

AVAILABILITY AND USE OF ELECTRONIC INFORMATION RESOURCES AMONG RESEARCHERS AT THE COCOA RESEARCH INSTITUTE OF NIGERIA

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Abstract

The paper examined the availability and use of electronic information resources among researchers at the Cocoa Research Institute of Nigeria (CRIN). The respondents consisted of all researchers at CRIN. A descriptive survey method of total enumeration technique was employed to give a total of 71 respondents. Data were collected through the use of a structured questionnaire. A total of 50 copies of the questionnaire were retrieved which represented 70% of the total sampled. The data were analyzed using frequency counts, tables and percentages. The result showed that Emails (mean = 3.04) and e-journals were mostly available to CRIN researchers. The study also revealed email (mean 3.22) and e-journals (mean 3.20) were commonly utilized by CRIN researchers. on the degree of preference, e-journals, emails and e-books were preferred. The study revealed irregular electricity supply, high cost of subscription, inability to subscribe to the internet due to financial constraints, and lack of awareness of some electronic resources as major constraints to their usage. The study revealed that a significant relationship existed between electronic information resource utilization and information resources preferences of researchers of CRIN. ($r=.505$, $p < 0.05$). Finally, the study recommended an adequate supply of electricity and stable internet facilities to CRIN scientists at a subsidised rate.

KEYWORDS: Electronic Information Resources, Availability, Utilisation, researchers, Cocoa Research Institute of Nigeria.

Introduction

Electronic information resources can be seen as the most recent development in information technology and are among the most powerful tools ever invented in human history. They are the electronic representation of information. They are available in various forms like e-books, e-theses, e-newspapers, emails, online journals and e-magazines. These electronic information resources have become the sources of information. They provide the collection of information as full-text databases, image collections, and multimedia in the form of CDs, tape, internet, web technology etc. Electronic information resources are becoming more and more important for the academic community (Kumar and Kumar, 2008).

The opportunity brought about by electronic information resources has in recent years exerted pressure on research institutes and their libraries. The pressure on the institutions is the provision of the necessary infrastructural resources. The pressure on the library and information centres is in the sourcing, acquisition and repackaging of these resources; as well as the

provision of necessary guidance to end users. Dadzie (2005) writes that electronic resources are invaluable research tools that complement print-based resources in a traditional library setting. Their advantages, according to her include access to information that might be restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to additional resources of related content. Naidu (2007) also finds that speedy publication and availability of information resources are the key advantages that attract research scholars to electronic information resources.

Objectives of the Study

The major objective of this study is to examine the availability and utilization of electronic information resources at the Cocoa Research Institute of Nigeria (CRIN). The specific objectives are to:

1. Identify the different types of electronic information resources available to researchers at CRIN;

2. Examine types of electronic information resources utilized by researchers;
3. Identify the most preferred electronic information resources by researchers at CRIN;
4. Investigate the frequency of use of electronic information resources by researchers at CRIN;
5. Find out the purpose of using electronic information resources by researchers at CRIN;
6. Investigate the relevance of e-resources usage by researchers at CRIN;
7. Investigate the location where electronic information resources are used by researchers at CRIN and
8. Identify constraints to electronic information resource usage by researchers at CRIN.

Research Questions

1. What are the different types of electronic information resources available to researchers at CRIN?
2. What are the different types of electronic information resources utilised by researchers of CRIN?
3. What are the most preferred electronic information resources by researchers of CRIN?
4. What is the frequency of use of electronic information resources by researchers of CRIN?
5. What is the purpose of using electronic information resources by researchers of CRIN?
6. How relevant are electronic information resources to research activities at CRIN?
7. Where do CRIN researchers make use of electronic information resources?
8. What are the constraints to electronic information resource usage at CRIN?

Research Hypotheses

The following null hypotheses will be tested at a 0.05 level of significance

1. There is no significant relationship between electronic information resources preference and electronic information resources use by researchers of CRIN.

2. There is no significant relationship between electronic information resources availability and electronic information resources use by researchers of CRIN.

Literature Review

Electronic Information resources are products of information and communication technologies that are found relevant to research activities. Studies like Oduwale et al (2003) and Adomi et al (2003) revealed high use of electronic information resources among Nigerian Students. Ojo and Akande (2005) in a survey of 350 respondents examined student's access, usage and awareness of electronic information resources at the University College Hospital (UCH) in Ibadan, Nigeria. The study revealed that the level of usage of electronic information resources is not high. A major problem however identified is the lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by medical students very low. Kalle and Matti (2006) observed that over the last several decades the use of open-access information resources by research scholars in developed countries has improved the quality of research, enhanced their work and knowledge also updated. Navijoti (2007) also reported that speedy publication and availability of free published articles on the Internet attract research scholars to conduct research with ease.

According to Varghese, Faith and Jacob (2012), the Internet has had a growing influence on research and academics as a whole, and open-access electronic information resources are now being widely acknowledged as a means to support and help researchers thereby making their research work easy hence, enhance their productivity. Chandra et al. (2014) conducted a study on the Use Pattern of Electronic Resources among Faculty Members in Arts and Science Colleges in Chennai. They concluded that most of the respondents were aware of electronic resources available in their college library. They accessed electronic information resources for study and research purposes. The majority of the respondents opined that electronic information resources were useful. Pauline Adeniran (2013) conducted a study on the Usage of electronic resources by undergraduates at the Redeemer's

University, Nigeria. The study revealed that the use of electronic information resources had great impact on the academic performances of the undergraduate students of Redeemer's University; however, there is need for them to acquire more skills in the use of electronic information resources.

Okorie and Agboola (2012) conducted a study on the availability and use of electronic information resources in Agricultural University Libraries. They concluded that electronic information resources are quick ways of accessing e-books, e-journals, e-magazines, e-thesis and images of various types. An important advantage of electronic information resources to academics is the increased availability and accessibility of information resources that are current and relevant to research, learning and studying. For the University of Agriculture, Abeokuta, Michael Okpara University of Agriculture, Umudike and University of Agriculture, Makurdi, the electronic information resources had helped to solve the problem of non-availability of information resources in printed format on all the programs being run by the University.

Thanuskodi (2012) in his findings on the use of electronic information resources by postgraduate students and research scholars of the faculty of arts at Annamalai University established that the majority of users are aware of the availability of electronic information resources. Majority of the respondents from the faculty use electronic information resources for writing papers. The analysis also revealed that many of the respondents search electronic information resources through linking facilities available on the library website. Ali (2005) found out that the majority of students surveyed felt that using these information resources was easy and saves time.

Studies have also been carried out on the use of electronic information resources by teachers, students and research scholars of universities and research organizations in India. The majority of the respondents felt that the use of the UGC – Infonet e-journals has created a high dependency value on their research work (Madhusudhan, 2008). In the context of developing countries, Okello-Obura and Magara (2008) investigated electronic information access and utilization at the

East African School of Library and Information Science, Makerere University, Uganda. The study revealed that users derived a lot of benefits from electronic information resources such as gaining access to a wider range of information and improved academic performance as a result of access to quality information. Despite the availability of these resources and their benefits to universities and research institutions, their effective uses in Africa are being hampered by various factors. Studies have revealed that these factors include poor funding of research institutions, high cost of IT equipment, high rate of foreign exchange, poor telecommunication infrastructures, and so on (Fatoki, 2004). However, a study of online searching of scientific information in science and technology libraries of Delhi reveals a sizeable number of users are facing numerous problems while browsing electronic information resources, such problems are lack of knowledge about the resources, lack of trained staff and inadequate terminals.

Research Methodology

The research design used for this study was a descriptive survey research method. A questionnaire titled availability and use of electronic information resources by researchers at CRIN, Ibadan was designed by the researcher. The questionnaire was divided into sections. Section A consists of demographic variables such as department, sex, year of service. while section B sought for data on degree of preference of electronic information resources, relevance of electronic information resources, purpose of using electronic information resources and limitations to electronic information resources usage. There were 71 researchers at CRIN. Focus was on researchers because they make use of these resources majorly due to the nature of their work which is research. This fact was corroborated by Kumari *et al.* (2008). The research questionnaire was distributed to all of them using total enumeration technique. Out of 71 questionnaires distributed, 50 were turned in representing 70% of the total sampled. The data was analyzed using frequency counts, percentages, mean and standard deviation.

DATA ANALYSIS, RESULTS AND DISCUSSION

Demographical Characteristics

Table1: Distribution of respondents by Division, gender, marital status, academic qualification and rank

Division	Frequency	Percent
Agronomy and soils	15	30.0
Crop protection	12	24.0
Extension and Economics	12	24.0
Crop improvement	8	16.0
Farming System Research	3	6.0
Total	100	100.0
Gender		
Male	40	80.0
Female	10	20.0
Total	50	100.0
Marital Status		
Married	48	96.0
Single	2	4.0
Total	50	100.0
Academic Qualification		
M.Sc.	32	64.0
Ph.D.	18	36.0
Total	50	100.0
Rank		
Principal Research Officer	18	36.0
Senior Research Officer	17	34.0
Director	4	8.0

Assistant Director	4	8.0
Chief Research Officer	2	4.0
Research Officer I	5	10.0
Total	50	100.0

Table 1 above shows that 8(16.0%) of the respondents were in the Crop improvement division, 12(24.0%) in the Crop protection division, 15(30.0%) in the Agronomy and soils division, 3(6.0%) in the Farming System Research division, 12(24.0%) in Extension and Economics division, None in Processing division and lastly None in Fabrication and Design division. It also revealed that 40(80.0%) of the respondents are male while 10(20.0%) are their female counterparts. This is an evidence that there were more male researchers in CRIN. This can be due to the nature of the job which is agriculture. There

were also 48(96.0%) of the respondents who were married and 2(4.0%) singles.

Furthermore, 32(64.0%) of the respondents had an M.Sc. degree while 18(36.0%) had a Ph.D. respectively. In addition, 4(8.0%) were Directors, 4(8.0%) were Assistant Directors, 2(4.0%) were Chief Research Officers, 18(36.0%) were Principal Research Officers, 17(34.0%) were Senior Research Officers and lastly 5(10.0%) were Research Officers (I).

RQ 1: How available are the listed electronic information resources for your research work?

Table 2: Availability of electronic information resources to researchers at CRIN

Electronic Resources	Fairly avail.	Mod. Avail.	Highly avail.	Very highly avail.	Mean	S.D
E-mails	9 18.0%	5 10.0%	11 22.0%	25 50.0%	3.04	1.16
E-journals	8 16.0%	16 16.0%	16 32.0%	18 36.0%	2.88	1.08
E-newspapers	13 26.0%	8 16.0%	15 30.0%	14 28.0%	2.60	1.16
www	18 36.0%	7 14.0%	13 26.0%	12 24.0%	2.38	1.21
E-books	17 34.0%	13 26.0%	12 24.0%	8 16.0%	2.22	1.09
E-research reports	17 34.0%	13 26.0%	14 28.0%	6 12.0%	2.18	1.04

E-theses	21	15	6	8	2.02	1.10
	42.0%	30.0%	12.0%	16.0%		
Agricultural databases	20	14	11	5	2.02	1.02
	40.0%	28.0%	22.0%	10.0%		
GRAND MEAN					2.42	

The result as shown in table 2 revealed that the most available electronic resources was E-mails (mean =3.04) followed by E-journals (mean =2.88), E-newspapers (mean =2.60), www (mean =2.38), E-books (mean =2.22), E-research reports (mean =2.18) and lastly E-theses (mean =2.02)

RQ 2: How would you rate your level of utilizing the under-listed E-resources?

Table 3: rate of using electronic information resources by CRIN researchers

e-resources materials	Fairly utilized	Mod. Utilized	Highly preferred	Very Highly preferred	Mean	S.D
E-mails	4	8	11	27	3.22	1.00
	8.0%	16.0%	22.0%	54.0%		
E-journals	3	8	15	24	3.20	.93
	6.0%	16.0%	30.0%	48.0%		
www	13	8	14	15	2.62	1.18
	26.0%	16.0%	28.0%	30.0%		
E-newspapers	12	12	13	13	2.54	1.13
	24.0%	24.0%	26.0%	26.0%		
E-research reports	12	14	13	11	2.46	1.09
	24.0%	28.0%	26.0%	22.0%		
E-books	13	15	12	10	2.38	1.09
	26.0%	30.0%	24.0%	20.0%		
Agricultural databases	16	18	10	6	2.12	1.00
	32.0%	36.0%	20.0%	12.0%		
E-theses	19	13	12	6	2.10	1.05
	38.0%	26.0%	24.0%	12.0%		
GRAND MEAN					2.58	

The result in Table 3 discovered that CRIN researchers mostly utilised E-mails (mean =3.22) followed by E-journals (mean =3.20), www (mean =2.62), E-newspapers (mean =2.54), E-research reports (mean =2.46), E-books (mean =2.38), Agricultural databases (mean =2.12) And lastly E-theses (mean =2.10).

RQ 3: What is your degree of preference that affects your use of e-resources?

Table 4: Degree of preference for electronic information resources by CRIN researchers

e-resources materials	Fairly preferred	Mod. Preferred	Highly preferred	Very Highly preferred	Mean	S.D
E-journals	1 2.0%	2 4.0%	12 24.0%	35 70.0%	3.62	.67
E-mails	6 12.0%	3 6.0%	18 36.0%	23 46.0%	3.16	1.00
E-books	8 16.0%	10 20.0%	15 30.0%	17 34.0%	2.82	1.08
E-research reports	10 20.0%	6 12.0%	17 34.0%	17 34.0%	2.82	1.12
www	10 20.0%	8 16.0%	14 28.0%	18 36.0%	2.80	1.14
Agricultural databases	9 18.0%	12 24.0%	15 30.0%	14 28.0%	2.68	1.08
E-newspapers	11 22.0%	15 30.0%	10 20.0%	14 28.0%	2.54	1.13
E-theses	13 26.0%	11 22.0%	13 26.0%	13 26.0%	2.52	1.15
GRAND MEAN					2.87	

It was discovered from Table 4 that E-journals (mean =3.62) ranked highest as the most preferred e-resources followed by E-mails (mean =3.16), E-books (mean =2.82), E-research reports (mean =2.82), www (mean =2.80). Moreover, agricultural databases

(mean =2.68), E-newspapers (mean =2.54) and E-theses (mean =2.52) ranked as the list preferred electronic information resources by CRIN researchers.

RQ 4: How frequent do you use the following e-resources for your research work?

Table 5: Frequency of using electronic information resources by CRIN researchers

Electronic resources	Occas.	Monthly	Weekly	Daily	Mean	S.D
E-mails	6	5	10	29	3.24	1.06
	12.0%	10.0%	20.0%	58.0%		
E-journals	5	4	17	24	3.20	.97
	10.0%	8.0%	34.0%	48.0%		
www	13	4	13	20	2.80	1.23
	26.0%	8.0%	26.0%	40.0%		
E-newspapers	12	11	11	16	2.62	1.18
	24.0%	22.0%	22.0%	32.0%		
E-research reports	11	13	15	11	2.52	1.07
	22.0%	26.0%	30.0%	22.0%		
E-books	12	16	11	11	2.42	1.09
	24.0%	32.0%	22.0%	22.0%		
Agricultural databases	18	12	11	9	2.22	1.13
	36.0%	24.0%	22.0%	18.0%		
E-theses	19	13	9	9	2.16	1.13
	38.0%	26.0%	18.0%	18.0%		
GRAND MEAN					2.65	

The result as shown in Table 5 indicated that E-mails (mean =3.24) ranked highest by the mean score rating as the frequently used electronic information resource followed by E-journals (mean =3.20), www (mean =2.80),

E-newspapers (mean =2.62), E-research reports (mean =2.52), E-books 2.42) while agricultural databases (mean =2.22) and E-theses (mean =2.16) were scarcely used.

Q 5: What purpose(s) do you use e-resources for?

Table 6: Purpose of using electronic information resources by CRIN researchers

Purpose of using e-resources	No	Yes	Ranking
Research	2	48	1
	4.0%	96.0%	
Personal study	4	46	2
	8.0%	92.0%	
Teaching	22	28	6
	44.0%	56.0%	
Seminar presentation	10	40	3
	20.0%	80.0%	
Grants write up	13	37	4
	26.0%	74.0%	
Preparing seminar notes	13	37	5
	26.0%	74.0%	
Leisure	23	27	7
	46.0%	54.0%	

From Table 6, the main purpose of using electronic information resources by CRIN Researchers were for research purposes, personal study, seminar presentation, grants write up, prepare seminar notes, teaching and lastly leisure.

RQ 6: Where do you access e-resources for your research activities?

Table 7: Location of accessing electronic information resources by CRIN researchers

Location where e-resources is accessed	No	Yes	Ranking
ICT centers	30	20	4
	60.0%	40.0%	
Home	9	41	1
	18.0%	82.0%	

Library	27	23	3
	54.0%	46.0%	
Personal office	11	39	2
	22.0%	78.0%	
Others: please specify	46	4	5
	92.0%	8.0%	

From Table 7, Home was the most preferred location where they accessed and utilised e-resources for their research activities and was followed by Personal office, Library, ICT centres and lastly other locations were not disclosed in the study.

RQ 7: What are the constraints to e-resources usage?

Table 8: Constraints to electronic information resources usage at CRIN

Items	No	Yes	Ranking
Irregular electricity supply	3	47	1
	6.0%	94.0%	
Lack of awareness of some of them	25	25	4
	50.0%	50.0%	
Inability to subscribe to the internet due to financial constraint	17	33	3
	34.0%	66.0%	
High cost of subscription	13	37	2
	26.0%	74.0%	
Others please specify	38	12	5
	76.0%	24.0%	

From Table 8, the result indicated that irregular electricity supply was the major constraint facing e-resources usage and was followed by the high cost of subscription, inability to subscribe to the internet due to financial constraints, lack of awareness of some to them and lastly by other constraints which was disclosed in the study.

Hypotheses Testing:

Ho1: There is no significant relationship between Electronic Information Resources Utilization and Information Resources Preferences of researchers of CRIN

Table 9: Relationship between electronic information resources utilization and information resources preferences

Variable	Mean	Std. Dev.	N	R	P	Remark
Electronic Information Resources Utilization	20.6400	5.8441	5300	.505*	.000	Sig.
Information Resources Preferences	22.9600	5.3374				

* Significant at 0.05 level

It was discovered in Table 9 that there was a significant relationship between Electronic Information Resources Utilization and Information Resources Preferences of researchers of CRIN ($r = .505^*$, $N = 50$, $P < .05$). This implies that the preferred information resources are being utilized by CRIN researchers. That is the more the preferred electronic information resources are available to CRIN researchers the more they are utilized. Therefore null hypothesis is rejected.

Ho2: There is no significant relationship between Electronic Information Resources Utilization and Information Resources Availability of researchers of CRIN

Table 10: Relationship between electronic information resources utilization and information resources availability

Variable	Mean	Std. Dev.	N	R	P	Remark
Electronic Information Resources Utilization	20.6400	5.8441	50	.636*	.000	Sig.
Information Resources Availability	19.3400	6.3971				

* Significant at 0.05 level

It was revealed in Table 10 that there was a significant relationship between Electronic Information Resources Utilization and Information Resources Availability of researchers of CRIN ($r = .636$, $N = 50$, $P < .05$). This implies that the more available electronic information resources to CRIN researchers the more their usage. Therefore null hypothesis is rejected.

Summary of findings

The following was a summary of major findings based on the analyzed data

1. The study revealed that email was the most available electronic information resources at CRIN while agricultural data bases were scarcely available.
2. The result of the study discovered that e-mail was the most frequently used electronic information resources while E-

journals was the most preferred electronic information resources.

3. Research, personal study and teaching were the most important reasons for using electronic information resources.
4. The study revealed that CRIN researchers utilized electronic information resources majorly at home.
5. The study had shown that a significant relationship occurred between electronic information resources utilization and information resources preferences of researchers.
6. As seen in the study, there was a significant relationship between information resources utilization and information resources availability of researchers

Recommendations

1. Researchers at CRIN should be encouraged to use more of the available agricultural databases and other information resources that were underutilised.
2. CRIN management should ensure that current agricultural databases on CRIN mandate crops are acquired for researchers.
3. Librarians at CRIN should create awareness of available electronic information resources at the institute library to CRIN researchers through current awareness services.
4. Librarians at CRIN should organize regular seminars and trainings for researchers on the need for and benefit of the underutilized electronic information resources.

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