PERCEIVED USEFULNESS AND UTILIZATION OF SEARCH ENGINES IN ACCESSING CURRENT INFORMATION ON COVID-19 PANDEMIC BY MEDICAL PRACTITIONER IN MAIDUGURI METROPOLITAN, BORNO STATE

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Abstract

Medical practitioners were cautious in attending to patients in their various locations worldwide, as a result of Corona virus outbreak. This has made many sick persons to lose their lives. This research examined the perceived usefulness and utilization of Search engines as Smart library by medical practitioners in Maiduguri metropolitan, Borno State. Survey Research Design was used for this study. The study was guided by two formulated hypotheses. Self-developed structured questionnaire, aided by Google Form and Whatsapp, was used to collect data from four hundred and twenty (420) medical staff that responded to the Google Form through their Whatsapp Groups. Descriptive statistics (frequency count, percentage, mean and standard deviation) and inferential statistics of Chi-square (X²) were used to analyse data. The results revealed that there is a correlation between perceived usefulness and utilization of search engines (r=.304), p-value=0.001 < 0.05, perceived usefulness of search engines $(x^2cal=103.010> x^2tab=3.84; utilization of search engines (X^2cal=333.038> X^2tab=3.84), indicating$ that the PU and Utilization of SE by MPs in accessing information about COVID-19 are significant. Therefore, the study recommends that library stakeholders and administrators in Nigeria should harmonize financial and human resources to develop Dynamic Online Crisis Tracking Application (DOCTA) Android App or Web-based) to curtail misinformation, distorted information and fake news about any crisis such as COIVD-19 pandemic, thereby reducing the reliance on public SE as a major tool for accessing current, real and reliable information in Nigeria.

Keywords: Information utilization, Search engines, Library services, Covid-19, Medical practitioner

Introduction

Information is one of the most essential assets in human history. Being an organized data, information could be an embodiment of idea, feeling, opinion, and message meant to create change in the user (Encyclopadeia.com, 2021). Information is an antecedent to knowledge and therefore, uses of information by human being can be tied to factors like existing knowledge, affective state (i.e., mood and motivation), intellectual abilities, and existing skills (e.g., literacy) or physical state of health (Tani & El Nadir, 2019; Encyclopadeia.com, 2021). Information created, stored and transmitted over World Wide Web through networking tools such as Internet was made accessible with the aid of Search Engine (SE). Search Engine was developed basically by Berner Lee in early 1990s (Perland, 2020; Lancet Digital Health, 2020) to discover information content, index information contents and search the index. Search Engines facilitate information seeking efforts of researchers, teachers, learners and individuals for educational, business and personal development. Different Search engines exist. The most popular ones are Google, Yahoo, Bing, Duckduckgo, etc. Any of the Search Engines could be used to access information by anybody or professional, including Medical Practitioners.

Medical Practitioner is a medically qualified individual who have received medical training in accredited medical schools such as School of Nursing, medical schools, University teaching hospital, and School of Health, licensed to provide medical treatment to sick persons (Fred, 2018). The medical practitioners include Medical Doctors, Nurses, Lab Scientists, Pharmacists, Health Information Management Officer, and Community Health Officer. In most cases, Medical Practitioner diagnoses and treats physical and mental illness, disease and infection, prescribe medications and treatment and refer patients to other specialists where necessary (Fred, 2018). As conceived by Sara (2018), Medical Practitioner, referred to as physician, medical doctor, or simply doctor, is a professional who practices medicine, and is concerned with promoting, maintaining, as well as restoring health through the study through diagnosis, prognosis and treatment of disease, including injury, physical and mental impairments. Based on specialization, a Medical Practitioner may focus on certain disease categories, types of patients, and methods of treatment or may assume responsibility for the provision of continuing and comprehensive medical care to individuals, families, and communities (Karl & Andrea, 2018). Medical Practitioners usually consult information resources clarify clinical issues, enhance their knowledge, and search for uses and application of drugs, as well as treatment of disease, virus or ailment.

Professionals, including Medical Practitioners, rely on Search Engines to access and retrieve information they consider important from Internet over the years (Penland, 2020). Since the advent of Hypertext Transfer Protocol (HTTP), Hypertext Markup Language (HTML) and World Wide Web (WWW) (Nwokedi1, 2017; Penland, 2020), coupled with the proliferation of Information and Communication Technologies such as computer systems (Desktop, Laptop, etc.), smartphones (Android, IPhone, Windows phones, and Amazon fire phone) information discovery and use through Search engines have become easier, flexible and faster (Penland, 2020). The critical value of Search engines has found its way into public trust. With Internet service, information can be obtained by querying WWW (Nwokedi1, 2017; Penland, 2020) or any accessible online database, thereby making it easy for information seekers to breakaway from ignorance, fear of unknown and threat of hidden information, while being empowered to clear misinformation, disinformation and deformed information or refute fake news.

Search Engines (SEs) are considered saving grace of technology that emerged to radicalize the speed of access and retrieval of information by many scholars. Kaur, (2017) conceived that Search Engine is a web software programme or web based script available over the Internet that searches documents and files for keywords and returns the list of results containing those keywords. In his study, Kaur (2017) pointed out that Google accounts for over 76% of all global desktop search traffic, followed by Bing at 8%, Baidu at 7.5% and Yahoo at 7%. Nwokedi and Nwokedi (2017) found out that 81.89% of the respondents used Google Search engine to acquire information to support their job routines. Lavidas, Achriani, Athanassopoulos, Messinis and Kotsiantis (2020) conducted a study to confirm University students' intention to use search engines for research purposes: Survey Research Design and Structural Equation Modeling approach with the help of questionnaire to collect date from 225 undergraduate student in Greece was used. With the help of Technology Acceptance Model hypotheses were formulated and tested. The findings of their study revealed that perceived self-efficacy; subjective norms, facilitating conditions and technological complexity have an indirect significant effect on behavioural intention. They declared that these factors explained 60% of students' behavioural intention to use this search engines. Similarly, Bach and Wenz (2020) conducted a research titled 'Studying health-related internet and mobile device use using web logs and smartphone records', where they involved 1,959 German internet users for four months. The study found that women, young users, users with a university education and nonsmokers are most likely to use the internet and mobile applications for health-related purposes. On search engines, internet users most frequently search for pharmacies, symptoms of medical conditions and pain. Moreover, users seem most interested in information on how to live a healthy life, alternative medicine, mental health and women's health.

Bokolo (2020) investigated the adoption of telemedicine and virtual software for care of outpatients during and after COVID-19 pandemic. Using expedited literature and document review, the author explored the opportunities of telemedicine application, and existing virtual software adopted as suitable initiatives for reducing the spread of COVID-19. The findings of the study revealed that telemedicine and virtual software are capable of decreasing emergency room visits, safeguarding healthcare resources, and lessening the spread of COVID-19 by remotely treating patients during the COVID-19 pandemic. Makhortykh, Mykola & Urman (2020) carried out a research titled, "How search engines disseminate information about COVID-19 and why they should do better". The authors systematically collected and analyzed search results for the term "coronavirus" in three languages from six search engines. They found that different search engines prioritize specific categories of information sources, such as government related websites or alternative media. It was also observed in the study that source ranking within the same search engine was subjected to randomization, which can result in unequal access to information among users.

Doherty, Joorabchi, Megyesi, Flynn, and Caulfield (2020) carried out a study to know the Physiotherapists' Use of Web-Based Information Resources to Fulfill Their Information Needs during a Theoretical Examination: Randomized Crossover Trial. A total of 38 participants (all practicing physiotherapists; 19 females, 19 males) were randomly assigned to complete three 20-question multiple-choice questionnaire (MCQ) examinations under 3 conditions in a randomized crossover study design: A log file analysis was conducted to evaluate participants' web search and retrieval behaviours. Their findings revealed that the participants experienced an information need in 55.59% (845/1520) MCQs (assisted conditions only) and exhibited a mean improvement of 10% and 16% in overall examination scores for the federated search and web browser conditions, respectively, compared with the unassisted condition (P<.001). In the web browser condition, Google was the most popular resource and the only search engine used, accounting for 1273 (64%) of hits, followed by PubMed (195 hits; 10% of total). In the federated search condition, Wikipedia and PubMed were the most popular resources with 1518 (46% of total) and 1273 (39% of total) hits, respectively.

Statement of the Problem

Surprisingly, since the first human cases of COVID-19, the disease caused by the novel coronavirus causing COVID-19, subsequently named SARS-CoV-2 were first reported by officials in Wuhan City, China, in December 2019, Search Engines (SEs) have been playing roles in facilitating access to information about the nature and spread of the virus, while libraries are forced to lockup by complying with rules for safety of lives. Everybody, including medical practitioners, have taken advantage of Search engines, rather than libraries, to search, filter and utilize information in order to be well informed and prepared to protect themselves while discharging their primary duties of being at the forefront in taking care of patients who are suffering from all kinds of diseases, including COVID-19 ((Mykola, Urman, Aleksandra & Roberto, 2020; Mykola, et.al. 2020). Unfortunately, libraries, being the custodian of knowledge, expected to champion the course of disseminating and facilitating access to current information, remotely through WWW, have become abandoned structure, necessitated by lockdown imposed by government to curtail the spread of the virus, primarily because of lack of, or nonfunctioning Internet-based library services (Kurniasih, Kurniawati, & Rahim). Consequently, every library clientele, including medical practitioners, have resorted to different sources of acquiring information required or necessary to remain socially and medically informed to save lives and being protected or safeguarded (Mykola, et.al., 2020). If libraries cannot be made responsive to information needs of their patrons in times of crisis, the possibility of losing public trust may arise. Arising question is that, to what extent have Medical practitioners perceived search engines as useful while foregoing libraries in accessing current information about COVID-19 pandemic? It is against this background that this study was carried out to examine the perceived usefulness and utilization of Search engines by Medical practitioners in Maiduguri metropolis, Borno State.

Research Questions

- 1. What is the perception of Medical Practitioners in Maiduguri Metropolis about usefulness of Search Engines for accessing information about Covid-19 pandemic?
- 2. Do Medical practitioners in Maiduguri Metropolis utilize Search Engines for accessing information about Covid-19 pandemic?

Research Hypotheses

The following null hypotheses were tested at 0.05 level of significance.

- 1. There is no significant relationship between Perceived Usefulness and Utilization of Search Engines among Medical Practitioners in Maiduguri Metropolis, Borno State
- 2. There is no significant Perceived Usefulness of Search Engines in accessing information about Covid-19 among Medical practitioners in Maiduguri Metropolis, Borno State
- 3. There is no significant utilization of Search engines in accessing information about Covid-19 among medical practitioners in Maiduguri Metropolis, Borno State.

Methodology

Survey Research Design was used for this study. Using questionnaire as instrument for data collection, created with Google Form and administered through Whatsapp Social Media application, data was collected from 420 Medical Practitioners in Maiduguri metropolis, who responded to the questionnaire within the period of one month. Initially, 369 sample size was determined from target population of 5,275 after subjecting to Raosoft Sample Size Calculator. However, the sample size was increased by 15%, making it 424, to reduce invalidation of questionnaire that might result from non-filling or error in filling the questionnaire because of COVID-19. Consequently, 420 (99%) response rate of the questionnaire was found valid and usable. Descriptive statistic of Frequency count, Percentage, Mean score and Standard deviation were used to answer the two research questions. Additionally, inferential statistic of Chi-Square Test of Independence was used to test hypothesis one, and Chi-Square Goodness of Fit to test hypotheses two and three respectively at 0.05 alpha level.

Results
Table 1: Medical Practitioners

Medical Practitioners	Frequency	Percent		
Medical Fractitioners	N=420			
Medical Doctors	86	20.5		
Nurses	233	55.5		
Lab Scientists	21	5.0		
Pharmacists	33	7.9		
Health Information Management Officer	27	6.4		
Community Health Officer	20	4.8		
Total	420	100.0		

Source: Field survey, 2020

Table 1 presents the distribution of Medical Practitioners based on their field of specialization. 233 (55.5%) of the respondents were Nurses, followed by 86 (20.5%) Medical Doctors, 33 (7.9) Pharmacists, 27 (6.4%) Health Information Management Officers, 21 (5.0) Lab Scientists and 20 (4.8%) Community Health Officers. Though, the number of respective medical practitioners was discovered after analyzing the responses of the respondents. This may be likely because in most hospitals nurses seem to be more directly involved in dealing with patients such as conducting scanning, administering drugs, giving injections and host of others (Fawaz, Anshasi&Samaha, 2021).

Research Question One: What is the perception of Medical Practitioners (MPs) on usefulness of Search Engines (SE) for accessing current information about Covid-19 pandemic?

Table 2: Perceived Usefulness of Search Engines

SNO	Perceived Usefulness of Search Engines	\overline{X}	Std.	Remark
1.	Search engines essentially act as filters for the wealth of information available on the internet.	1.25	.434	D
2.	Search engines allow users to quickly and easily find information that is of genuine interest or value	1.81	.389	A
3.	Search engines make users access information without the need to wade through numerous irrelevant web pages.	1.63	.483	A
4.	Search engines are dependable channels to reliable information	1.70	.457	A
5.	Relevant rate of retrieved or returned results have made search engines very useful	1.64	.482	A
6.	With search engines I am more informed about Covid-19 than ever	1.76	.429	A
7.	Search engines make my medical practicing more easier and reliable during Covid-19 pandemic	1.30	.457	D
8.	I see search engines as essential tools for medical assistance	1.66	.474	A
9.	Without search engines I would have lacked important information for quick response in my medical roles	1.78	.414	A
	Weighted Mean $(X_w) = 1.64$			

Source: Field Survey, 2020;

Key: A=agreed, D=Disagreed, N=402, X_w=1.64

Table 2 shows the various responses of Medical Practitioners (MPs) for their Perceived Usefulness (PU) of SE. Using X=1.5 as criterion, nine (9) statements describing the usefulness of SE to MPs, with frequency count, percentages and mean score were presented. Item 1 and 7 have mean score less than 1.5 benchmark where the MPs disagreed that the SE essentially act as filters for the wealth of information available on the internet or SE make medical practicing more easier and reliable during Covid-19 pandemic. The question on perceived usefulness of SE by MPs with various statement describing the usefulness, reasons and purposes for using SE revealed that 342(81.4%) of the MPs believe that SE allows them to quickly and easily find information that is of genuine interest or value, 265(63.1%) were of the opinion that SE make them access information without the need to wade through numerous irrelevant web pages, 296(70.5^{\(\delta\)}) accepted that relevant rate of retrieved or returned results have made SE very useful to them, 318(75.7%) agreed that with SE they were more informed about Covid-19 than ever, 278(66.2%) saw SE as essential tools for medical assistance and 328(78.1%) aired their views that without SE they would have lacked important information for quick response in their medical roles against COVID-19. However, the Weighted Mean (\bar{x}_w =1.64) > Criterion (\bar{x}_c =1.5). This result shows that the MPs perceived SE as useful. It is a demonstration that the MPs are likely to use SE to access current information about COVID-19 pandemic.

Research Question Two: Do Medical Practitioners (MPs) in Maiduguri metropolis utilize Search Engines for accessing current information about Covid-19 pandemic?

Table 3: Mean and Standard Deviation on the Respondents Utilization of Search Engines

SNO	Utilization of Search Engines	$\overline{\mathbf{X}}$	Std.	Remark
1.	I use Search Engines to search content specific information about Covid-19	1.75	.432	A
2.	I use Search Engines to discover current information about Covid-19	1.62	.486	A
3.	I use Search Engines to compare and contrast different information contents regarding Covid-19	1.69	.464	A
4.	I use Search Engines to get updates information about Covid-19	1.61	.488	A
5.	I use Search Engines to confirm fakes and facts news about Covid-19	1.72	.451	A

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6.	I use Search Engines to know the true and real information about Covid-19	1.63	.482	A
7.	I use Search Engines to understand the trends and danger of Covid-19	1.76	.425	A
8.	I use Search Engines to learn about cautionary and precautionary information about Covid-19	1.83	.375	A

Weighted Mean $(\bar{x}_w)=1.70$

Source: Field Survey, 2020; **Key**: A=agreed, D=Disagreed, N=402, \bar{x}_w =1.70

Table 3 presents the various responses of Medical Practitioners (MPs) for their utilization of SE. Using \overline{x} =1.5 as criterion, eight (9) statements describing the reasons and purposes for which MPs utilized SE. Each statement is presented with Frequency count, Percentages Mean score and Standard deviation. The MPs agreed to all the statements. Nevertheless, the Weighted Mean (\overline{x}_w =1.70) > Criterion (\overline{x}_c =1.5). This result shows that the MPs in Maiduguri metropolis utilized SE in accessing current information about COVID-19 pandemic.

Test of Hypotheses

Hypothesis 1:

 \mathbf{H}_{01} : There is no significant relationship between perceived usefulness and utilization of Search Engines among Medical Practitioners in Maiduguri Metropolis, Borno State

Table 5: Chi-Square Tests of Independence.

	Value	df	Cramer's V	Asymptotic Significance (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	33.376 ^a	1	.282	.000		
Continuity Correction ^b	30.399	1		.000		
Likelihood Ratio	27.999	1		.000		
Fisher's Exact Test					.000	.000
Linear-by-Linear Association	33.297	1		.000		
N of Valid Cases	420					

- a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.05.
- b. Computed only for a 2x2 table

The value of the test statistic is 33.376^a . The footnote for this statistic regarding the expected cell count assumption (i.e., expected cell counts are all greater than 5). No cells has an expected count less than 5, so this assumption was met. Given the fact that the test statistic is based on a 2x2 cross tabulation table, the degrees of freedom (df) for the test statistic is df = (R - 1)*(C - 1) = (2 - 1)*(2 - 1) = 1*1 = 1. The corresponding p-value of the test statistic is p = 0.001 with r=.282. Since the p-value is less than the chosen significance level ($\alpha = 0.05$), the null hypothesis is therefore rejected in favour of alternative hypothesis. By implication, it can be concluded that there is enough statistical evidence to suggest an association between PU and Utilization among MPs. Based on the results, it can be stated that association is found between PU and Utilization (X^2 (3. 84) < 33.376, p = 0.001, Cramer's V=.282). The correlation (Cramer's V=.282) between the two variables is positive but weak. This implies that with 100% PU there is about 28.2% chance of MPs utilizing SE to access information about COVID-19. The remaining 71.8% is accounted for by other factors not covered in this study.

Hypothesis 2:

 \mathbf{H}_{02} : There is no significant Perceived Usefulness of Search Engines in accessing current information about Covid-19 among Medical practitioners in Borno state

Table 6: Summary of Chi-Square on Perceived Usefulness of Search Engines in accessing and retrieving current information about Covid-19 among Medical Practitioners

	Observed N	Expected N	Residual	df	X ² cal	X ² tab	Prob.	Decision
Disagreed	106	210.0	-104.0	1	103.010 ^a	3.84	0.001	Rejected
Agreed	314	210.0	104.0					-
Total	420							

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 210.0. (P-value = $0.001 < \alpha = 0.05$; X^2 cal = 103.010^a ; X^2 tab=3.84; Decision = rejected).

Table 6 indicated that there is significant perceived usefulness Search Engines among medical practitioners in Borno state. The Chi-Square calculated is 103.010, the table value at degree of freedom =1, at 0.05 level of significance and X^2 tab = 3.84. Since the calculated value of 103.010 is greater than X^2 tab = 3.84 (P<0.05), the null hypothesis that there is no significant Perceived Usefulness of Search Engines in accessing current information about Covid-19is reject, implying that there is enough statistical evidence to state that there is PU of SE in accessing current information among MPs in Maiduguri metropolis, Borno.

Hypothesis 3: There is no significant utilization of Search Engines in accessing current information about Covid-19 among medical practitioners

Table 7: Summary of Chi-Square on Utilization of Search Engines among Medical Practitioners

	Observed N	Expected N	Residual	df	X ² cal	X ² tab	Prob.	Decision
Disagreed	23	210.0	-187.0	1	333.038 ^a	3.84	0.001	Rejected
Agreed	397	210.0	187.0					
Total	420							

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 210.0. (P-value = $0.001 < \alpha = 0.05$; X^2 cal = 333.038^a ; X^2 tab = 3.84; Decision = rejected).

Table 7 indicated that there is significant utilization of Search Engines among Medical Practitioners in University of Maiduguri, Borno State. The Chi-Square calculated is 333.038^a , with the degree of freedom =1, at 0.05 level of significance and X^2 tab =3.84. Since the calculated value of 333.038^a is greater than 3.84 (P < 0.05). Thus, the hypothesis that there is no significant utilization of Search Engines in accessing current information about Covid-19 in accessing current information is rejected. This means that there is enough statistical evidence to state that there is significant utilisation of SE in accessing current information about Covid-19 among MPs in Maiduguri metropolis, Borno State.

Discussion of Findings

The roles of libraries in empowering clienteles through provision of access to information sources and resources have won the trust of public, educators, researchers and professionals in different fields. Information needs and seeking behaviour are usually determined by desire for personal, societal and national development, mostly in response to changing circumstances or requirements. Perception of information seekers also play significant roles in shaping and directing which information is needed, sought, accessed and utilized. The evolving and fast disturbing COVID-19 pandemic has distorted human social relations, interaction, as well as functioning operation of institutions, leaving no sector of live unaffected. In response to the pandemic, Medical practitioners have been tasked to save lives by offering all necessary medical assistants. To be forewarned and forearmed, current information about the trend, spread, infections and risks of COVID-19 is needed. It is likely that locking down libraries that have no system to provide tracking information about COVID-19 led MPs to resort to Search Engines (SE).

The responses on PU of SE by MPs showed a Weighted Mean (\bar{x}_w =1.64) > Criterion (\bar{x} =1.50), (P-value = 0.001< α = 0.05; X^2 cal =103.010^a; X^2 tab=3.84). These results suggests that MPs were likely to utilise SE for their information accessibility. These findings are in consonant with earlier study by Doherty, *et. al.* (2020), Bach and Wenz (2020) and Bokolo (2021), where they reported that the importance attached to web-based information sources and SE have shown positive impacts on the working routines of Physiotherapists, medical doctors, nurses and the like. Despite the above conclusion, the MPs did not agreed that SE act as filters for the wealth of information available on the internet (X=1.25, Std. = 434), and that SE did not make their medical practicing easier and reliable during Covid-19 pandemic (X=1.30, Std. = .457). These responses could not outweigh the other PU of SE by MPs (Xw=1.4) as also highlighted by Penland, 2020; Mykola, (2020) and Bach &Wenz (2020). But the mix responses show that not all MPs saw the positive aspects of the SE. There is possibility that some MPs are conservative when it comes to using Information Technology (IT), believing in conventional sources of information and likely depend on them for their information needs.

The responses on utilisation of SE by MPs showed appealing results. With the Weighted Mean ($X_w = 1.70$) > Benchmark (X = 1.5). (P-value = $0.001 < \alpha = 0.05$; X^2 cal = $333.038 > X^2$ tab = 3.84) it can be concluded that there is enough statistical evidence to state that MPs actually utilised SE in accessing current information about COVID-19 pandemic. This corroborated with findings of Becky (2020), Mykola, Urman, Aleksandra, and Roberto (2020) as well as Bokolo (2021) when they earlier reported that the dependence on SE to use digitally disseminated information have significantly influenced the quality of services and work routines of MPs through telemedicine and web-based applications. This scenario may not be unconnected to advent, proliferation and popular use of smartphones, Iphone, Windows phones and all types of mini computers (Bach and Wenz, 2020) and basically due to restrictions on movement and social interactions imposed by COVID-19 pandemic (Konstantinos, et. al., 2019; Penland, 2020; Mykola, 2020; Bach & Wenz, 2020; Nwokedi &Nwokedi, 2017).

The correlation between PU and Utilisation of SE is reported to be r=.282, which implies that 28.2% change in utilisation of SE was informed by PU of SE, thereby leaving 71.8% to other factors outside the study. With the summary of Chi-Square on PU of SE in accessing current information about COVID-19 among MPs as P-value = $0.001 < \alpha = 0.05$; X^2 cal = 103.010^a ; X^2 tab=3.84; and Chi-Square on Utilization of SE among MPs as P-value = $0.001 < \alpha = 0.05$; X^2 cal = 333.038^a ; X^2 tab = 3.84, it is statistically proven that there is significant PU and Utilization of SE among MPs. The implication of this study to libraries is that even though the primary rationale for establishing libraries remains the same, the paradigm shift in ICT is pushing libraries and librarians into serious competitive environment, which could reduce the value of library services in situation like COVID-19 pandemic.

Conclusion

Library remains the custodian of knowledge, institution for archival and cultural preservation and infrastructure for current information dissemination. If the right structures are deployed with skilful professionals, both in librarianship and Information Technology, the chances of maintaining the lead in information acquisition, preservation, dissemination as well as supporting all possible means of accessibility to information sources and resources, will be ameliorated.

Recommendations

It is the right time to realise that libraries in Nigeria can be at the forefront of facilitating access to trustworthy information that reflect current reality. This study recommends that:

1. Library stakeholders and administrators in Nigeria should harmonize financial and human resources to develop Dynamic Online Crisis Tracking Application (DOCTA) Android App or Web-based) to curtail misinformation, distorted information and fake news about any crisis such as COIVD-19 pandemic.

2. If this is achieved, it will reduce the reliance on public SE as a major tool for accessing current, real and reliable information in Nigeria.

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