library equipment, as library patrons appreciate libraries that leverage on use of modern information facilities.
3. The library authority should develop diverse library collections so as to meet the diverse need of the library patrons.
4. Library collections should have updated versions of books, journals articles, and other materials in a variety of formats so as to reach the need of library user.

### References

- Ade, I. A. (2020). Executive role in the use of information technology in public organizations *Journal of Business Management and Accounting*, 4(1), 17-32.
- Adebayo, J.O. & Mabawonku, I. (2017). Perception and practice of information ethics by librarians in four higher institutions in Oyo State, Nigeria, *Library Philosophy & Practice (e-journal)*, 1574, 1-31
- Adeniran, C. O., Nwalo, K. I. N. & Ajani, Y. A. (2020). Application of information and communication technology in academic libraries in Kwara State, Nigeria: Progress and challenges, *Middle Belt Journal of Library and Information science*.
- Adeniran, P. (2011). User satisfaction with academic libraries services: Academic staff and students perspectives. *International Journal of Library and Information Science*, 3, 209-216.
- Agbo, D. A. & Eyinnah, U. A. (2022). Effectiveness of information service

- delivery through marketing of library resources and services. *Information impact: Journal of Information and Knowledge Management*, 13(2), 88-89.
- Agoh, A. J. & Omekwu, C. O. (2021). Library and information services delivery and researchers' scholarly communication outputs in agricultural research institutes in North-central, Nigeria. *International Journal of Library and Information Science Studies* 7(1), 9-24.
- Aina, L. O. (2014). The current practice of librarianship: a journey to the extinction of the profession in Nigeria? A lecture delivered at the 8th Jire Olanlokun Memorial. Lecture at the Julius Berger Hall, University of Lagos, Sep. 4, 2014. 35.
- Akpan, B. B., Agam, B. M. & Basse, S. A. (2018). The future of e-books in our contemporary world. *Journal of Advances in Library and Information Science*, 7(3), 246-249.
- Akpoo, B.V. (2019). Application of information and communication technology for effective library service delivery in academic libraries in Benue State, Nigeria. Unpublished Thesis submitted to the Department of Educational Foundations and General Studies Federal University of Agriculture, Makurdi.
- Ayolugbe, I., Jidere, A. J. & Ogwo, U. (2021). Utilization of Zoom as an interactive platform in repositioning library administration management for effective service delivery in academic libraries in Nigeria. *Library Philosophy and Practice (e-journal)* 6514.
- Awotona, S. O. (2019), Use of information and communication technology by post basic midwifery Students. A case study of Oyo State College of Nursing and midwifery, Eleyele, Ibadan, *Library Philosophy and Practice (e-journal)*.
- Awujoola, O. A. & Omorinkoba, O.G. (2021). Influence of dispositional factors on quality service delivery in two university libraries in Oyo State, Nigeria. *Journal of Educational Realities JERA*. 11(1), 1-14.
- Azzam, A. A. (2023). Evaluating the quality of delivery service from the customer's point of view using the importance-performance matrix. *International Journal of Professional Review* 8(4), 1-16
- Barzkar, A. (2020). The investigation of the role of information technology in creating and developing a sustainable competitive advantage for organizations through the implementation of knowledge management. *J. Spat. Org. Dyn.* 8(4), 287-999.
- Chisenga, J. (2006). Information and communication technologies: Opportunities and challenges for national and university libraries in Easter, Central and Southern Africa.
- Chukwuma, N. A. (2017). Tackling communication needs and hazards of the social media. In Eseriame, M. M. *Traditional and New Media of Mass Communication: Practices, Issues and Perspectives* (272 – 288). Asaba: Delta State University Press.
- Davis, F. D., Bagozzi, P.R. & Warshaw, P. (1989), User acceptance of computer technology: A comparison of two theoretical models, *Management Science*, 35( 8), 982-1003.
- Edom, B. O., & Edom, E. U. (2019). Marketing of information products and services in Nigerian university libraries. In Nnadozie, C. O., Uzuegbu, C. P., Nwosu, M. C., Igwe, K. N. and Akidi, J. O. Eds. *University Librarianship: Issues and Perspectives in Nigeria*. Lagos: Zeh Communications, 230-242
- Efa, W. P., Abu, Muna, Almaududi, A. Lili, Muhamad M. I (2023). The role of information technology in improving human resources career development. *Jurnal Teknologi Dan Sistem Informasi Bisnis* 5(3), 266-275,

- Ekere, Ewulum, Eze, Okpala. & 2019 Utilization of Modern Technologies for Service Delivery in Special Libraries in South-East Nigeria.
- Giurtoo, A. & Williams, C. (2015). *Developing Country Perspectives on Public Service Delivery*. Springer New Delhi.
- Hicks, D. Advocating oh information tool: The discourse of advocacy and service in professional identities of librarian
- Kathuri, W. (2014). Effect of organization systems on service delivery in civil organizations in Marsabet country. United State International University.
- Lidiya, K. & Evgeniya, P. (2024). Library services in the context of modern requirements of information society. *International Journal of Information Science and Management* 22(3) 111-122.
- Mabawonku, I. M. (2017). From tablet to tablet: Information, media and technology acceptance. An inaugural lecture delivered at the University of Ibadan on Apr. 20, 2017. Ibadan: Ibadan University Press. 50p.
- Mareli, I. E. (2019). Service delivery in South African public service implementation of the 'Batho Pele principles by statistics South Africa [Unpublished Thesis]
- Mark, Q. A. & Oliver, O. D. The transformative impact of information communication technology on librarianship: exploring the benefits and implications. *Library Philosophy and Practice*, 1-9,
- Mbua, P., Ocholla, D.N. & Mostert, J. (2021). Service quality gaps and challenges in the academic libraries in Kenya.
- Miken, I. R. & Macklin, A. S. (2019). Information and Communication technology (ICT) literacy: Integration and assessment in higher education". *Journal of Systemics, Cybernetics and informatics*, 5(4), 42-50.
- Oden, A. N. & Owolabi, R. (2021). Staff Attitude and Service Delivery in University Libraries in Ogun State. *Information Impact Journal of Information and Knowledge Management* 12(2).
- Ogar, C.E, Dika, S. I & Atanda, L. A. (2018). Challenges and prospects of information service delivery to rural people of Nigeria. *Research Journal of Library and Information Science*.
- Osuchukwu, N.P., Obuezie, A. C. & Ogwuche, G.O. (2017). Availability and utilization of Information Communication Technology facilities in a private university in Nigeria: A case study of Madonna University, Nigeria. *Journal of Information and Knowledge Management*, 8 (3), 16-25.
- Parasuraman, A., Berry, L. L. & Zeithaml, V. A. (1985). A conceptual model of service quality and its implications for future research, *Journal of Marketing*, 49(4), 41-50.
- Prakoso et al. (2017). Reliability, Responsiveness, Assurance, Empathy, And Tangible: Still Can Satisfy the Customer?
- Peter, O. O. & Jude, T. O. (2023). Relevance of Information Communication Technology in higher education fodr national development in kthe 21<sup>st</sup> century. *Library Philosophy and Practice*, 1.
- Raji, S.K. (2018). The role of ICT as a panacea for national development.
- Ramya, N., Kowsalya, A. & Dharanipriya, K. (2019). Service quality and its dimensions. *EPRA International Journal of Research and Development (IRD)* 4(2), 38-41
- Rawwary, H. et al. (2020). Factor affecting Jordanian Electronic Banking Services. *Management Science Letters*, 10(4), 915-922.
- Sapru, Y. (2020). Augmenting public service delivery through online feedback systems. *Indian Journal of Public Administration*, 66 (3).

- Sheba, J. (2021). Library services through library websites. *Emperor International Journal of Library and Information Technology Research*, 1(5), 22-27.
- Shittu, A. K. (2020). Public service and service delivery. In Farazmand, A (eds). *Global Encyclopedia of Public Administration, Public Policy and Governance*, Springer, Cham.
- Suryakanth, H. & Prashant, M. (2023). The timeless relevance of libraries in the age of artificial intelligence: A review. *Indian Journal of Library Science and Information Technology*. <https://www.ijlsit.org>.
- Udem, O. K., Ikenwe, J. I. & Ugwuamoke, E. C. (2020). Undergraduates' perception of library service quality and value in the 21<sup>st</sup>-century in South-east Nigeria: A case study. *Library Philosophy and Practice (e-journal)*.
- Umar, M. B. (2024). From books to bytes: a systematic review of the role of Information and Communication Technology in academic library administration. *Jurnal Intelek* 19 (2), 25-44.
- Usoro, I.M.P. (2019). Reference service delivery and users' satisfaction in federal university libraries in South-South Nigeria. <https://ejournals.org>
- Uyar, F. (2019). The role and importance of librarians in the service quality of enriched libraries. *Journal of Balkan Libraries Union*, 6(1), 34–37.
- Vannasouk, B., Say, P., Sithane, S., Khamseng, T., Thongsay, P., Phonesy, V., Phoutsakhone, Senglamphanh, D., Khammeung, S. & Chintana, P. (2023). An investigation into the conditions of ICT Application at the Teacher education institutions. *Indonesian Journal of Educational Research and Technology* 14(1) 89-104.
- Vincent, U., Ikonne, C. N. & Faith, O. (2023). The application of ICT competence in library services delivery in public libraries in South-south, Nigeria. *International Journal of Research and Innovation in Social Science*. <http://dx.doi.org/10.47772/IJRISS.2023.774>
- Zhang, I., Wang, D., & Zhao, L. (2021). Enlightenment of information consultancy to library user service. *Advances in Economics, Business and Management Research*, 185, 596 – 600