



## Optimizing Ict Tools for Dissemination of Covid19- Information by Librarians in Nigerian Academic Libraries

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#### ABSTRACT

Information Communication Technology tools have been considered indispensable tools for successful delivery of library services especially in the COVID 19 global pandemic. This study answers three research questions about ICT tools as it is applicable to librarians for dissemination of information during Covid-19 era. First, how often do information professionals use ICT tools for dissemination of covid-19? Second, what are the ICT tools used for dissemination of covid-19 information, third, what benefits do information professionals' derive from usage of ICT tools as well as challenges they encounter in getting information about covid-19 across to their patrons using ICT tools? Data were obtained in both quantitative and qualitative formats using one hundred and forty-four librarians as respondents. Total enumeration sampling technique was adopted because the population was minimal. Findings of the study revealed that; ICT tools are being used regularly by librarians for dissemination of covid-19 information, Videoconferencing, WhatsApp, Teleconferencing, Web-based Learning Applications, LinkedIn, Instagram, Software programmes and Facebook were identified as the ICT tools being used by librarians in Nigerian academic libraries for dissemination of covid-19 information. ICT tools are useful and beneficial to librarians as; it facilitates easy participation and engagement of library users in discussions pertaining to covid-19 which in turn curbs the spread of the virus, it facilitates easy education of students about the virus itself and to teach basic hygiene, with ICT tools, Covid 19 information is easily shared between librarians and their users, it also brings about reduction in the barrier of social distancing. The study also found epileptic power supply, poor infrastructure, inadequate funding, low band - with and lack of search skills as the major impediments to successful usage of ICT tools for dissemination of covid-19 information. Thus, it was recommended that libraries across Nigeria should prioritize training of their staff on the required digital skills they need to be able to cope in this advanced technology era

**Keywords:** COVID -19, Librarians, Information Dissemination, ICT Tools, Nigeria .

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### I. Introduction

In the recent years, Covid-19 found its way into the airspace and it has become a global health threat. The pandemic first appeared in a city called Wuhan in China, and presently, it has spread rapidly to nearly all countries across the globe. As reported by European Centre for Disease Prevention and Control (ECDC, 2020), over 81 million people have corona virus with over 1, 782, 111

confirmed death cases in the world. With particular reference to Nigeria, As at March 31st, 2022, 255, 415 cases were confirmed, 249,606 were discharged while 3,142 deaths cases were recorded across the 36 states and the Federal Capital Territory. In order to prevent the scourge of this deadly disease, physical academic activities were prevented by Nigeria Centre for Disease Control (NCDC) and Nigeria University Commission & COVID-19. With this development, all faculties began to see the need to transition from physical teaching and research to

virtual activities. As Pandey (2017) rightly observed, the aim and purpose of running an academic institution which are, teaching, learning and research may be defeated if not well supported by the library through the provision of relevant and timely information resources. Bearing this in mind, librarians were left with no other choice than to result into the use of ICT tools for library service delivery.

An array of ICT tools are readily available for dissemination of information. These include but not limited to E-mail, an electronic medium for faster exchange of information. Videoconferencing tool is another ICT tools used by librarians for dissemination of information, with this tool, librarians can transmit audio and video data to their users. Internet also makes the list of these tools. It is basically a network of networks that performs the connectivity among the computers. Internet provides the medium for communication using different online tools. Social Media platforms are not excluded from the list. Examples of these are Facebook, Twitter, Blogs, and so on. Libraries are using these platforms to promote their services and resources. Basically, Facebook is the most used platforms by libraries because the platform can be used for every kind of information dissemination. Other ICT tools used for dissemination of information are RFID Technology, Closed-Circuit Television (CCTV), fax and Digital library.

Although, some authors such as Putri, Purwanto, Pramono, Asbari, Wijayanti and Hyun (2020) raised some concerns about ICT tools usage for dissemination of information. These authors argued that personal or individual factors such as unwillingness to adapt to change, not being familiar with the applications, low skills, and limited technical support have always being the inhibitors to successful adoption and utilization of ICT tools. Despite these challenges, it is not a gain saying to say that ICT tools have come to take over the conventional ways of information dissemination and librarians should see them as their tool kits.

As observed by Yang et.al. (2020), Corona virus era is an of era insufficient information for decision making, unreliable information for health public debate, inaccessible information to meet people's daily information needs and spread of misinformation disinformation and fake news. The observations that served as a wake-up call for information professionals in Nigerian academic libraries to live up to expectation as most trusted information sources by disseminating adequate, reliable, relevant and easily accessible information on covid - 19 which will go a long in curbing the spread of the virus in academic environments. Librarians in the developed countries have explored the use ICT tools for dissemination of Covid-19 information and it is evident in their reports and submissions that the tools have been very amazing and useful for this purpose. For instance, (Mercieca, 2021) reported that most academic libraries support the government in the campaign against the spread of Corona Virus by providing timely and up-to-date information to their users which in-turn saved a lot of lives.

## **II. Statement of the problem**

As the entire world is being affected by the scourge of corona virus pandemic, the president of IFLA in his report of March 23rd, (2020) charged all information professionals around the world to provide valuable and reliable information on coronavirus so as to curtail the spread of the viral disease. To fulfil this obligation, information professionals in Nigeria were left with no other options than to deploy the use of ICT tools for dissemination of information since Centre for Disease Control (CDC) had placed a restriction on all physical activities in institutions across the country. However, it has been observed that, despite the potentials of these tools, some information professionals in Nigeria still do not see the need to embrace the technology while some are underutilizing due some reasons best known to them.

Additionally, a number of studies had investigated the use of information and communication technologies (ICT) in the context of information dissemination by librarians (Amuda and Ajani 2021; Lo Iacono, Symonds & Brown 2016; Horrell, Stephens & Breheny, 2015). However, only a few focused on the use of ICT tools in the context of provision and dissemination of covid-19 information in Nigerian library settings.

Against this backdrop, this study sought to examine ICT tools usage for dissemination of covid-19 information among information professionals' Nigerian academic libraries.

## **III. Objectives of the Study**

The main objective of the study is to examine ICT tools usage for dissemination of covid-19 information among Information professionals in Nigerian academic libraries. The specific objectives are to:

1. Examine the types of ICT tools used for dissemination of covid-19 information;
2. Determine the frequency of ICT tools use for dissemination of covid-19 among information professionals in the selected libraries;
3. Find out the benefits information professionals' derive from usage of ICT tools for dissemination of covid-19 information;
4. Identify challenges encountered by information professionals in getting information about covid-19 across to their patrons using ICT tools.

## **IV. Literature Review**

### **a. Concept of Coronavirus**

Covid-19 is an acute respiratory illness that was identified in 2019, in Wuhan city, China. Emergence of Corona virus pandemic was announced by the World Health Organization (WHO). In February 2020, Covid-19 stands for coronavirus epidemic. As reported by Guan et, al., (2020) symptoms of Covid-19 are usually; pneumonia with acute respiratory problem, multi-organ failure which may eventually result to death. In 2020, WHO declared COVID-19 outbreak a public health of international concern and as such urged countries across the world to be

active in taking some preventive measures that could curb the spread of the viral disease.

COVID-19 is spread from individual to individual, mainly by inhaling into ones' lung the respiratory droplets of an infected person through cough or sneeze. Other ways through which this disease could be transmitted is by having contact with contaminated fomites and inhalation of aerosols, produced during aerosol generating procedures (Wei, et al., 2020).

Luckily, most people who are tested positive with COVID-19 could fully recover by staying in isolation at home and have enough rest, well hydrated, and adequate usage of medications to relieve fever and aches and pains. One of the most potent ways of curing this deadly disease is by taking a balanced diet with the prescribed drugs. Supporting this, in October 2020, Food and Drug Administration (FDA) recommended adequate intake of meal in their right proportions and some antiviral drugs for some hospitalized COVID-19 patients. To improve on this, scientists are also trying their best to develop other effective treatment as they have some therapies under investigation.

Regardless of the therapies under investigation, the best way so far to curb the menace of this viral disease is prevention of its spread. Buttressing this, WHO in its report of March 2020, admonished people to prevent spread of COVID-19 at all cost; as it is better when prevented than to face with the health distresses caused by the disease and subsequent seeking for medical attention. It was further recommended that there is need for development of coordination mechanism and such mechanism should not be limited to health but should be extended in the entirety of society such as travel, commerce, transportation, security, finance and so on. Going by the above submission, it is not a gain saying to opine that preventive measures are the best ways to curb the spread of Covid -19 cases. Preventive strategies include but not limited to; washing of hands properly with hand sanitizers, use of nose mask, social distancing; to stay hygienic and by taking anti Corona vaccine.

There are countless numbers of posters pamphlets, advertisements prepared by different organizations all over the world on all issues relating to prevention of the scourge of COVID-19 diseases. WHO is not left out on the list organizations that have published tools such as video and posters to demonstrate the right application of hand hygiene and proper usage of nose mask as well as publication of variety of useful tips on the best preventive measures to the spread of the disease.

Librarians and other information professionals, being information providers, have the responsibilities of distributing these publications throughout different parts of society so as to create awareness and draw attention of their users to this vital information irrespective of their locations which is possible through the use of ICT tools.

## V. Related Work

The paper should be written in A4 (210mm by 297mm) size. Your manuscript should be on two side of a sheet, with margins of 2 cm on left and 2 cm on right side and 2.5 cm on top and 2 cm bottom side, respectively, of each page. The suggested length of a regular paper would be 4~10 pages not numbered and in this style. The subsequent headings are called subsection. All fonts are Times New Roman.

### *b. ICT Tools Used by Librarians for Dissemination of Covid-19 Information*

ICT tools are the most powerful tools for disseminating information and individual of all ages can easily access information through internet services. As opined by Igwe (2010), ICT tools allow libraries to deploy variety of techniques for improved service delivery as they use different kind of technologies for provision of information to their users. A wide array of ICT tools exists but the most commonly ones and their uses by librarians will be discussed in the following section;

Electronic mail (E-mail) is one of the most effective method of communication; with E-mail, information such as messages, files, pictures, letter article and so on are exchanged using the internet. Using E-mail, it is possible to send or receive information from any part of the world.

The above mentioned features of this ICT tool make it a viable tool for dissemination of information during covid -19 era. Information about covid 19 can be disseminated to library users by using this tool since it doesn't require physical presence of the users into libraries before they could access the information.

Videoconferencing tools are products of advanced technology that allow for interaction between two or more participants at different sites through the usage of computer networks for transmission of audio and video data (Bhoi, 2017). During covid -19 era, more librarians are familiar with various Video conferencing tools that could be used to disseminate health related information specifically covid-19 information to their users. Examples of videoconferencing tools are Skype, Zoom, Go To Meeting, Webex and bigbluebutton. Increasing number of librarians have seen the need to improve their competence in the use of these advanced technological tools which could consequently make them serve their users better during covid-19 era. Before any librarian could use any of the videoconferencing tools effectively, some certain skills are required. Firstly, it is required that the prospective librarian must be conversant with internet connectivity procedure using digital devices such as computer, tablets, smartphones and so on. Secondly, a secluded place is required to prevent unnecessary distractions and interruptions from the neighborhood. Taking into consideration of these requirements will bring about easy and stress-free dissemination of covid-19 information to library patrons.

Digital Library also an ICT tool that enables librarians to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the

persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities (Waters (1998). The author stated further that the identity of a digital library is the way the library discloses, provides access to, and supports the use of its increasingly virtual collection. Managing, administering, monitoring and ensuring fair use of its collection are a part of the mix, as well as keeping up with new technologies to support education and cultural engagement so that the library can evolve and sustain itself. The following terms; electronic library, virtual library, library without walls are used interchangeably for digital library. Provision of digital library system is the best option for libraries to survive in covid-19 era. With digital library, library users can have remote access to the disseminated information on covid-19.

Telephone is another ICT tools that is used for dissemination of information of covid-19 information, users' queries regarding the availability of resources on covid-19 could be answered on phone. Internet also makes the list ICT tools used by librarians, it is the most essential as most of these tools cannot be used without the internet. Internet is defined as a network of networks that performs the connectivity among the computers. Social Media such as LinkedIn, blog, twitter and facebook is another viable ICT tools used by librarians. These are websites and applications that enable users to create and share content or to participate in social network. These platforms are used by libraries of all types to disseminate covid-19 information. Many libraries are using social media to promote market and create awareness on the available e-resources on covid-19. Supporting this, Ladan, Haruna and Madu (2020) stated that using social media such as Facebook, Twitter, Instagram and LinkedIn, librarians can provide and share information quickly, efficiently and as strategies in response to COVID-19 pandemic. To further reveal the potentials of social media in the provision of covid-19 information, Brindha, Jayaseelan and Kadeswara (2020)

urged librarians to leverage on the use of social media to disseminate Covid 19 information as these platforms are global platforms for dissemination of useful information relating to covid 19.

As further stated by Brindha et.al (2020), Facebook is now redesigned in such a way that users are directed to the websites of WHO as well as local health authorities where up-to-date Covid-19 information that are published by these agencies are easily accessible. Google Scholar has also highlighted the leading health related journals. These innovative services by social media founders can enable librarians to serve their users better as they can share the link to these sources with their clients.

### ***c. Challenges of Using ICT Tools for Dissemination of Information***

A lot of factors had been identified in the extant literature as barriers to successful usage of ICT tools by information professional. These include but not limited to;

Power outages; this impediment has been identified as a major factor militating against the use of ICT tools in most developing countries. For instance, Asimah, Dzogbede and Akaba, (2021) reported epileptic power supply as a major factor to successful usage of digital library in an academic library in a developing country. Another challenge as identified by Purwanto, Pramono, Asbari, Wijayanti, Hyun and Putri (2020) is individual factors such as unwillingness to adapt to change which could slow than adoption and implementation of ICT tools in libraries. Other barriers as outlined in the study carried out by Putri et. al (2020) include, low skills, lack of needed facilities and interest, limited accessibility and network connection, limited technical support and lack of researcher's competency. Amuda and Ajani (2021) also identified technical difficulties, network issue, cost of data subscription, low ICT knowledge and lack of training as the major impediments to usage of ICT tools.

### ***d. Empirical Review on ICT Tools used in Libraries during Covid-19 Lockdown***

Asimah et.al (2021) in their study that aimed at analysing the effectiveness of digital library usage during Covid-19 lockdown using survey method for collection of data from 500 students that were picked from selected universities in Ghana using an on-line semi-structured questionnaire found that students effectively used the library systems and satisfied with the contents and quality of the resources available at the site as well as the flexibility of the system itself. The study concluded that the selected libraries were able to satisfy the information needs of their users during lockdown because the library staff have adequate knowledge in the operation and maintenance of the system. Similarly, Amuda et.al (2021) explored researchers' experience on the use of zoom application for virtual research presentation. The study was limited to lecturers in Nigerian library schools using a mixed approach to extract information from 98 respondents that were drawn from the six geo-political zones of Nigeria. Findings of this study revealed that the use of zoom application for online presentation is now prominent among researchers in Nigerian Library schools. The result also revealed that using zoom for virtual research presentation is very interesting and highly satisfactory. The study concluded that zoom is a suitable ICT tool for virtual research presentation when compare to physical presentation.

Ishtiaq, Sehar and Shahid (2020) worked on a research paper sought to investigate the role of university libraries in covid-19 era by using online survey research design. The study covered 29 libraries from private universities in Pakistan. Data collected were analyzed using Statistical Package for Social Sciences (SPSS) software version 23.0 while results of the study revealed that majority of the university library provided online services using variety of ICT tools such digital libraries, social media, E-mail and so on during the lockdown. The study concluded that there is need for library staff to prepare adequately in terms of having the required digital competence in order to cope in his new information era.

**VI. Methodology**

**Design**

The study adopts descriptive research survey design because it gives room for the researcher to cover a substantial percentage of respondents (librarians) in the libraries that were covered in the study and to enable the generalization of the outcomes from the study.

**Population and Sample**

The population for the study comprised of all librarians from the Federal Universities in the six geo-political zones of Nigeria. One Federal university each was selected to represent each of the six geo-political zones of Nigeria. The selection is as shown in Table 1.

TABLE I  
POPULATION OF THE STUDY

S/N	Federal University	States	Zones	Population
1.	University of Calabar	Cross-River	South-South	18
2.	University of Nigeria	Enugu State	South-East	24
3.	University of Ibadan	Oyo	South-West	25
4.	Ahmadu Bello University	Kaduna	North-West	28
5.	University of Ilorin	Kwara	North-Central	23
6.	University of Maiduguri	Bornu	North-East	26
7.	<b>Total</b>	6	6	144

All librarians of the selected universities totaling one hundred and forty-four (144) were covered in the study. Sample was drawn by applying total enumeration where all the respondents in the study population constituted the sample size.

**Instruments**

Questionnaire and interview that featured items on the objectives of the study were developed by the researchers. The questionnaire comprised of two major sections which is presented as; section A that required the demographic information of the respondents and section B that was designed to capture data on the objectives of the study.

TABLE II  
POPULATION AND RESPONSE RATE

S/N	Federal University	States	Zones	Population	Response Rate
	University of Calabar	Cross-River	South-South	18	15
	University of Nigeria	Enugu State	South-East	24	19
	University of Ibadan	Oyo	South-West	25	19
	Ahmadu Bello University	Kaduna	North-West	28	13
	University of Ilorin	Kwara	North-Central	23	17
	University of Maiduguri	Bornu	North-East	26	22
	<b>Total</b>	6	6	144	105 (73%)

**Procedure of Administration**

An online survey was developed and reviewed by experts in the field of LIS. The thoroughly reviewed instrument was piloted prior to implementation with a sample of the target audience. Pre-survey e-mail notes,

invites and survey confirmation were sent to all respondents. The survey was available for four weeks on the internet for the respondents to have ample time to respond and return their respective responses. By the end of the four weeks, a total of 105 copies of the questionnaire were properly filled and returned giving 73% response rate.

**Data Analysis**

Both quantitative and qualitative data were collected. The qualitative data collected was analysed thematically while the quantitative data collected was analysed using percentage and frequency count, and the results were presented in Tables and charts.

**VII. Results**

TABLE III  
DEMOGRAPHIC INFORMATION OF THE RESPONDENTS

Demographics	Frequency	Percentage (%)
<b>AGE</b>		
18-25	12	11.4
26-35	21	20
36-40	37	35.2
41 and above	35	33.3
<b>Total</b>	105	100
<b>Gender</b>		
Male	42	40
Female	63	60
<b>Total</b>	105	100
<b>Education Qualification</b>		
SSCE	0	0
OND	0	0
HND	25	23.8
B.Sc/Blis	29	27.6
Masters	24	22.9
PhD	27	25.7
<b>Total</b>	105	100

Source: Authors' fieldwork report (2021)

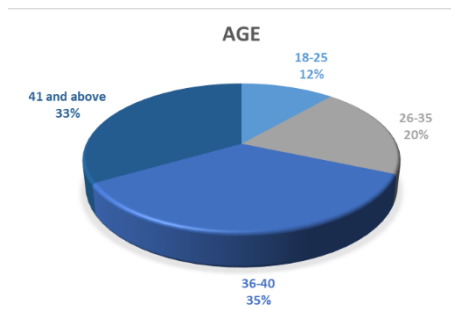
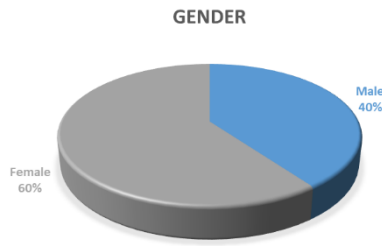
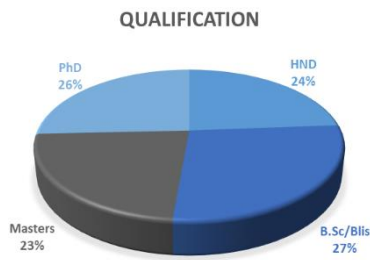


Table 4.1 revealed that 12 respondents were between the ages of 18-25 representing 11.4% of the respondents, 21 respondents were between 26-35 years representing 20%, 37 respondents were between 36-40 years representing 35.2% while 35 respondents are between the age of 41 (33.3%) and above. This shows that many of the respondents that participated in the study were between 36-40 years of age.



Subsequently, the table also revealed that Male was the highest participant in the study with a population of 42 respondents representing 40% while the female gender followed with the frequency of 63 respondents representing 60% of the study.



Finally, the table also indicates the educational qualification of the respondents. The result revealed that respondents that possess both SSCE and OND do not take part in the study, 25 respondents indicated that they possess HND representing 23.8% of the total respondent, 29 with 27.6% of the respondents who possess BSc/Blis also participated in the study, 24 respondents with the percentage of 29.9 who have Master take part in the study while 27 with the frequency of 25.7 respondents possess PhD.

*Research Objective 1:* Examine the types of ICT tools used for the dissemination of covid-19 information

TABLE IV  
TYPES OF ICT TOOLS USE FOR DISSEMINATING OF COVID-19 INFORMATION

S/N	ICT TOOLS	SA	A	D	SD	Means
1.	Video conferencing	65 (61.9%)	40 (38.1%)	0 (0%)	0 (0%)	
2.	Tele conferencing	43 (41%)	44 (42%)	18 (17%)	0 (0%)	
3.	LinkedIn	0(0%)	17 (16.1%)	66 (62.9%)	22 (21%)	
4.	software programs	0 (0%)	12 (11.4%)	44 (42%)	49 (46.6%)	
5.	Prerecorded Videos	20 (19%)	41 (39%)	22 (21%)	22 (21%)	
6.	Facebook Group	29 (27.6%)	42 (40%)	12 (11.4%)	22 (21%)	
7.	WhatsApp	65 (61.9%)	40 (38.1%)	0 (0%)	0 (0%)	
8.	Twitter	41 (39%)	43 (41%)	0 (0%)	21 (20%)	
9.	Instagram live stream	20 (19%)	41 (39%)	22 (21%)	22 (21%)	
10.	Web-based Learning Applications	44 (42%)	43 (41%)	18 (17%)	0 (0%)	

Source: Authors' fieldwork 2021

The results show that 105 of the respondents strongly agreed that Videoconferencing and WhatsApp are among the types of ICT they use for dissemination of Covid-19

information, with a percentage of 100. The results also showed that Teleconferencing and Web-based Learning Applications are among the types of ICT used for the dissemination of Covid-19 information, with 87 respondents representing 83 percent of the population. The results also show that 17 respondents 16.2 percent strongly agreed that LinkedIn is another type of ICT tool used for the dissemination of Covid-19 information, while 88 respondents 83.9 percent strongly disagreed. The results also show that the majority of respondents, with a frequency of 61 representing 58 percent, strongly agreed that prerecorded videos and Instagram live stream are types of ICT tools used for the dissemination of Covid-19 information, while 44 respondents, representing 42 percent, strongly disagreed. The results also show that 12 respondents 11.4 percent strongly agreed that Software programmes are types of ICT used for disseminating Covid-19 information, whereas 93 respondents 88.6 percent strongly disagreed. It is also clear from the results that 84 respondents 80 percent strongly agreed that Twitter is also used to disseminate Covid-19 information, while 21 respondents 20 percent disagreed. It was also found that 71 respondents 67.6 percent strongly agreed that Facebook Group is a type of ICT tool that was used for the dissemination of Covid-19 information, while 34 respondents 32.4 percent strongly disagreed.

*Research Objective 2:* Determine the frequency of ICT tools used for dissemination of covid-19 among information professionals in the selected libraries

TABLE V  
FREQUENCY OF ICT TOOLS USED FOR DISSEMINATION OF COVID-19 INFORMATION

S/N	VARIABLE	Daily	Weekly	Fort nightly	Monthly	Means
1.	How often do you use ICT tools for the dissemination of covid-19 information?	37 (35.2%)	28 (26.7%)	22 (21%)	18 (17.1%)	

Source: Authors' fieldwork 2021

HOW OFTEN DO YOU USE ICT TOOLS FOR THE DISSEMINATION OF COVID-19 INFORMATION?

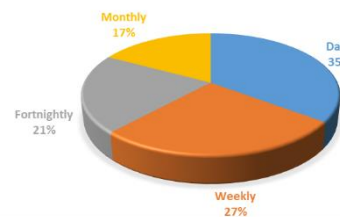


Table 4.2 shows that 37(35.2%)of the respondents use ICT tools for dissemination of covid-19 information daily, 28(26.7%)use ICT tools for dissemination of covid-19 information weekly, 22(21%) use ICT tools for dissemination of covid-19 information fortnightly while 18(17.1%) use ICT tools for dissemination of covid-19 information monthly

*Research Objective 3:* Find out the benefits information professionals derive from the usage of ICT tools for the dissemination of covid-19 information.

The respondents were asked to indicate the benefits information professionals derive from the usage of ICT tools for the dissemination of covid-19 information. The

majority of respondents indicated that there are a lot of benefits that information professionals will derive from using ICT tools for the dissemination of Covid-19 information. According to the findings. Some respondents identified that using ICT tools for the dissemination of Covid-19 information will encourage humanitarian collaborations, curb the risk of social distancing, educate other information professionals across the globe. While justifying the benefits information professionals will derive, many explanations were offered.

For instance, a respondent indicated: "While Covid-19 emphasised national boundaries in terms of health, economy, and politics, art and ICTs enabled individuals to emerge and find common ground to support the well-being of others, regardless of nationality, health, socioeconomic status, or political views. Individuals and small groups shared their innovative ideas for controlling the spread of the virus by utilising common ICT platforms and tools to spread the information."

Few respondents also note that: Using ICT tools to disseminate Covid-19 information has also helped to reduce the barrier of social distancing, according to a few respondents. "Online collaboration tools and social media have made it easier for people to participate in discussions. Such events are hosted on Facebook groups, Instagram live streams, and Twitter. Teleconferencing and audience response methods are being promoted to increase student participation during the Covid-19 pandemic."

Major respondents also noted that: "Social media, especially Facebook and Twitter can also be used to educate students about the virus itself and to teach basic hygiene. In advanced countries of the world, for example, a cartoon music video about handwashing and other precautionary measures to protect from the virus has gone viral."

*Research Objective 4:* Identify challenges encountered by information professionals in getting information about covid-19 across to their patrons using ICT tools.

Respondents were asked to list any challenges encountered in getting information about Covid-19 across to their patron. According to the findings, respondents have identified a few challenges encountered in getting information about Covid-19 across to the patron. Among these are erratic power supply, poor internet access, poor knowledge about the use of ICT tools and lack of institutional support.

According to the findings, few respondents note that: "Most of these ICT tools are unfamiliar to us, and they present a challenge as we use them to disseminate Covid-19 information." Why? Because the majority of these tools were not actively used by information professionals until the Covid-19 pandemic."

"A respondent stated, "Someone like me, I had never heard of video-conferencing tools such as Zoom and Skype before the Covid-19 pandemic brought it to the forefront." So using it now is causing a problem, and I am getting used to it."

Another respondent noted that: "Power outages have always been a major issue for everyone in Nigeria. The lack of power while using these ICT tools to disseminate Covid-19 information is extremely frustrating;

many times when we are communicating with the tools, power goes out before we know it."

Few respondents also mentioned that: "Institutions are not helping matters; their inability to subscribe for internet connectivity has become a viral problem in which they will complain about a lack of funding in the university. Most of us rely on personal funds to subscribe to use these ICT tools to disseminate Covid-19 information to the University's students and staff."

## **VIII. Discussion of Finding**

The finding of the study was able to establish the fact ICT tools are being used regularly by librarians for dissemination of covid-19 information which is an indication that the tools are now prominently used among librarians in Nigeria academic libraries. This finding is in line with the study of Asimah et.al and Amuda et.al (2021) who found out in their studies that most libraries in developing countries use variety of ICT tools for provision of library services. Also supporting the findings of this study, Artemisa et al. (2020) found in their study that during the corona virus pandemic lockdown that most information centres in Ghana transited to the use of ICT tools for dissemination of information.

Additionally, this study identified Videoconferencing, WhatsApp, Teleconferencing, Web-based Learning Applications, LinkedIn, Instagram, Software programmes and Facebook as the ICT tools being used by librarians in Nigerian academic libraries for dissemination covid-19 information. Out these tools, videoconferencing tools such as Zoom and Skype are the most commonly used tool. This finding is in agreement with Anjusha (2020) study who found that Zoom as the most commonly used ICT tools for dissemination of information during Lock down.

Moreover, it was found in this study that ICT tools are of great benefits to librarians because when deploy, information in response to covid 19 pandemic is easily shared between the librarians and their users, it reduces the barrier of social distancing, it enhances easy participation and engagement of library users in discussions pertaining to covid-19 which in turn curbs the spread of the virus, it facilitates easy education of students about the virus itself and to teach basic hygiene. The above points agree with Ladan, Haruna and Madu (2020)'s study who found that with ICT tools specifically social media such as Twitter, Facebook, Blog and Instagram, librarians were able to efficiently and quickly share information among the library users in response to covid 19 pandemic.

Lastly, the study found epileptic power supply, poor infrastructure, inadequate funding, low band - with and lack of search skills as the major impediments to successful usage of ICT tools for dissemination of covid-19 information. The above finding is line with the experience of the researcher during covid-19 lockdown that spanned between March and September, 2020. During this period, students were taught 'The Use of Library' course using Zoom. During the course of teaching the course at home, irregular power supply posed a lot of problem and because of this, most time, lecture periods were rescheduled. Also in support of this finding, power outage was also identified by Asimah et.al (2021) as a major challenge to successful usage of digital library.

## **IX. Conclusion**

As the COVID-19 pandemic lockdown affected almost all aspects of society and everyday life, information professional had to learn to organise communication and interaction in a new way. Information professionals have no alternative than to adopt full implementation of ICT tools in their operations. During covid-19 pandemic, staying at home is one of the steps to slow the spread of COVID-19. In such situation, Technology becomes an essential part of our daily life. The earlier the better if it is realized that ICT has come to stay and its tools will continue to be a significant part of our future as information providers.

## **X. Recommendations**

Based on the above findings, the following recommendations were made.

1. Libraries across Nigeria should prioritize training of their staff on the required digital skills they need to be able to cope in this advanced technology era.
2. Libraries in Nigeria should device alternative means of sourcing for power supply other than from the national grid. They can consider the use of solar energy.
3. Libraries in Nigeria should consider alternative source of funding other than relying solely on their parent institutions as there are several library services that can fetch libraries money.
4. LIS curriculum in Nigerian Library schools should be reviewed to accommodate more of ICT related courses as this will result in producing more digital librarians.



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