

AN EXPLORATION OF THE FACTORS THAT INFLUENCED DOCTORAL STUDENTS' USE OF EIRS AT UNIVERSITY OF KWAZULU-NATAL (UKZN), SOUTH AFRICA AND OBAFEMI AWOLOWO UNIVERSITY (OAU), NIGERIA

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Abstract

Around the world, resources have evolved from print to electronic formats due to increase in demand for current and quick information around the world. Resulting from this, there has been accelerated production and processing of information, repackaging, and circulation of information; thereby generating information resources in electronic format and its often called electronic information resources (EIRs). Hence, the compelling need to explore the various factors that can influence doctoral students' in Africa are using EIRs limiting the study to the university of KwaZulu-Natal, South Africa, and Obafemi Awolowo University, Nigeria. Four research questions were formulated as the study sought to address factors that influence EIRs use by doctoral students. The research questions are as follow: (1) what are your reasons for choosing to use EIRs? (2) What are the factors that hinder your use of EIRs? (3) Does your institution's library offer support in the use of EIRs? (4) what type(s) of support does your institution's library offer? The major objective of the study is to explore the various factors that influence the use of EIR's by doctoral students. The study population comprised of all doctoral students in the two universities selected for this study with a sample size made of the entire social science doctoral students and library staff from the two selected universities owing to their small size. Recommendations were made to facilitate the use of EIRs by doctoral students in the conduct of their research.

Keywords: electronic information resources; doctoral students; online research; information retrieval

Introduction

Information resources has evolved from print to electronic formats due to increase in demand for current and quick information around the world. This exponential increase is consequence upon the demand placed on information for research by doctoral students and other researchers intended for development. Resulting from this, there has been accelerated production and processing of information, repackaging, and circulation of information; thereby generating information resources in electronic format. This is often represented as electronic information resources (EIR's). According to Johnson, Ole, Julia, Glenda, Lynn and Nadia (2012) EIR's are those information materials that can be accessed through the use of a computer or any handheld device either remotely through the internet or locally. With the corresponding increase in access and use of EIR's, Peiris and Peiris (2012) pointed out, while the university libraries in developed countries have all types of electronic information resources such as online journals and databases which are used by majority of university students, the situation is different in developing countries. This situation is typical of African countries with the exception of a few.

From many universities across the world, it has been found that there is paucity of EIR's. This is sequel to some difficulties associated with the use of EIRs by patrons of academic libraries (Wu and Yeh, 2012). Some of these difficulties relates to lack of sufficient knowledge, skills, or literacy on the use of EIR services and tools. Hence, the compelling need to explore the various factors that can influence doctoral students' in Africa are using EIRs limiting the study to the university of KwaZulu-Natal, South Africa, and Obafemi Awolowo University, Nigeria.

To guide the research, four research questions were formulated as the study sought to address factors that influence EIRs use by doctoral students. The research questions are as follow: (1) what are your reasons for choosing to use EIRs? (2) what are the factors that hinder your use of EIRs? (3) does your institution's library offer support in the use of EIRs? and (4) what type(s) of support does your institution's library offer? The major objective of the study is to explore the various factors that influence the use of EIR's by doctoral students. The study population comprised of all doctoral students in the two universities selected for this study with a sample size made of the entire social science doctoral students and library staff from the two selected universities owing to their small size.

Rationale for using EIR's

Many institutions subscribe to a wide variety of EIR's creating an array of choices must be made to satisfy their individual need. According to Eyaufe (2018) with the availability of various forms of EIRs, the choice of users is influenced by several variables. Prominent among the rationales for using EIR's is information in support of their academic activities (2018). Doctoral students are majorly concerned with research, conferences attendance, workshops and many more avenues for gaining additional professional knowledge from colleagues through the aforementioned media. Hence, they develop a wide variety of rationale for using EIR's. Most of the EIR's used by doctoral students' e-books or e-journals and were mainly for research (theses and dissertation) or for assignments and other course works (Tenopir, Rachel and Lisa, 2013).

In terms of ease of access of information participants listed the following benefits:

- EIRs make information available 24 hours a day and 7 days a week.
- Student can work from anywhere. They no longer need to make several personal visits to the library or go there to do their works strictly on library opening hours.
- EIRs save time in searching and retrieving information.
- Doing online research allows you to access and use more information quicker.

With regard to the comprehensiveness of EIRs, the following benefits were listed:

- All the information one needs are available in one place.
- They provide a wide range of resources.
- They give researchers/students access to information they would not ordinarily have been able to find on their own.
- Electronic information resources provide a general overview of what is available on every topic (Vakkari, 2008; and Eyaufe, 2018).

Factor that influences the use of EIR's

Stone (2013) note that, in the digital environment, electronic information and services are constantly evolving and changing. Sequel to the increased volume of EIR's, Little (2013) stated that, for centuries, the core mission and major aspect of the academic libraries' function is the selection, organization of printed information resources for clients, but for two decades now this has changed to include the provision of large-scale access to electronic information resources such as indexes, e-journals, e-books, newspapers, maps, sound

recordings and all forms of data. To achieve this fit, there is the need for these institutions to incorporate and train staff and students on the use of the new knowledge format.

Hence, university libraries across the world develop and stock pile various EIR's for researchers for use in various fields of study. For example, UDC-INFONET and INDEST consortiums in India (Dhanavadan and Tamizhchelvan, 2012), Anatolian Universities Libraries Consortium (ANKOS) in Turkey (Cukadar, Ayhan and Gultekin, 2012), and in Chifwepa's (2003) revealed that the academic library at the University of Zambia has a well-equipped digital library to serve the EIR needs of staff and students. Clearly therefore, it is important to find out the various factors that motivate doctoral students to use EIR's in their programme and research.

Although, many university libraries globally have demonstrated their determination to use EIR's in their institutions, this has been a grave challenge to adhere to. It has also been the case in South Africa that the provision of EIRs consumes a considerable portion of the budget of libraries (Stewart, 2011).

Institutional repository as a support for use of EIR's

Types of support initiatives by institutions

Many institutions of higher learning today subscribe to different forms of EIR; some of which includes AGORA, HINARI, Emeralds, Cambridge University Press, Ebscohost, and several other databases capped with the provision of internet facilities for research purposes. Other initiatives taken by academic institutions around the world includes but not limited to International Network for the Availability of Scientific Publication (INASP) and a Program for the Enhancement of Research Information (PERI) consortia and supported by the Swedish International Development Agency (SIDA), JSTOR, Nigerian University Libraries (NULIB) as well as initiatives by the National Universities Commission (NUC) to subscribe to electronic databases (Obasuyi and Usifo, 2013). Other EIR's include: Online Access to Research in Environment (OARE), Electronic Information for Libraries Network (EIFL.NET).

Presentation of results

From the results on the rationale for using to use EIRs as presented in table 1, a list of factors depicted the rationale for doctoral students to use this information format in their conduct of research and other academic activities. It can be seen from the results that all the listed factors

are highly rated by respondents from both institutions. Access to current and up-to-date information (118; 90.8%), availability of computer (112; 86.2%), awareness of the resource (112; 86.2%), saves time (110; 84.6%) and quick and easy retrieval (110; 84.6%) top the list of factors that influence respondents' use of EIRs.

Table 1: Rationale for using EIR's

Factor	OAU N=48			UKZN N=82			N = 130 Total F.%
	Year 2 F.%	Year 3 F.%	Year 4 F.%	Year 2 F.%	Year 3 F.%	Year 4 F.%	
Saves time	12; 25	13; 27.1	15;31.3	31;37.8	34;41.5	5; 6.1	110; 84.6
Easy to use	12; 25	11; 22.9	13;27.1	31;37.8	34;41.5	4;4.8	106;81.5
Availability of computer	12; 25	14;29.2	18;37.5	34;37.8	30;36.6	4;4.8	112;86.2
Awareness of the resources	12; 25	14;29.2	15;31.3	24;29.3	27;32.9	3;3.7	112;86.2
Computer use skills	4; 8.3	9;18.8	14;29.2	29;35.4	24;29.3	3;3.7	83;63.8
More informative	13;27.1	15;31.3	16;33.3	15;18.3	31;37.8	4;4.8	94;71.3
EIRs search skill	3; 6.3	7;14.6	10;20.8	25;30.5	26;31.7	3;3.7	74;56.9
Ease of access	12; 25	12; 25	18;37.5	28;34.1	32; 39	3; 3.7	105; 80.8
Quick and easy retrieval	13; 27.1	13; 27.1	18; 37.5	31; 37.8	31; 37.8	4; 4.8	110; 84.6
Access to current and up-to-date information	13;27.1	14;29.2	19;39.6	36;4.9	32;39	4;4.8	118;90.8

A closer examination of the results show that computer skills is rated low among second year (4, 8.3%) and third year (9, 18.8%) OAU students. Note that the ostensibly low rate recorded by respondents in the fourth year and above from UKZN could be due to their low representation in the survey. It can be drawn from the analysis that no factor is remarkably rated high enough.

Table 2: Factors influencing doctoral students' use of EIR's

Factors	Institutions							
	OAU n = 48				UKZN n = 82			
	YEAR 2	YEAR 3	YEAR 4	TOTA L	YEAR 2	YEAR 3	YEA R 4	TOTA L
Consume time	2;4.2	3;6.3	3;6.3	8;16.7	9;11	4;4.9	-	13;15.9
Difficult to use	1;2.1	4;8.3	5;10.4	9;18.8	3;3.7	2;2.4	-	15;18.3
Lack of skills to use	11;22. 9	12;25	15;31. 3	38;79.2	13;15. 9	14;17. 1	1;1.2	66;80.5
Less informative	-	1;2.1	1;2.1	2;4.2	3;3.7	-	-	3;3.7
Low skills on use of computers	10;20. 8	13;27. 1	18;37. 5	41;85.4	8;9.8	6;7.3	-	14;17.1
Low information literacy skills	11;22. 9	13;27. 1	19;39. 6	43;89.6	12;14. 6	8;9.8	-	20;24.4
Lack of awareness of EIR's	11;22. 9	12;25	19;39. 6	42;87.5	8;9.8	5;6.1	1;1.2	14;17.1
Poor internet/network connectivity	13;27. 1	15;31. 3	20;41. 7	48;100	18;22	18;22	3;3.7	39;47.6
Slow rate of	13;27.	15;31.	20;41.	48;100	17;31.	15;18.	1;1.2	33;40.2

download	1	3	7		3	3		
Limited IT for EIR's access/use	13;27. 1	15;31. 3	20;41. 7	48;100	7;31.3	15;18. 3	1;1.2	33;40.2
Limited access to some EIR's	13;27. 1	15;31. 3	20;41. 7	48;100	29;35. 4	19;23. 2	4;4.9	52;63.4

From table 2, the analysis of responses to the factors that influence the students' use of EIRs reveals a distinct dissimilarity in the responses from OAU and UKZN respondents. All respondents (48; 100%) from OAU indicated that poor internet/network connectivity, slow download rates, limited availability and access to IT facilities as well as limited access to some EIRs hinder their use of EIRs. For the UKZN respondents, the figures are 47.6% (39), 45.1 (37), 40.2% (33) and 63.4% (52) respectively. In terms of the categories 'consumes time', 'difficult to use' and 'less informative', responses from both institutions are similar in the sense these factors are less of a hindrance than other factors. 'Lack of skills to use' is rated high among all respondents (OAU – 38 [79.2%]; UKZN – 66 [80.5%]). The result suggests that most of the factors that constitute hindrances to OAU respondents relate to facilities provided by the institution's library and the respondents' use skills. Fewer respondents, though significant, from UKZN, seem to find institution's library facilities problematic except with regard to limited access to some EIRs (52; 63.4%).

Table 3: Institutional support for EIR use N= 30

Options	Institutions	Level			
		Year 2	Year 3	Year 4 and above	Total
Yes	OAU	-	-	-	-
	UKZN	26;30.7	30;30.6	4;4.9	60;72.2
No	OAU	2;4.2	3;6.3	3;6.3	8;16.7
	UKZN	4;4.9	4;4.9	-	8;9.7
Unsure	OAU	11;22.9	12;25	1;2.1	24;50
	UKZN	9;11	4;4.9	1;1.2	14;17.1

No response or missing score	OAU	-	-	16;33.3	16;33.3
	UKZN	-	-	-	-
Total					13;100

From the results on table 3, respondents from OAU are either unsure (24; 50%) or disagree (8; 16.7%) that their institution's library provides support for EIRs use with no respondent indicating 'yes' to this question. For their part, 73.2 % (60) of the participants from UKZN indicated, followed by 17.1% (14) who indicated 'unsure' and 9.8% (8) for 'no'. It is apparent from the result that respondents from OAU have no evidence to show for the availability of support for EIRs use at their institution's library.

Table 4: Types of support offered by institution's library N = 130

Types of support	Institutions	Year 2	Year 3	Year 4 and above	Total
Library orientation	OAU	-	-	-	-
	UKZN	5;6.1	6;7.3	-	11;13.4
Guidance on information use	OAU	-	-	1;2.1	1;2.1
	UKZN	3;3.7	4;4.9	1;1.2	8;9.8
Periodic workshop/seminar	OAU	-	-	-	-
	UKZN	10;12.2	13;15.9	-	23;28.1
EIR's access/retrieval	OAU	-	-	-	-
	UKZN	5;6.1	6;7.3	1;1.2	12;14.6
Research support	OAU	-	-	-	-
	UKZN	1;1.2	-	-	1;1.2
No answer	OAU	13;27.1	15;31.3	19;39.6	47;97.6
	UKZN	15;18.3	9;11	3;3.7	27;32.9

Table 4 clearly showed that the respondents were asked to mention the types of support they received from their institutions' libraries. According to the table, UKZN respondents identified periodic workshop/seminars (23; 28.1%), EIRs access/retrieval (12; 1.2%), library orientation (11; 13.4%), guidance on information use (8; 9.8%), and research support (1; 1.2%). Almost all the respondents (47; 97.9%) from OAU did not respond to this question signifying that they have not received any support in their use of EIRs at the OAU library. It is possible that they are unaware of the support facility or none of them has ever sought assistance in the use of EIRs in the OAU library.

Discussion of findings

The result from the findings reveals that the respondents were influenced by a variety of factors on the use of EIRs. The factor that influenced the respondents the most as revealed by the respondents is access to current and up-to-date information. This is a very good factor as doctoral students research work inprecise fields of study and usually within a limited time frame. Corroborating this, Obasuyi and Usifoh (2013) found that electronic resources create access to information in universities worldwide and researchers are exploiting these resources for their academic and research activities.

It was found that the high use of EIR's as shown by (86.5%) in the study is as result of the high awareness of the resource by the respondents. Further, 110 (84.6%) said the fact that EIRs use saves time and it is quick and easy to retrieve information influenced their EIRs use. 106 (81.5%) and 105 (80.8%) said easy to use and ease of access influenced their use of EIRs. the findings did not reveal much difference in the factors that influence EIRs use among the respondents from OAU and UKZN. A major difference is observed in the responses on EIRs search skill where only 20 (15.4%) respondents responded from OAU. The significance of this is that those that did not respond to the question are indirectly saying that they lack sufficient EIRs search skills. Comparing the responses from OAU and UKZN it can be concluded that more respondents from UKZN are possess computer use and EIRs search skills.

Various factors have been identified as hinderto doctoral students' use of EIR's and can be summarized as: lack of off campus access to EIRs; insufficient computers to access OPAC; slow internet connection within campus; problem of password requirements during search process; insufficient skill to construct search terms; some academic journals are not

accessible; low computer use skills; lack of printing option; Inability to access full-text of books or journal articles; slow download speed and difficulty to read on screen.

From the study, it was shown that the individual institutions supports' the use of EIR's. This is revealed from the current stud where majority (60, 72.2%) of UKZN respondents confirmed that UKZN library offers support for EIR use, 8 (9.7%) respondents said there is no support while 14 (17.1%) respondents were unsure of the availability of support. Of the 32 respondents that responded to this question 8(16.7%) said OAU library does not offer support in the use of EIRs while 24 (75%) said they were not sure of the availability of support.

For the use of EIR's to be realized, the understudied institutions explore different types support initiatives. The result of the findings reveals that no response came from OAU; however, UKZN respondents identified several forms of support received in their use of EIRs. These include: library orientation (11, 13.4%); guidance on information use (8, 9.1%); periodic workshops/seminars (23, 28.1%); EIR access/ retrieval (12, 14.6%), research support (1, 1.2%). The indication is that the respondents that responded may have received these supports while those who did not respond obviously have never received any form of support. It can be as result of students' lack of awareness of support services resulting from poor advertisement of library's information services. It is clear that when doctoral students' receive support from librarians on the use of EIR's, they will be exposed to it, be prepared to use it with ease and eliminate the inherent tedium in using EIR's and conduct meaningful research.

Conclusions and recommendations

From the study, it was concluded that there are many EIRs for use by doctoral students for reliable and robust research. It was therefore recommended that universities should acquire EIRs for use by doctoral students as EIRs will improve the quality of their research output. Universities can collaborate and create coherent repository data bases that can be shared and further launch adequate basis for world recognition.

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