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AWARENESS, PERCEPTION AND READINESS OF UNIVERSITY LIBRARIES ON THE USE OF SMART PHONE TECHNOLOGIES FOR INFORMATION SERVICE DELIVERY IN UNIVERSITIES IN NORTH-WEST NIGERIA

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Abstract

The study investigated awareness, perception and readiness of university libraries to use smart phone technologies for information service delivery in universities in North-West Nigeria. The study was guided by three research questions and research objectives. The study employed descriptive survey design while population of the study comprises 671 librarians from all the 20 universities in North-West Nigeria. Multi stage sampling technique was used to select sample size of 226 librarians. Questionnaire was used as an instrument for data collection. Data were analyzed using descriptive statistics. Out of 226 copies of questionnaire administered, 183 copies were filled returned and found to be usable. Findings showed that librarians were aware that smart phone through social media platforms (Facebook, Twitter, WhatsApp, blogs, etc) could be used to provide library services. The study further revealed that information technology infrastructure (hardware: internet connectivity bandwidth, wireless infrastructure, mobile devices etc) in the university library can satisfy the need for mobile library services. The study concluded that the proliferation of smart phone technology has greatly contributed to the way information is provided. Many university libraries are taking advantage of what these technologies present, and university libraries in North-West Nigeria will have no option other than to embrace this novelty so as to better provide enhanced information needs and services to their clienteles. The study recommended that management of university libraries should market their social media platforms to all users, take a leading role in working with faculty to promote the development of mobile device enabled academic content.

Introduction

The university libraries are established to support the overall objectives of their parent institutions which are not far from those of teaching, learning, research and community services. The libraries are known for acquiring information resources and making them available to their users in the various formats most convenient to the users. Libraries provided services such as circulation, reference, current awareness services (CAS), selective dissemination of information (SDI), information and referral services, inter library loan and documents delivery service (ILL) among others. The paradigm shift from traditional based services to ICT based brings about a lot of changes in societies; the accelerated adoption and use of ICTs has resulted in

the globalization of information and knowledge. These technologies have made communication and access to information very convenient and timely to users from the comfort of their homes, offices or where ever they are. These ICTs includes; computers, the Internet and Telecommunication facilities like mobile and smart phones.

Kumbhar and Pawar (2014) described smart phones as cellular phone, cell phone, hand phone or simply a phone, as a wireless telecommunication device which allows transfer of information over distance without the use of enhanced electrical conductors or wires. Modern mobile phones support wide variety of services such as text messages, multimedia messaging services, E-mails, Internet access, Business applications, video gaming and photography. Smart phone is the advanced form of cellular with an integrated computer and other features which are not originally associated with telephone, such as Operating System (OS), web browsing, android applications, play store and the ability to run software applications.

Agbawe (2018) stated that in Nigeria, it is obvious to note that, in the 21st century most sectors and organizations are now incorporating mobile phone in their daily transactions like financial institutions, insurance companies, business conglomerates and academic institutions. Smart phone technologies have a wider influence on educational and information activities; regrettably however, Nigeria' is lagging behind in terms of ICT usage most especially in North-West Nigeria. There is the need for greater availability and usage of ICTs particularly Telecommunication more especially in universities; this is because smart phone technologies became a common platform for all types of communication and information dissemination.

Statement of the Problem

The accelerated adoption and use of ICTs has resulted in the globalization of information and knowledge resources (Carbonilla and Bhati, 2016). University libraries in North-West Nigeria in the quest to implement many ICT based services; developed websites that are only accessible via a laptop or desktop computers, and can only be accessed on campus using provided password and username.

From the preliminary study conducted, there is dearth of literature or any established empirical evidence of the librarians awareness, perception to use smart phone to provide such library services, and those that are aware have a certain misconception about it, this may be due to their training that mobile phone could be a distraction, or lack of readiness from the management to adopt new innovation and technology.

Therefore most e-resources, (e-journals, e-books) reference services cannot be accessed on mobile windows; all the monies spent on subscription of databases would be wasted and library patronage is fast deflating, hence the need for libraries to use smart phone technologies to provide library and information services anywhere, anytime.

Objectives of the Study

The aim of this study is to investigate awareness, perception and readiness of university libraries on the use of smart phone technologies for information service delivery in universities in North-Western Nigeria. The specific objectives are to:

i. investigate the level of awareness of librarians on the use of smart phones for information service delivery in university libraries in North-West Nigeria

ii. find out librarians' perception on use of smart phone for information service delivery in university libraries in North-West Nigeria

iii. determine the readiness of the university libraries and librarians in the use of smart phone for information service delivery in universities in North-West Nigeria

Literature Review

Mobile and smart phone technologies are among the latest ICTs that libraries are using to offer services and resources such as instant messaging, mobile catalogs, mobile collection, incorporating Web 2.0 tools for communication hence facilitating access beyond the library.

Smart phone technology is one of the outcomes of advanced technology research like a computer, minicomputer and other technological advancements. It's become a part and parcel of human life. Gaffar, et al (2019) conducted a study on awareness and access to mobile applications in academic library. The study employs survey research method; from the study, it enumerates that mobile application and its functionality significantly enhance the use of library resources and services more effectively and efficiently.

The authors further stated that the smart phone provides a platform to use various mobile applications (apps) and features for easy and comfortable access to the user worldwide. Libraries are also gradually dependents on the database and related library software for mobile to access digital contents. In this context, libraries are also developing various mobile applications for the better use and dissemination of library resources to its users over the smart phone.

In a more recent study, Sinhababu, et al (2021) studied librarians' perception towards Virtual Reference Service (VRS) Reference Service according to them, enables libraries to provide information to a person who needs it, directly or indirectly or teaching him how to find the needed information in the sources. Libraries in India have implemented many services (e.g. RFID). The study sample was collected using questionnaire method and the analysis of the data was done quantitatively with the help of both descriptive statistics and inferential statistics.

Regarding the types of information and reference services provided in their respective libraries the study found out that information and referral services, quick/ready reference and other directional services, access or searching OPAC, research assistance and consultation and readers advisory services were all provided by these libraries.

Furthermore, Oyovwe-Tinuoye, et al (2020). Study librarians' perceptions and knowledge of the use of WhatsApp for the enhancement of library services in university libraries in South-South, Nigeria. The study adopted a descriptive survey design and a questionnaire was the instrument used for data collection.

Total enumeration (purposive sampling) technique was used to gather

data from 169 librarians in 6 federal, 4 state and 3 private university libraries in South-South, Nigeria. The study revealed that the majority of the respondents portrayed a positive perception of the use of WhatsApp for the enhancement of their services. The findings discovered that librarians' are knowledgeable on the use of WhatsApp for enhancement of services.

The findings also revealed that librarians in services division are using WhatsApp to disseminate the following services; user education/orientation, reference services, instant feedback about the library, announcement, research help services, extension and outreach services to mention but a few. In addition, the study revealed hindrances on the use of WhatsApp in service delivery these include; no written policy on the use of WhatsApp in their university libraries, bandwidth issues, erratic power supply. poor internet facility and among others.

In another development, Agbawe (2018) in a study examined the Challenges and Prospects of mobile based services on Digital Natives in South-South Region of Nigeria. The study was set out to assess the challenges and the likely prospects that the mobile based services holds for the class of young people described as digital natives by some erudite scholars. The study adopted the survey method.

The population consisted of 716 fresh undergraduate students. The study revealed that the digital natives are actually very much knowledgeable and aware of the mobile base services. The study further revealed that despite the horrendous challenges articulated, mobile based services through social media platforms portends some prospects that could be harnessed to change the shape of society and the way businesses are done.

However, the study recommended that educational institutions convert such addictions to designing educational software that could engage the young people and make them relevant acquiring new skills and becoming efficient in a multi-task environment.

It recommended that policy makers make use of the mobile based services to create health and safety orientation as well as entrepreneurship and wealth creation for the young people. For this reasons therefore, university libraries in North-West Nigeria should take a proactive approach in providing such smart phone based library service to their users. This is because mobile technologies have provided a plethora of opportunities for transforming societies and the advancement of humanity through interactive information exchange, it has also created catalogue of challenges that the society is presently contending with.

Methodology

This study employed descriptive survey research design. The descriptive survey design was used because it enabled the researcher to fully investigate the phenomenon under study. It equally allows the researcher to collect data from different respondents in different geographical locations on a particular subject matter.

Descriptive survey design according to Cresswell and Plano (2018) is a group of research methods commonly used to determine the present status of a given phenomenon. This method was chosen because of its simplicity, time saving and cost

effectiveness. It allows generalisation to be made on the entire population.

The population of this study consisted of 671 librarians in all the 20 university libraries in North-West Nigeria.

Multistage sampling technique was used for this study. Purposive sampling technique was used to select eleven (11) universities from the universities. The sample size is 226 based on Krejcie and Morgan which represent respondents to whom questionnaire were administered. Descriptive statistics such as percentages, mean scores and standard deviation was used to analyze the data that were collected which relates to the research questions. The benchmark for accepting the mean score was 3 any response below this was rejected.

Table 1: Population and Sample size of the study

S/N	INSTITUTION	STATE	POPULATION	SAMPLE SIZE	PERCENTAGE %
1	Ahmadu Bello University, Zaria	Kaduna	193	86	(38)
2	Kaduna State University Kaduna	Kaduna	34	16	(7)
3	Bayero University, Kano	Kano	101	45	(20)
4	Kano University of Science and Technology, Wudil	Kano	20	9	(4)
5	Skyline University, Kano	Kano	17	7	(3)
6	Usmanu Danfodio University, Sokoto	Sokoto	16	7	(3)
7	Umaru Musa Yar'adua University, Katsina	Katsina	40	18	(8)
8	Al-Qalam University, Katsina	Katsina	14	7	(3)
9	Sule Lamido University, Kafin Hausa	Jigawa	20	9	(4)
10	Federal University, Gusau	Zamfara	27	11	(5)
11	Kebbi State University of Science & Technology, Aliero	Kebbi	22	9	(4)
Total			504	226	(100)

Questionnaire was used as an instrument for data collection in this study. Descriptive statistics such as percentages, mean scores and standard deviation was used to analyze the data that were collected which relates to the research questions.

A total of 226 copies of the questionnaire were distributed to targeted respondents in eleven selected universities in Nigeria. However, 183 copies of the questionnaire were correctly filled and returned. This gave a response rate of 81% of the completed and returned questionnaires which is adequate for analysis of data and making inferences.

Findings of the Study

Awareness of librarians on the use of smart for information service delivery

Table 2:   Awareness of Librarians on use of smart phones for service delivery in University libraries in North West Nigeria

Library and Information Services	VH (%)	H	M	L	VL	N	Mean	Standard Deviation	Decision
smart phone are used to provide Reference Services	36 (19.7%)	76 (41.5%)	33 (18%)	16 (8.7%)	22 (12%)	183	3.48	1.244	Accepted
Circulation Services are offered with the use of smart phone (loan, and book reservation)	18 (9.8%)	44 (24%)	31 (16.9%)	55 (30.1%)	35 (19.1%)	183	2.75	1.284	rejected
I used smart phone to send notifications/alerts/SMS (overdue, fines, reminders about books being overdue)	40 (21.9%)	37 (20.2%)	55 (30.1%)	23 (12.6%)	28 (15.3%)	183	3.21	1.334	Accepted
Smart phone help provide access to library news, (events, opening and closing hours)	76 (41.5%)	30 (16.4%)	43 (23.5%)	20 (10.9%)	14 (7.7%)	183	3.73	1.309	Accepted
I use smart phone to provide easy access to library databases (e-resources e.g e-books and e-journals)	59 (32.2%)	49 (26.8%)	37 (20.2%)	18 (9.8%)	20 (10.9%)	183	3.60	1.322	Accepted
Recently smart phone is used for access to library Mobile Library Online Public Access Catalogue (MOPAC)	42 (23%)	37 (20.2%)	56 (30.6%)	38 (20.8%)	10 (5.5%)	183	3.35	1.197	Accepted
Smart phone technology enhances resource sharing among libraries	67 (36.6%)	54 (29.5%)	35 (19.1%)	16 (8.7%)	11 (6%)	183	3.82	1.193	Accepted
Smart phone is used in the provision of Current Awareness Services (CAS) to library users	65 (35.5%)	53 (29.0%)	42 (23.0%)	15 (8.2%)	8 (4.4%)	183	3.83	1.133	Accepted
Smart phone is used in the provision of Selective Dissemination of Information (SDI) to patrons	45 (24.6%)	62 (33.9%)	47 (25.7%)	17 (9.3%)	12 (6.6%)	183	3.61	1.148	Accepted

It enables provision of Quick Response Code (QR) services in the library	50 (27.3%)	38 (20.8%)	46 (25.1%)	27 (14.8%)	22 (12.0%)	183	3.37	1.343	Accepted
Information literacy services is easily done with smart phone	64 (35.0%)	67 (36.6%)	37 (20.2%)	8 (4.4%)	7 (3.8%)	183	3.95	1.036	Accepted
Smart phone is used to provide library guides and tours and access to library maps	51 (27.9%)	42 (23%)	42 (23%)	25 (13.7%)	23 (12.6%)	183	3.40	1.354	Accepted
Use of social media platforms (facebook, twitter, WhatsApp, wikis, blogs etc) through smart phone simplify library services	95 (51.9%)	62 (33.9%)	11 (6%)	7 (3.8%)	8 (4.4%)	183	4.25	1.034	Accepted

Source: Field Survey (2020)

From table 3 the highest mean score was discovered from the use of social media platforms through smart phone make library services to be simple with mean score of 4.25 (accepted). This shows that respondents use smart phone to share information within and outside the university and university library environment.

The lowest was discovered from the items which stated those smart phones are used in circulation services (loan and book reservation) with mean score of 2.75 being rejected. However, it has shown the university libraries in North-West Nigeria are yet to embrace yet electronic library services despite the ICT revolution in every facet of human life.

The response indicated that there is low awareness that circulation Services are offered with the use of smart phone (loan, and book reservation) respectively. This could be due to the fact that, many services rendered in circulation are no longer relevant to the 21st century users of library, with the proliferation of services like Quick Response Code, Mobile Online Public access Catalogue, (MOPAC), Selective Dissemination of Information (SDI) among others. These findings are in line with the findings of Gaffar, et al (2019) who conducted a study on awareness and access to mobile applications in academic library.

The study employs survey research method; from the study, it enumerates that mobile application and its functionality significantly enhance the use of library resources and services more effectively and efficiently. The findings stated that smart phone provides a platform to use various mobile applications (apps) and features for easy and comfortable access to the user worldwide. It also shows that libraries are also gradually becoming more dependents on the database and

related library software for mobile to access digital contents. In this context, libraries are also developing various mobile applications for the better use and dissemination of library resources and services to its users through smart phone.

Perception of Librarians on the use of smart for information service delivery

Table 3: Perception of Librarians on the use of smart for information service delivery

Statement	SA	A	D	SD	UD	N	Mean	Standard Deviation	Decision
I believe using smart phone technology will improve my work	140 (76.5%)	40 (21.9%)	0 (0%)	3 (1.6%)	0 (0%)	183	4.73	.544	Accepted
Using smart phone will improve the library services efficiency	109 (59.6%)	55 (30.1%)	7 (3.8%)	12 (6.6%)	0 (0%)	183	4.43	.848	Accepted
The use of smart phone technology will improve access to the library services offered	79 (43.2%)	77 (42.1%)	19 (10.4%)	0 (0%)	8 (4.4%)	183	4.20	.946	Accepted
I like to experiment with new ICT to provide library services	96 (52.5%)	76 (41.5%)	7 (3.8%)	2 (1.1%)	2 (1.1%)	183	4.43	.722	Accepted
I believe using smart phone technology will ensure maximum use of library resources	87 (47.5%)	64 (35%)	27 (14.8%)	2 (1.1%)	3 (1.6%)	183	4.26	.867	Accepted
Using smart phone technology will help in building user-librarian relationships	122 (66.7%)	43 (23.5%)	15 (8.2%)	2 (1.1%)	1 (0.5%)	183	4.55	.739	Accepted
The use of smart phone would provide more appropriate and reliable information tools to users	77 (42.1%)	61 (33.3%)	30 (16.4%)	14 (7.7%)	1 (0.5%)	183	4.09	.968	Accepted
I believe using smart phone for information service would be faster and more	89 (48.6%)	68 (37.2%)	20 (10.9%)	6 (3.3%)	0 (0%)	183	4.31	.796	Accepted

	SA	A	D	SD	UD	N	Mean	Standard Deviation	Decision
efficient Application of smart phone technology for information service delivery will attract more users to library	89 (48.6%)	84 (45.9%)	5 (2.7%)	4 (2.2%)	1 (0.5%)	183	4.40	.703	Accepted
The use of smart phone will simplify the job of librarians in general	81 (44.3%)	63 (34.4%)	20 (10.9%)	11 (6%)	8˙ (4.4%)	183	4.08	1.089	Accepted

Source: Field Survey (2020)

Table 4 showed respondents view on the perception of librarians on use of smart phone for information service delivery in university libraries North Western Nigeria. The result indicated that majority of the respondents believe that using smart phone technologies will improve staff work, thus with the highest mean score of 4.73 and .554 SD.

The result showed that smart phone technology will improve staff work. This by implication means that librarians believe using smart phone will improve staff work in the university libraries. This is because, smart phone technologies are among the latest ICTs that libraries are using all over to offer services and resources such as instant messaging, mobile catalogs, mobile collection, incorporating Web 2.0 tools for communication hence facilitating access beyond the library.

The study revealed that librarians expressed willingness, s and readiness to have such facility in their libraries.

The study corroborates the findings of Osuige, et al (2014) assessed the perception of 40 library professionals in two public libraries in Nigeria toward innovative use of Short Messaging Services (SMS). The result of their study showed that the librarians' perception of services to be rendered included reference inquiries and notification services; they viewed it as advantageous towards library service provision.

They opined further that text messaging services via mobile technology would be beneficial to libraries and their patrons.

Readiness of University Libraries to use Smart Phone Technology for Information Service Delivery

Table 4: Readiness of university libraries to use smart phone technology for information service delivery

STATEMENT	SA	A	D	SD	UD	N	Mean	Standard Deviation	Decision
The information technology infrastructure (hardware) in	83 (45.4%)	78 (42.6%)	16 (8.7%)	4 (2.2%)	2 (1.1%)	183	4.29	.804	Accepted

the library can satisfy the need for mobile library services like internet connectivity, wireless and mobile devices									
Are there available software to provide information services like mobile windows, websites and MOPAC	48 (26.2%)	72 (39.3%)	52 (28.4%)	5 (2.7%)	6 (3.3%)	183	3.83	.962	Accepted
Library has skilled human resources to use smart phone for information services	54 (29.5%)	90 (49.2%)	29 (15.8%)	10 (5.5%)	0 (0%)	183	4.03	.822	Accepted
The management is ready to invest funds in smart phone for the provision of better library services	22 (12%)	51 (27.9%)	74 (40.4%)	18 (9.8%)	18 (9.8%)	183	3.22	1.099	Accepted
The management is willing to take the risk involved in mobile library services	24 (13.1%)	41 (22.4%)	76 (41.5%)	18 (9.8%)	24 (13.1%)	183	3.13	1.168	Accepted
Library stake holders are most likely to be interested in adopting smart phone technology	24 (13.1%)	88 (48.1%)	47 (25.7%)	12 (6.6%)	12 (6.6%)	183	3.55	1.020	Accepted

There is requisite IT skills to provide services via smart phone technologies	59 (32.2%)	73 (39.9%)	39 (21.3%)	7 (3.8%)	5 (2.7%)	183	3.95	.968	Accepted
Library has the preparation to develop and support a policy for the implementation of smart phone based library services	51 (27.9%)	67 (36.6%)	29 (15.8%)	21 (11.5%)	15 (8.2%)	183 •	3.64	1.231	Accepted

Source: Field Survey (2020)

Table 5 shows respondents' view on the readiness of university libraries in North-West Nigeria to use smart phone for information service delivery. The results indicated that majority of the respondents agreed with the statement that the information technology infrastructure (Internet connectivity bandwidth, wireless infrastructure, mobile devices etc) in university libraries can satisfy the need for mobile library services, which attracted 4.29 mean score.

This by implication means that the information technology infrastructure (hardware) in the library can satisfy the need for mobile library services in the universities of the North-West Nigeria. The mean 4.29 SD .804 implies that there is high acceptance of the fact that the information technology infrastructure in the library can satisfy the need for mobile library services in universities in North Western part of Nigeria. This implies the acceptances of the statement that the information technology infrastructure (hardware) in the library can satisfy the need for mobile library services.

The findings of this study however, contradicts the study of Ifeyinwa et al (2017) who conducted similar study on readiness of librarians in public libraries towards integration of social media tools in library services delivery in South-East Nigeria. The study is designed to x-ray the level of preparedness of librarians in Nigerian Public libraries towards integrating social media to the provision of library and information services (LIS). The survey research method was adopted using public libraries in south-east geo-political zone of Nigeria.

The population of study comprises of core librarians working in the various public libraries in the south-east geo-political zone of Nigeria. It was revealed that the level of readiness among librarians in public libraries towards integrating social media to library service delivery is very low. Paucity of funds, indifferent attitude of public library managers, non-existence of social media policy, low level of ICT literacy among librarians in public libraries are the major constraints to effective integration of social media.

This study has not only provided empirical evidences on the readiness of librarians in public libraries towards integrating social media tools to library and information services but also recommends ways for successful

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