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Information and Communication Technology (ICT) Tools for Dissemination of Covid19 Information: A Usage Analysis among Information Professionals in Kwara State

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Abstract

The paper examined the information and communication technology (ICT) tools for dissemination of covid19 information: a usage analysis among information professionals in Kwara state. The descriptive survey design was adopted. The population of the study comprised of 120 information professionals in Kwara State. Four (4) research questions guided this study. The total enumerative sampling technique was used, and questionnaire was used to collect data for this study. Data was analyzed with descriptive statistics such as simple percentages, frequency count, mean and standard deviation. The findings revealed that most of the information professional use ICT tools for dissemination of covid-19 information daily. Majority of the respondents agreed that laptops and social media are most ICT tools used for dissemination of covid-19 information, follow by desktops, printers, scanners, software programs, conference tools and data projectors. The findings also revealed that ICT help information professional to provide and share information quickly. Based on these findings, epileptic power supply is the most challenges encounters by information professional in getting information about covid-19 followed by poor infrastructure, inadequate funding, low band width and lack of search skills.

Keywords: ICT, Covid-19, Covid-19 Information, Information Professionals, Information Dissemination, Use

Introduction

There have been a number of health diseases and viral infections that have taken over the airspace as a result of poor health information throughout the years, including the Ebola virus, bird flu, and the recently announced global pandemic known as Corona Virus (Covid 19) (WHO, 2020). The coronavirus first appeared in the city of Wuhan, China, and has spread rapidly to almost all countries across the world. According to the World Health Organization, WHO (2020) coronavirus disease is an infectious disease caused by a newly discovered coronavirus that affects people in different ways. Covid-19 seems to spread from person to person by the same mechanism as other common cold or influenza viruses—i.e., by face-to-face contact with a sneeze or cough, or from contact with secretions of people who are infected (WHO, 2020). The role of fecal–oral transmission has yet to be determined in COVID-19 but was found to occur during the earlier Severe Acute Respiratory Syndrome (SARS) outbreak (Heymann & Shindo, 2020). The current report shows that there are over 81 million confirmed cases of coronavirus with over 1, 782, 111 deaths in the world (European Centre for Disease Prevention and Control (ECDC, 2020).

The entire world seemed to have come to a standstill. It has been observed that during this outbreak, there have been undercurrents of increasing mental and socio-psychological issues afflicting people belonging to all walks of life (Duan & Zhu 2020; Chen et al. 2020). The high rate of infection in the COVID-19 pandemic may be due to a lack of proper information dissemination and public awareness of the virus, which has increased the need for the use of ICT tools for COVID-19 information dissemination.

Information and communication technology (ICT) is a general phrase used to describe a range of technologies for gathering, storing, retrieving, processing, analyzing, and transmitting information. Wikipedia (2019) defines ICT as the technology required for information processing, particularly in relation to the use of computers and computer software to covert, store, protect, process, transmit, and retrieve information from anywhere at any time. As such, advances in ICT have progressively reduced the cost of managing information, enabling individuals and organizations to undertake information-related tasks much more efficiently. Similarly, Aina (2004) defined information and communication technology as an omnibus term that encompasses computer and telecommunication technology. It is concerned with the technology used in handling, acquiring, processing, storing, and disseminating information. The

use of ICT in information handling and processing arises because of the need to cope with an information explosion that requires greater speed and accuracy than manual processing. The application of technology in information work, teaching, learning, research, and entertainment is almost limitless. ICT therefore permeates and cuts across all areas of economic, social, cultural, and political activity. ICT resources are, therefore, all information and communication technologies, including information systems and services (e.g., web services), computers, telecommunication networks, etc. These resources are used for information processing tasks (Musa, 2005). These tasks are capturing (obtaining information at its point of origin), conveying (processing information to obtain new information), cradling (storing information for use at a later time), and communicating (sending information to other people or locations).

ICT therefore gives greater flexibility in information access and use. Advances in ICT have facilitated the advancement of all professions. For example, communication satellites and cable television networks, wireless telephone systems, computer networking systems, and the internet all have communicative powers that have had an impact on society. Thus, ICT has solved the problem(s) of information access and use delays. With the aid of the internet, literature searching has been converted from a rather tedious task involving sorting through card catalogues or printed indexes, to a stimulating, interactive process using online connection to remote databases, often located thousands of kilometers away. Wirsiy and Shafack (2002) observed that the internet and the World Wide Web have made it possible for an individual anywhere in the world to have access to a large quantum of information through websites, which are interlinked by search engines. The implication of this observation is the availability of new information products and services and their effects on the existing library and information services. Therefore, in Nigeria, libraries can no longer ignore the fact that the use of ICT in the handling of information resources and services has come to stay. Hence, efforts need to be made to intensify the availability, accessibility, and utilization of these facilities.

Information Dissemination is an information alerting service designed to keep individuals informed about the new developments in their particular field of interest. Dissemination basically sends information to an audience without direct contact with the receiver and without the direct response or clarification method that a conversation or dialogue would have. Chhiato (2018) asserted that information dissemination is the activity of conveying and spreading one's ideas and knowledge through the exchange of thoughts, messages, as by symbols, signs, speeches,

visuals, signals, writing, or behavior; and also, it is the meaningful exchange of information between two or among a group of people. Furthermore, information dissemination refers to the process of communicating information through defined channels and media in order to reach various target groups (Chhiato, 2018). Wu, Yang, and Li (2016) opined that information dissemination is the transportation of information to the intended recipients while satisfying certain requirements such as delays, reliability, and so forth.

Dhawan (2018) viewed information dissemination as a proactive information service designed to educate and inform various groups of users on social, economic, and educational issues, problems, and opportunities of interest to them. It requires systematic planning, collection, organization, and storage of information for its delivery to the target. The events of information dissemination are conferences, meetings, festivals, and procession, and the mediums of information dissemination are journals, newspapers, radio, television, and video (Daudu & Mohammed, 2013). Phones, computers, satellites and the Internet are the technologies of information dissemination, and librarians, journalists, advertisers, public relations personnel, camera crews, and newsreaders are the professionals in the act of information dissemination. Bello and Aghadiuno (2019) summarized information dissemination as the channel through which facts are linked to the rightful individual seekers and organizations. All these may not be achieved without the necessary information and communication technology (ICT) in place. However, this study will be of great benefit to government and information professionals to know the kind of ICT tools which are suitable for the dissemination of COVID-19 information. Recommendations from the study will proffer solutions to challenges encountered by information professionals in getting information about COVID-19 and will contribute to existing literature on the usage of ICT tools for dissemination of COVID-19.

Statement of the problem

Due to the hard hit from the COVID-19 pandemic, public services have been paralyzed and academic activities and classes have been restricted to online due to the closure of colleges. Community members and the public need information on how to protect themselves against the coronavirus. In this view, librarians have been highly engaged in controlling the situation through effective dissemination of relevant health information on COVID 19. IFLA (2020) reported that on March 23, 2020, the president of IFLA had announced that "Libraries around the world are being affected by the emergence and spread of the coronavirus." This situation has

made librarians around the globe mobilize and provide a collection of valuable and reliable information on coronavirus in order to give people a source they can trust (IFLA, 2020). It is apparent that fake news and misinformation have created confusion and, subsequently, posed a greater challenge to every effort to curtail the spread of the virus. In this regard, librarians can strengthen ICT usage to provide access to their resources.

In today's modern society, the creation, circulation, and manipulation of information are activities that pervade many aspects of our cultural, economic, and social life (Bruno et al., 2008). Information and communication tools are considered as tools to seek health information (Brindha, Jayaseelan & Kadeswara, 2020). The coronavirus outbreak has not been the first pandemic witnessed in the age of information and communication tools. At least three other pandemics have occurred in the last decade; there was the swine flu in 2009, the Ebola virus in 2014 and the Zika virus in 2015, with all the outbreaks having had prominence, wide documentation and considerable influence on information and communication technology tool usage. At present, there are a number of information and communication technology tools available that can be used to disseminate health information, including Covid 19. It is based on this backdrop that this study sought to examine the effect of usage of ICT tools for the dissemination of COVID-19 information among information professionals in Kwara State.

Objectives of the Study

The main objective of the study is to examine effect of usage of ICT tools for dissemination of covid-19 information among professionals in Kwara State. The specific objectives are to:

- i. Determine the frequency information professionals use ICT tools for dissemination of covid-19;
- ii. Examine the types ICT tools use for covid-19 information dissemination;
- iii. Find out the benefits information professionals' derive from usage of ICT tools for dissemination of covid-19;
- iv. Examine challenges encounters by information professional in getting information about covid-19

Research Questions

1. How often do information professionals use ICT tools for dissemination of covid-19?
2. What kinds of ICT tools do you consult for covid-19 information dissemination?
3. What are the benefits information professionals' derive from usage of ICT tools for dissemination of covid-19?
4. What are the challenges encounters by information professional in getting information about covid-19?

Literature Review

Current situation and response to COVID-19 outbreak in Nigeria

As of January 17, 2021, 110, 387 cases have been reported in the country across 37 states and the Federal Capital Territory (FCT) (Table 1). 89, 317 cases have been recovered, and 1,435 deaths were recorded. Prior to the report of the COVID-19 outbreak in Africa, the WHO identified a strong link between the continent of Africa and China and has sent out guidelines on preparedness for the outbreak. Nigeria is one of the thirteen top countries identified as high risk for COVID-19 importation based on either direct links or high travel volume to and from China (WHO, 2020). The WHO also advised that countries develop capacity to promptly detect cases that will enable them to contain the outbreak early so that the health system is not overwhelmed (WHO, 2020).

Within 48 hours of isolating the index case, the country was able to make a laboratory diagnostic test for SARS-CoV-2 (NCDC, 2020). The NCDC's similar capacity for early diagnosis, swift quarantine of cases, and prompt contact tracing led by the NCDC were strong points of the country's ability to promptly control the 2014 Ebola Viral Disease (EVD) outbreak as well as prepare the country for the COVID-19 response (Ajisegiri, Chughtai & MacIntyre, 2018). However, more is required to respond to the current COVID-19 pandemic, considering its mode of transmission and the possibility of asymptomatic and pre-symptomatic individuals transmitting the infection (Ebrahim, 2020). While COVID-19 is primarily transmitted through respiratory droplets and contact routes, there is a potential for airborne transmission. Following the detection of the index case, a multisector NCDC-led national emergency operation centre at Level 3, the country's highest level of public health emergency, was activated. This was followed by the deployment of Rapid Response Teams with states leading contact tracing and

other response activities. The confirmed case was also evacuated to a health facility designated for the treatment of COVID-19 (NCDC, 2020). While it was commendable that there was in-country diagnostic capacity for SARS-CoV-2, the testing capacity, however, was very low and is still limited to symptomatic cases. With the change in testing strategy, the increase in the number of laboratories from five to thirteen nationally across the six geopolitical zones, decentralized testing and active case search in states like Lagos and the Federal Capital Territory, the number of cases has surged in the last few days (Figure 1). However, the overall testing capacity is still low.

Table 1: Summary of COVID-19 Cases across different states in Nigeria as of 3 May 2020 [19]

S/N	STATES	COMFIRM	RECOVERIES	DEATHS	TEST	ACTIVE CASES
1.	ABIA	1,134	1,014	11	15,117	109
2.	ADAMAWA	540	238	26	9,189	276
3.	AKWA IBOM	667	422	9	8,317	236
4.	ANAMBRA	515	334	19	12,325	162
5.	BAUCHI	1,107	964	17	14,166	126
6.	BAYELSA	608	539	23	10,595	46
7.	BENUE	657	513	17	10,366	127
8.	BORNO	865	738	36	15,910	91
9.	CROSS RIVER	169	157	12	4,463	0
10	DELTA	2,102	1,737	52	26,997	313
11.	EBONYI	1,259	1,072	30	8,820	157
12.	EDO	3,261	2,828	127	26,045	306
13.	EKITI	473	408	7	10,617	58
14.	ENUGU	1,583	1,375	21	14,348	187
15.	FCT	14,598	10,686	118	155,843	3,794
16.	GOMBE	1,489	1,251	41	30,291	197
17.	IMO	857	770	17	22,455	70
18.	JIGAWA	425	383	11	5,493	31

19.	KADUNA	6,178	5,732	55	47,147	391
20.	KANO	2,591	2,187	70	69,192	334
21.	KATSINA	1,723	1,644	27	30,249	52
22.	KEBBI	251	203	13	4,699	35
23.	KOGI	5	3	2	2,016	0
24.	KWARA	1,566	1,335	32	13,301	199
25.	LAGOS	40,624	32,007	271	290,013	8,346
26.	NASARAWA	1,301	325	13	13,901	963
27.	NIGER	547	400	14	12,390	133
28.	OGUN	2,859	2,477	37	52,230	345
29.	ONDO	2,070	1,809	42	14,942	219
30.	OSUN	1,215	1,023	27	9,939	165
31.	OYO	4,695	4,054	68	39,296	573
32.	PLATEAU	6,753	6,051	47	51,230	655
33.	RIVERS	4,392	3,619	73	102,791	700
34.	SOKOTO	677	460	26	15,934	191
35.	TARABA	258	208	11	7,537	39
36.	YOBE	211	197	8	6,620	6
37.	ZAMFARA	162	154	5	4,646	3
	TOTAL	110,387	89,317	1,435	1,189,430	19,635

Health Information

Health information can be defined as any type of information presented in oral, written, or electronic form. Health information in all its formats, be it health information management, health information systems, or health information technology, is geared towards the goal of providing quality health care delivery (Sokey, Adjei & Ankrah, 2018). The timely availability and accuracy of health information are very crucial in health delivery. It is therefore not surprising that the search for and usage of health information has become a great concern for both individuals and health care providers. Sokey et al. (2018) opined that there is a greater demand and need for accurate, relevant, rapid, and impartial public health information by people, and a growing reliance on mass media can facilitate this means for a veritable source of

information. Johnson and Meischke (1991) identified two main sources of health-related information, namely interpersonal and mass media sources. The interpersonal sources of health information include doctors, nurses, family and friends, health groups, voluntary organizations, and other professions allied to medicine. These face-to-face information channels are preferred for information dissemination and the teaching of complex skills that need two-way communication between individuals (Parrott, 2004). The mass media sources include TV, radio, posters, books, magazines, newspapers, videos, and the internet. In the view of Sokey et al. (2018), media-related sources normally offer broad coverage so that communicated messages reach a vast number of the target audience quickly and frequently.

Dissemination/Information Dissemination

Information Dissemination is an information alerting service designed to keep individuals informed about the new developments in their particular field of interest. Dissemination basically sends information to an audience without direct contact with the receiver and without the direct response or clarification method that a conversation or dialogue would have. As such, Chhiato (2018) described information dissemination as the activity of conveying and spreading one's ideas and knowledge through the exchange of thoughts and messages as by symbols, signs, speeches, visuals, signals, writing or behavior. It is the meaningful exchange of information between two or among a group of people. More so, Chhiato (2018) further defined information dissemination as referring to the process of communicating information through defined channels and media in order to reach various target groups. Information dissemination, according to Wu, Yang, and Li (2016), is the transportation of information to the intended recipients while satisfying certain requirements such as delays, reliability, and so forth. Dhawan (2018) sees information dissemination as a proactive information service designed to educate and inform various groups of users on social, economic, and educational issues, problems, and opportunities of interest to them. It requires systematic planning, collection, organization, and storage of information for its delivery to the target. The events of information dissemination are conferences, meetings, festivals, and procession, and the mediums of information dissemination are journals, newspapers, radio, television, and video (Daudu & Mohammed, 2013). Phones, computers, satellites and the Internet are the technologies of information dissemination and Professionals in the act of information dissemination include librarians, journalists, advertisers, public relations personnel, camera crews, and newsreaders. According to Bello and Aghadiuno

(2019), information dissemination is the channel by which facts are linked to the appropriate individual seekers and organizations. All these may not be achieved without the necessary technology in place.

Uses of ICT by librarians to disseminate Covid 19 information

Due to the hard hit from the COVID-19 pandemic, public services have been paralyzed and academic activities and classes have been restricted to online due to the closure of colleges. Community members and the public need information on how to protect themselves against the coronavirus. In this view, librarians have been highly engaged in controlling the situation through effective dissemination of relevant health information on COVID 19. IFLA (2020) reported that on March 23, 2020, the president of IFLA had announced that "Libraries around the world are being affected by the emergence and spread of the coronavirus." This situation has made librarians around the globe mobilize and provide a collection of valuable and reliable information on coronavirus in order to give people a source they can trust (IFLA, 2020).

It is apparent that fake news and misinformation have created confusion and, subsequently, posed a greater challenge to every effort to curtail the spread of the virus. In this regard, librarians can strengthen social media online services to provide access to their resources. Recently, the National Digital Library of India (NDLI) has initiated specially designed collections of e-resources for specific groups of students to help the student community in the difficult situation arising out of the suspension of physical classes and closure of physical libraries arising out of the COVID-19 lockdown. These services are provided through the library's social networking pages (National Digital Library of India, 2020).

Librarians can provide and share information quickly, efficiently, and in real time as a strategy in response to the COVID-19 pandemic through their social networking pages like Facebook, Twitter, Instagram, and LinkedIn (Ladan, Haruna & Madu, 2020). Through their use of the internet and blogs, they can provide a platform for gathering and disseminating information to promote awareness of the current situation. The librarians' use of social media platforms allows patrons to access local issues and acquire global awareness through online activism and campaigns. In the current scenario of the Coronavirus Disease 2019 (COVID-19) outbreak, social media platforms as currently applied by librarians are crucially disseminating information worldwide. The Center for Disease Control and Prevention, the World Health Organization (WHO), a large number of healthcare organizations and journals are regularly

posting and updating awareness and guidance across a host of online platforms (WHO, 2020). Librarians can utilize these resources to create a blog to disseminate COVID-19 information. Librarians can also leverage on social media, as these online tools offer global platforms for dissemination of information, content, and opinion, and also promote social interactions among and between individuals and organizations (Brindha, Jayaseelan & Kadeswara, 2020).

Brindha, Jayaseelan, and Kadeswara (2020) asserted that Facebook is using its newsfeed function to direct users to the websites of WHO and local health authorities. Google Scholar has highlighted leading medical journals and other sites related to the outbreak. Social media sites like Twitter are particular in pointing individuals who search (accounting for misspellings) for coronavirus-related content to reliable resources. Healthcare organizations, physicians, and social media influencers similarly direct online traffic to trusted sources. The WHO is working with Facebook, Pinterest, Twitter, Tencent, and TikTok to provide the public with accurate information on time and eliminate misinformation and disinformation. These innovations by these social media organizations can be correlated by librarians through sharing these sources with their clients and among themselves.

In view of the rate of infection of COVID-19 on people, librarians can beef up their efforts to link users and patrons to the right social media sources for access, thereby directly playing their role in public health information and educating users regarding the importance of proper hand washing and social distancing. If librarians take this approach, it will reduce the probability of millions of people contracting the COVID-19 virus, thereby limiting its transmission rate. In today's modern society, the creation, circulation, and manipulation of information are activities that pervade many aspects of our cultural, economic, and social life (Bruno et al., 2008). ICTs are considered as tools to seek health information (Brindha, Jayaseelan & Kadeswara, 2020). The coronavirus outbreak has not been the first pandemic witnessed in the age of ICT. At least three other pandemics have occurred in the last decade; there was the swine flu in 2009, the Ebola virus in 2014 and the Zika virus in 2015, with all the outbreaks having had prominence, wide documentation and considerable influence by ICT.

In this 21st century, technology changes swiftly and the nature of technology also changes in the form of newer, cost-effective, and more powerful technologies. It will definitely continue to emerge as a potential use in the dissemination of information. The various ICTs that are the most important determinants of the effectiveness of such tools in the dissemination of

information; the tools available are quite diverse, each with its own set of advantages and disadvantages. Computers, laptops, desktops, data projectors, software programs, printers, scanners, etc. (Anjusha, 2020). Usage of these tools can develop the quality of human life because they can be used as learning and education medium and a mass communication medium in promoting and campaigning practical and important issues such as health and social areas. With the help of so many digital and online initiatives and tools, ICT is one of the important aspects that have reduced this barrier of social distancing and lockdown. With the help of ICT, librarians can constantly disseminate information among themselves with the help of Skype, Zoom, Google Hangouts, Google Classroom, Google Meet, etc.

Perceived challenges of libraries with ICT projects

There are perennial challenges hindering libraries from executing information and communication technology (ICT) projects in Nigeria. Available literature has shown that issues of apathy towards libraries and librarians, poor technological infrastructure, inadequate funding, and librarians' poor ICT skills should be resolved for libraries to be able to render electronic-based services (Ifjeh, 2014; Mohammed, 2013). Some of the challenges are outlined below.

1. Apathy towards libraries and librarians

In most Nigerian universities, subject/course departments and lecturers are seen as the "major stakeholders" in the university community. The roles of libraries and librarians, as well as other non-teaching units or staff, are considered supportive. Consequently, the university management pays more attention and provides more resources to these "stakeholders" while libraries and other non-teaching units are relegated to the background. Though librarians are accorded 'academic status', they have to prove and constantly remind their fellow colleagues and/or heads of institutions of their eligibility to be treated equally as other teaching faculty members. Nomenclature, appointments to University Committees, and other privileges are subject to inequalities and discrimination. Libraries are relegated to the background; they only become relevant during accreditations by regulatory bodies. For example, it will be an uphill task to convince university authorities and teaching faculty to integrate librarians into the teaching-learning process in the form of blended librarianship; the reason is simple: they do not consider librarians as faculty who should be directly involved in teaching. Similarly, with the advent of the internet and the emergence of open access and search engines like Google and others, libraries are treated as the first casualties of budget cuts. This apathy further manifests in the

form of non-approval of training programs for librarians and sometimes a lack of remuneration to facilitate librarians' participation in capacity-building workshops and conferences (Agbaja, 1999; Itsekor, 2011).

2. Inadequate funding

Any endeavor that involves the deployment of ICTs is capital intensive; libraries are not exempted from these costs. It has, however, been established that academic libraries in Nigeria are poorly funded. Daniel (2013) observed that lack of funds is the major reason for the underdevelopment of libraries in Nigeria. University libraries get their funding mainly from the 10% recurrent budgetary allocation of their parent institutions as stipulated by the government. This is barely enough to cover recurrent expenditure. Though information on specific estimates of Nigerian university and library budgets is not available in the public domain, Deji-Folutile and Oketola (2014) reported that an average Nigerian university gets an estimated annual income of N3.6 billion (about \$7.2 million) from government allocations and internally generated revenue (from school fees and other sources). The university library is expected to get 10% of the estimated income, which will amount to about \$720,000. However, Alabi et al. (2013) observed that many universities do not get up to 10% of their university budgets because much of the income is spent on other priority areas like staff salaries and allowances, administrative operational costs, research and capital projects like building of hostels, classroom blocks, and others. They also noted that library budgets are never fully implemented due to a lack of funds. Consequently, most academic libraries spend a greater proportion of their income on book acquisitions, subscriptions to online databases, and journal and newspaper acquisitions, with nothing left to cater for other projects.

In the 2019 national budget, the Federal Government of Nigeria allocated about \$1.2 billion for both capital and recurrent expenditure for all federal government-owned institutions (secondary and tertiary) in the country (Ameh & Aluko, 2019). This amount is not sufficient for the massive ICT infrastructural development required in higher institutions of learning and their libraries. Amid the global economic meltdown and currency inflationary crisis, the government is not prepared to increase budgetary allocation to education any time soon.

3. Poor technological infrastructure

Nigerian library professionals are aware of the benefits of ICT and it is evident that they are positively disposed to introducing ICT to their traditional services. Library services can better

support teaching and learning by leveraging the benefits of ICT. This awareness has prompted libraries to propose several ICT projects. However, technological infrastructural challenges seem to be the major barriers to the execution of such projects. It has been observed by Davies et al. (2019) that technological infrastructure that could facilitate projects in Nigeria and other developing country has not received the required attention from relevant authorities. Libraries are subdivisions of their parent bodies, and several of their projects depend on decisions from such bodies. Low attention to such infrastructures from the parent bodies makes libraries appear as though they have no capability to execute ICT projects.

It has been consistently shown in literature that technological infrastructure suffers from poor management, theft; low electricity supply, poor manpower engagement, and total neglect (Gillwald et al., 2018). Hardware and software needed to maintain constant support for educational activities by libraries in Nigerian institutions of learning may not be possible due to a meager budget. These technologies are constantly updated to higher versions to meet current demands, and if libraries do not enjoy financial support, it becomes practically impossible for libraries to keep up with new trends. The gross inadequacy of technological infrastructure has stalled deployment of initiatives that could have better projected the services of librarians, leading to quality service delivery in support of virtual teaching and learning. Furthermore, libraries, which are generally nonprofit-oriented, are perceived by parent bodies as not deserving maximum attention, hence the poor technological infrastructural support (Esew & Ikyembe, 2013).

4. Lack of skilled personnel

Traditional methods of administering library services aimed at providing support for teaching, learning and research in higher institutions of learning have experienced tremendous change as a result of ICT. Libraries now operate beyond the walls of their buildings, tilting more towards the virtual environment (Thanuskodi, 2015). The need for librarians in Nigeria to improve their ICT skills with the urgency it deserves cannot therefore be overemphasized. No matter the level of sophistication of ICT infrastructure deployment in the library, librarians must possess relevant ICT skills to be able to maximize their use in meeting the dynamic information needs of users and to contribute meaningfully to the emerging change in teaching methodologies. Literature has, however, shown that a number of librarians in Nigeria are low on the ICT skills needed to provide efficient library services in support of teaching and learning (Nkamnebe et al.,

2015). Unless librarians take up the challenge of acquiring the new skill sets necessary to operate in an environment of constant change, their future relevance may be in doubt.

Empirical Review on ICTs Use

Hussain (2013) in his book entitled "ICT Based Library and Information Services" focused on how the traditional methods of information handling have become almost ineffective in providing the specific information of an individual's interest. To overcome this problem, libraries and learning resource centers need to change their attitude towards information handling. ICT-based information handling is a viable solution in this direction. Technological developments assist libraries in providing extensive access to a variety of information sources and provide a way to enrich the teaching and learning environment.

Accessibility to the required information at a fast rate is expected by users. The purpose of this paper is to examine the driving forces, challenges, benefits, barriers and strategies to decrease barriers to information and communication technologies (ICT) adoption and assimilation by small- and medium-sized enterprises (SMEs) in this era of globalization. The paper found that ICT adoption and assimilation in SMEs is critical to enhancing their competitiveness. In addition, ICT usage in SMEs will enhance accessibility in international markets (Ongori & Migiro, 2010).

Sun, Hao-Chang, Chen, Kuan-nien, Tseng, Chishu, and Tsai, Wen-Hui (2010) in their study show how implementing new information technology has expanded the role of librarians as educators and how this role has evolved with new technology. It was found that collaboration with faculty members was to be an essential feature of the most successful stories. Teaching students and faculty to use new ICT may have become one of the important roles of librarians and information managers.

Ghosh and Ghosh (2009) conducted a study to examine the progress India has made in its move towards a knowledge-based economy. The Indian Government has demonstrated its commitment to the development of fundamental pillars of knowledge sharing infrastructure, knowledge workers, and a knowledge innovation system. Libraries are identified as key players in building an inclusive knowledge economy (KE) for a country. The important findings of the study were: the practice-based examples of how information and communication technology (ICT) projects are influencing contemporary Indian society and an account of government

policies in regard to ICT implementation and development towards a KE are presented. The impediments in the process of KE in India are identified and recommendations are made.

Akhtar, Hussain, and Lavanya (2015) conducted a study on the impact of ICTs on library and information services at Indus Business Academy, Bangalore. It was revealed that 34.78 percent of the users visit the library "almost daily," while 34.60 percent visit it once a week. Further, 12.08 percent of the users visit fortnightly, whereas 12.83 percent of the users visit once a month. Only 5.71 percent of users visit the library on a regular basis.

Methodology

The study adopts the descriptive research survey design because the approach generally allows the gathering of data with the intention of describing the existing conditions, identifying standards against which existing conditions can be compared, or determining the relationship that exists between specific events at a particular point in time (Best & Khan, 2006). Best and Khan (2006) described a population as any group of individuals that has one or more characteristics in common that are of interest to the researcher. The research population of this study consists of all the 120 information professionals in Kwara State. The total enumeration method was adopted in the study. This is due to the manageable size of the population. Specifically, a census survey is a study of every unit or everyone in a population. It is known as total enumeration, which means a complete count. If a population under study is small and low in number, it is advisable to conduct a census of the entire population, rather than a sample. This approach has a high level of accuracy and provides absolute statistical coverage. The instrument for data collection is the questionnaire, as it helps to gather factual, in-depth information desired. The questionnaire is closed-ended and titled: "Usage of ICT Tools for Dissemination of COVID-19 (UITDC questionnaire). The questionnaire adopts a 4-point Likert Scale format that enables the respondents to choose the answer they think is appropriate and best represents their opinion. The questionnaire is sectioned as follows: Section A: This deal with demographic characteristics of the respondents, which are age, gender, and highest educational qualification. Section B contains questions on how often you use ICT tools for dissemination of COVID-19 and it is measured as daily, weekly, fortnightly, and monthly. Section C contains questions on the kinds of ICT tools used for the dissemination of COVID-19 information. Section D contains questions on the benefits of ICT tool usage and dissemination of COVID-19 information. Section E

contains questions on the challenges encountered by information professionals in getting information about COVID-19.

The instrument was validated to ensure both the face, content and construct validity mechanisms. To achieve these, the instrument was given to two (2) library and information science experts for scrutiny and suggestions. This is with the view of checking the appropriateness before administration. The instrument was adjusted based on the comments and suggestions of the experts before administering the questionnaire. To determine the reliability of the instrument, thirty (10) copies of the questionnaire were administered to information professionals at Kwara State University. Responses collected were subjected to Cronbach's alpha. The overall reliability co-efficient of all the questionnaire items reported an $r = 0.704$ Cronbach's. This is high enough in some ways, thereby endorsing the instrument as adequate for this study. The questionnaire was self-administered by the researcher to the respondents. The data collected from the field was analyzed using descriptive statistics including simple percentages, frequency count, mean and standard deviation.

A total of 120 copies of the questionnaire were administered to respondents. 109 copies were retrieved and found usable for the analysis, representing a 90.8% response rate. This response rate is considered adequate for the study because Malaney (2002) reported that the standard and acceptable response rate is 60%, while Nulty (2008) reports a 56% response rate for a paper-based survey.

Results

Table 2: Demographic Information of the Respondents

Demographics	Frequency	Percentage (%)
AGE		
18-25	22	20.2
26-35	32	27.5
36-40	55	35.8
41 and above	0	16.5
Total	109	100
Gender		
Male	66	60.6

Female	43	39.4
Total	109	100
Education Qualification		
WAEC/SSCE	0	0
OND	0	0
HND	0	0
Degree	44	40.4
Masters	43	39.4
Ph.D	22	20.2
Total	109	100

Source: Authors' field work 2022

The table 2 above revealed that 22 respondents were between the age 18-25 representing 20.2% of the respondents, 30 respondents were between 26-35 years representing 27.5%, 39 respondents were between 36-40 years representing 35.8% while 18 respondents are between the age of 41 and above. This shows that many of the respondents were between 36-40 years. The table also shows that there is large variation in the percentage of respondents' base on gender. The results on the figure reveal that there are 60.6% males, and 39.4% females. More the table revealed the educational qualification of respondents. Majority of the respondents hold BSc and MSc degrees. Explicitly, 40.4% holds a BSc while 39.4% holds MSc degree. Nevertheless, respondents who are holders of Ph.D account for 20.2%.

Research Question 1: How often do you use ICT tools for dissemination of covid-19 information?

Table 3: Frequency of ICT tools use for dissemination of covid-19 information

S/N	VARIABLE	Daily	Weekly	Fortnightly	Monthly	Means
1.	How often do you use ICT tools for dissemination of covid-19 information?	41(37.6%)	28(25.7%)	22(20.2%)	18(16.5%)	2.21

Source: Authors' field work 2022

From the table above it shows that 43(39.4%) of the respondents use ICT tools for dissemination of covid-19 information daily, 28(25.7%) use ICT tools for dissemination of

covid-19 information weekly, 22(20.2%) use ICT tools for dissemination of covid-19 information fortnightly while 18(16.5%) use ICT tools for dissemination of covid-19 information monthly.

Research Question 2: What kinds of ICT do you use for disseminating of covid-19 information?

Table 4: Types of ICT tools use for disseminating of covid-19 information

S/N	ICT TOOLS	SA	A	D	SD	Means
1.	Laptops	65(59.6%)	44(40.4%)	0(0%)	0(0%)	3.60
2.	Desktops	43(39.4%)	44(40.4%)	22(20.2%)	0(0%)	3.19
3.	data projector	0(0%)	21(19.3%)	66(60.6%)	22(20.2%)	2.18
4.	software programs	0(0%)	43(39.4%)	44(20.2%)	22(20.2%)	2.19
5.	Printers	21(19.3%)	44(40.4%)	22(20.2%)	22(20.2%)	2.59
6.	Scanners	21(19.3%)	22(20.2%)	44(40.4%)	22(20.2%)	2.39
7.	Social media	65(59.6%)	44(40.4%)	0(0%)	0(0%)	3.60
8.	Conference tools	0(0%)	43(39.4%)	44(40.4%)	22(20.2%)	2.19

Source: Authors' field work 2022

Most of the respondents strongly agreed that the kind of ICT they use for dissemination of covid-19 information is laptops and social media with the mean score of 3.60 while the least used ICT tool for dissemination of covid-19 information is data projector with the mean score of 2.18.

Research Question 3: What are the benefits information professionals' derive from usage of ICT tools for dissemination of covid-19?

Table 5: Benefits information professionals' derive from usage of ICT tools for dissemination of covid-19

S/N	USAGE OF ICT TOOLS BENEFITS	SA	A	D	SD	Mean
1.	It reduces the barrier of social distancing and lockdown.	57(52.3%)	49(45.0%)	3(2.8%)	0(0%)	3.50
2.	Librarians can constant disseminate information among themselves with the help of ICT	57(52.3%)	45(41.3%)	3(2.8%)	0(0%)	3.42
3.	It help librarians to provide and share information quickly	65(59.6%)	44(40.4%)	0(0%)	0(0%)	3.60

Source: Authors' field work 2022

From the table above, it show most respondents strongly agreed that ICT help librarians to provide and share information quickly with mean scores of 3.60 while the least respondents is on librarians can constant disseminate information among themselves with the help of ICT with the mean score of 3.42

Research Question 4: What are the challenges encounters by information professional in getting information about covid-19?

Table 6: Challenges encounters by information professional in getting information about covid-19

S/N	CHALLENGE ENCOUNTERED	SA	A	D	SD	Mean
1.	Inadequate funding	41(37.6%)	60(55.0%)	5(4.6%)	3(2.8%)	3.28
2.	poor infrastructure	44(40.4%)	65(59.6%)	0(0%)	0(0%)	3.40
3.	Epileptic power supply	44(40.4%)	65(59.6%)	0(0%)	0(0%)	3.40
4.	Technical know-how	19(17.4%)	81(74.3%)	5(4.6%)	4(3.7%)	3.06
5.	Lack of search skills	16(14.7%)	66(60.6%)	17(15.6%)	10(9.2%)	2.81
6.	Low bandwidth	35(32.1%)	55(50.5%)	13(11.9%)	6(5.5%)	3.09

Source: Authors' field work 2022

From the table above it shows that epileptic power supply is the major challenges encounter by information professional in getting information about covid-19 while lack of search skills is least challenges encounter.

Discussion of Finding

The finding of the study revealed that most of the information professional use ICT tools for dissemination of covid-19 information daily. The findings of this study is similar to Artemisa et al. (2020) who found that during the COVID-19 pandemic, and specifically during the lockdown period, only 17 (15.7%) of the 108 psychologists discontinued the provision of psychological counseling and therapy to their clients. These psychologists reported that the main reasons for interrupting their professional activities were the suspension of activities on the part of the institution where they worked, activity suspension on the part of their clients for various reasons (e.g., considering themselves to be info-excluded populations or presenting digital illiteracy, financial difficulties, or sensing that the clinical setting is lacking), psychologists' own personal unavailability during this period (e.g., due to new family responsibilities), and considering that digital means were inadequate for the target population (i.e., children) or clinical condition (e.g., attention deficits) that they were treating. All the other psychologists ($n = 91$, 84.3%) were able to continue the sessions with their cases due to the use other psychologists ($n = 91$, 84.3%) were able to continue the sessions with their cases due to the use of ICTs

The finding also revealed that most of the respondents strongly agreed that laptops and social media are most ICT tools used for dissemination of covid-19 information, follow by desktops, printers, scanners, software programs, conference tools and data projectors. The findings of the study is also in agreement with Anjusha (2020) who found that various ICTs that are the most in dissemination of information are computers, laptops, desktops, data projector, software programs, printers' scanners etc.

The study also revealed that ICT help librarians to provide and share information quickly. The above is also agree with Ladan, Haruna and Madu, (2020) who found that librarians can provide and share information quickly, efficiently and in real time as strategies in response to COVID-19 pandemic through their social networking pages like Facebook, Twitter, Instagram and LinkedIn.

Epileptic power supply is the most challenges encounters by information professional in getting information about covid-19 followed by poor infrastructure, inadequate funding, low band width and lack of search skills. The finding of the study is also similar to Ifjeh, 2014; Mohammed, 2013 who found that issues of apathy towards libraries and librarians, poor technological infrastructure, inadequate funding and librarians' poor ICT skills should be resolved for libraries to be able to render electronic- based services.

Conclusion

As the COVID-19 pandemic lockdown affected almost all aspects of society and everyday life, people had to learn to organise communication and interaction in a new way. Information professionals have no alternative than to recommend full implementation of ICT for their organization. In this 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. Information professionals now use various ICTs tools such as computers, laptops, desktops, data projector, software programs, and printers' scanners etc. to disseminate information which help librarians to provide and share information quickly. ICTs will continue to be a significant part of our future as it connects itself to more and more parts of our lives. It will continually evolve and change the way we live our life. We like to use ICT for personal growth, professional growth, creativity, and joy, consumption, and wealth. It is essential to each individual to learn 21st-century skills and develop their ICT capability and ICT literacy.

Recommendations

Based on the above findings, the following recommendations were made

1. There is the need for compulsory IT education at all levels of our formal education system.
2. There is the need for libraries in Nigeria to source for alternative power supply other than from the national grid. The use of solar energy will be a good alternative.
3. Libraries in Nigeria should explore vigorously alternative sources of funding such as Carnegie corporation, Bill and Melinda Gates foundation, McArthur foundation etc
4. Information professionals should be trained on regular basis in the area IT and web technology to be abreast with current trends in those areas as they affect library and information service delivery.

5. More digital librarians should be produced from library schools in Nigeria. This requires the review of library and information science curriculum to incorporate IT and related area in Nigeria library school.

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