Awareness and Perception of Physicists towards Self-archiving in arXiv.org Open Access Repository in Northwestern Nigeria

By

Alkasim Hamisu Abdu (CLN)
University Library, Yusuf Maitama Sule University Kano
alkasimhamisu@yahoo.com
08029459116
&
A. A. Maidabino Ph.D
Department of Library and Information Sciences, Bayero University, Kano
maidabinoforyou@gmail.com
08104817930

Abstract

This study investigated the level of awareness and perception of self-archiving in arXiv.org open access repository among physicists in Northwestern Nigeria. The study adopted quantitative research methodology using survey design. Questionnaire was the only instrument used for data collection. The population of the study composed of all physicists of the Federal Universities in Northwestern Nigeria. Consequently, 127 copies of questionnaire were distributed to the respondents, out of which 108 (85%) were returned and found usable for the study. The data collected were analyzed using descriptive statistics. The study reveals that there was moderate level of self-archiving among physicists in Northwestern Nigeria. They also have a fairly positive perception towards self-archiving, although they still hold some misconceptions about the practice. It was also discovered that, lack of supporting facilities and applicable skills were the major challenges that hindered self-archiving in the Northwestern Nigeria. The research also discovered that, for an optimal development of self-archiving in the region, physicists need to be supported. Lastly, the study recommended that universities need to improve their ICT facilities and equipment, create a unit and prepare training programme that would assist the academic staff who want to self-archive their work.

Introduction

Scholarly communication system plays an important role in societal development, thus, it needs to be communicated or published (Strain, 2007 and Karla, 2008). However, the system is increasingly becoming expensive, sluggish and lack transparency (Anne & Kautz, 2007 and Carter, 2011). Advancement in the area of Information and Communication Technology (ICT) has brought about some antidotes which include

self-archiving. Self-archiving is the depositing of research literature in open access repository to make it freely available on the Internet for any justifiable use.

Today, self-archiving is an integral part of research process among academics in developed countries (Watson, 2007 and Amy, 2012). However, many researchers in the developing countries especially in Sub-Sahara Africa are not aware of the practice (Onyancha, 2011 and Musa, Musa, & Aliyu, 2014). This study is a survey to investigate the awareness and acceptance of self-archiving in *arXiv.org* open access repository among physicists in North-western Nigeria. The case of Physicists self-archiving in arXiv.org is singled out in this study because it is the longest self-archiving case in the world (Pinfield, 2004).

Literature Review

In recent years, the issue of self-archiving has attracted the attention of library and information scientists and other commentators like Watson,(2007), Onyancha, (2011), Amy, (2012), Suber (2012), Ren, (2013), Musa, Musa & Aliyu, (2014), and Eve (2014, p. 181) etc. Self-archiving is the process of making electronic copy of research reports and other scholarly productions available on the Internet via open access repositories. According to Suber (2012: p. 53) self-archiving is "the practice of depositing one's own work in an OA repository". Similarly, Eve (2014: p. 181) defines self-archiving as "the process of an author making his or her work green open access by depositing the work in a repository".

Circulating of preprints started right from the print era (Ren, 2013 and Heuvel, 2015). But, self-archiving emerged as early as 1991, the practice is built on the prevailing advancement in the area of ICT, aiming at altering the traditional scholarly communication system. The first self-archiving practice occurred at arXiv.org open access repository hosted at the *Los Alamus* National Laboratory in the United State. The service is currently managed by the Connell University. The success of arXiv.org in Physics, Computer science and later Statistics prompted the emergence of similar projects in other disciplines. Furthermore, the success of self-archiving at disciplinary level as well as need of research institutions to leveraged on their infrastructure in order to control accessibility to their scholarly outputs led to the emergence of open access Institutional Repositories (Pinfield, 2004). This development is the backbone on which the open access initiatives built upon.

Authors self-archive research report as well as educational and other scholarly outputs (Winget & Ramirez, 2004). Moreover, open access repositories attracts much attention from the first decade of the 21st century. The decade witnessed a growing number of open access repositories as well as an increase in its usage (Needham & Stone, 2012). Realizing the opportunity and potentials of self-archiving from earlier experiments, various governments and research institutions across the Europe and North-American

formulated self-archiving policy (Ayris, Bjornsh, Collier, Ferwerda, Jacobs, Sinikara, Swan, Vries and Weseneeck, 2011; Amy, 2012; and Barton; Waters, 2004 and Cullen, 2009). Self-archiving was later recognised by commercial publishers, (Ren, 2013). In spite of the success recorded by various self-archiving projects, the African continent is lagging far behind.

Self-archiving in open access repositories maintains the trust in the scholarly communication during the digital era. It assists in bibliographic control within the academic environment. It allows free access to research literature. It is one of the two main strategies of achieving open access objectives. Beckett and Inger (2007) opine that self-archiving provides end users with alternative free channel to access the research literature which otherwise could not be possible. The practice also speeds up the scholarly communication process, peer review and editorial work come later (Pinfield, 2004). This is of immense importance with regards to textbooks and other monographic productions that take longer period in the press.

Swan, Needham, Steve, Andrienne, Charles, Ann, Rachel, Fytton and Sheridan (2005) submitted that self-archiving put together institutional research outputs that could be useful for assessment and evaluation. Amy (2012) observed that, self-archiving in open access institutional repositories provides another platform for data mining that could synergistically be used in an institution. Kim (2011) noted that self-archiving satisfy authors' sense of altruism. While, Mohammed (2013) opines that self-archiving showcases the research value of institutions as well as individual researchers. Pinfield (2004) presumed that the best way to achieve major improvements in scholarly communication is to make self-archiving mandatory.

In contrast, self-archiving is facing numerous challenges such as repository infrastructure development (Xia, 2008; Pinfield, 2004 and Covey, 2009). But, the most important obstacles are the cultural shift as well as policy frameworks. Dearth of repositories in Africa also hampers the development of self-archive culture. While in Nigeria, epileptic electricity supply hinders the take-off of many digital initiatives. It is lamented that, many researchers are reluctant to adopt self-archiving practice (Musa, Musa, & Aliyu, 2014; Aliyu & Mohammed, 2013 and Mohammed, 2013).

Research objectives

The specific objectives of this study include the followings;

1) To determine the awareness of self-archiving in arXiv.org among the physicists of Federal Universities in the Northwestern Nigeria,
2) To determine the readiness of self-archiving in arXiv.org among the subjects under study,
3) To ascertain the level of perception of self-archiving in arXiv.org among the subjects under study, and

4) To find out the obstacles as well as solutions to self-archiving in arXiv.org among the subjects under study.

Method

This research adopted the quantitative research method using a survey research designing. This method according to Leedy & Ormrod (2010), allows researchers to collect quantitative data and treat it statistically in order to produce scientifically acceptable result. The Population of the study included all the physicists in the Federal Universities in Northwestern Nigeria. Impliedly, all the lecturers of physics in these universities served as the respondents for the study. According to the National University Commission (NUC) there were seven Federal Universities in the Northwestern Nigeria. The total number of Physicists in the universities stood at one hundred and twenty seven (127) staff. Consequently, the present study used the entire population because it is found to be practically possible to cover the entire population in line with the theoretical advice of Leedy and Ormrod (2009). A self-developed structured questionnaire was used as the only instrument for data collection. The instrument was designed in line with the objectives of the study. The researchers went through the Head of Department of the participating departments in order to reach the physicists. At the end, response rate of 85% was achieved.

Result

The result of the present investigation is presented hereunder;

Participating Institutions and Demographic Characteristics of the Respondents

Table 1: Institutions Demographic Characteristics of the Respondents

Aspect		Response	
		No.	%
University	Ahmadu Bello University (ABU)	22	20.4
	Bayero University Kano (BUK)	31	28.7
	Federal University Birnin-Kebbi (FUB)	16	14.8
	Federal University Dutse (FUD)	13	12.0
	Federal University Dutsin-Ma (FUDMA)	06	5.6
	Federal University Gusau (FUG)	08	7.4
	Usmanu Danfodiyo University Sokoto (UDUS)	12	11.1
	Total	108	100
Gender	Male	92	85.2
	Female	16	14.8

Rank	Professor	8	7.4
	Associate Professor	7	6.5
	Senior Lecturer	7	6.5
	Lecturer I	11	10.2
	Lecturer II	25	23.2
	Assistant Lecturer	37	34.3
	Graduate Assistant	13	12.0
	Total	108	100
Qualification	PhD	19	17.6
	Masters	64	59.3
	Bachelor degree	25	23.2
	Others	00	0.00
	Total	108	100

Source: The research questionnaire

Table 1 provides the list of the universities for the distribution of the questionnaire with BUK and ABU Zaria, having the highest number 31(28.7%) and 22(20.4%) of the respondents respectively. This means that the two universities alone constitute almost half of the respondents in this study. The demographics of the respondents based on gender is also provided with Male respondents 92(85.2%) dominating the list. The male dominance in this study portrays the general feature of the Nigerian society where most aspects of life are dominated by the male as posited by Makama (2013).

With regards to the rank/position of the respondents, the result of the study indicates a sharp difference of ranks of the respondents with bottom of the ladder heavier than the top. Graduate Assistants, Assistant Lecturers, Lecturer II and Lecturer and Senior Lecturer constitute more than 80% of the respondents. While Professorial cadre carries 15 (13.9%) of the respondents.

Awareness of Self-archiving in arXiv.org among Physicists

Result of the measurement awareness of self-archiving among physicists of Federal Universities of Northwestern Nigeria is presented in Table 2

Table 2 Awareness of Self-archiving in arXiv.org among Physicists

		YES		NO	
S/NO	**Statement**	**F**	**%**	**F**	**%**
1	I am aware of arXiv.org website	53	49.0	55	51.0
2	I am aware that Physicis ts deposit their work in arXiv.org *Open Access Repository*	50	46.3	58	53.7
4	I am aware that, it is acceptable for Physicists to deposit the preprints of their work in arXiv.org	52	48.2	56	51.8

Source: The researcher, generated with SPSS Statistics Version20

Tables 2, presents the result that measurement of awareness of self-archiving in arXiv.org among the respondents. The table shows that about half 53(49.0%) of the respondents were aware of the arXiv.org website, whereas the other half 55(51.0%) of the respondents were not aware of the website. Also, about half 50(46.3%) of the respondents were aware that physicists deposit their work in the arXiv.org whereas the other half 58(53.7%) were unaware. Furthermore, about half 52 (48.2%) indicated that they were aware that it is acceptable for Physicists to deposit the preprint of their work in arXiv.org, and the other half 56(51.8%) were not aware.

Readiness of Self-archiving in arXiv.org among Physicists

The result for the measurement of the readiness of self-archiving among Physicists is presented below;

Table 3 Readiness of Self-archiving in arXiv.org among Physicists

S/NO	Statement	SA/A		U		D/SD		Mean	
		F	%	F	%	F	%	F	%
1	I can self -archive in arXiv.org to comply with the directive of my institution	32	29.7	34	31.5	42	38.9	30.6	33.4
2	I can self -archive in arXiv.org if a supporting staff is assigned to carry out the task on my behalf	42	38.9	36	33.3	30	27.8	36.0	33.3
3	I can self -archive in arXiv.org if it would carry marks on my performance evaluation	63	58.3	22	20.4	23	21.3	36.0	33.3

Source: The Researcher, generated with SPSS Statistics Version 20

Table 3 Presents the result of the investigation about the readiness of physicists towards self-archiving in **arXiv.org open access repository**. It can be seen that, 32(29.7%) and less than mean percentage of respondents 30.6(33.4%) agreed to self-archive in arXiv.org in order to comply with the directive of their institution. While, 42(38.9%) which is slightly above mean response 36(33.3) agreed to self-archive if a supporting staff is assigned to carry out the task. Furthermore, 63(58.3%) of the responses which is above the mean response 36.0(33.3) agreed to self-archive in arXiv.org if it carries marks on their performance evaluation.

Perception of Self-archiving in arXiv.org among Physicists

Result of the investigation about the perception of self-archiving among the Physicists under study is presented here;

Table 4 Perception of Self-archiving in arXiv.org among Physicists

S/NO	Statement	SA/A		U		D/SD		Mean	
		F	%	F	%	F	%	F	%
1	I believe self-archiving in arXiv.org accelerates research communication process	65	60.2	29	26.9	14	12.9	29.3	33.3
2	Self-archiving in arXiv.org enables me to develop my academic career	55	50.9	32	29.7	21	19.4	36.0	33.3
3	My work would be plagiarized If I make it freely available in arXiv.org	45	41.7	38	35.2	25	23.2	36.0	33.4

Source: The Researcher, generated with SPSS Statistics Version20

Table 4 Presents the result of the investigation about the perception of the physicists towards self-archiving. More than half 65(60.2%) of the respondents which is higher than the mean 29.3(33.3) agreed that, self-archiving in arXiv.org accelerate their research and communication process. Similarly, half 55(50.9%) of the respondents also above the mean response 36.0(33.4) agreed that self-archiving in arXiv.org develops their academic career. However, less than half 45(41.7%) though slightly above the mean response 36.0(33.4%) agreed that their work may be plagiarized if self-archived in arXiv.org.

Challenges of Self-archiving in arXiv.org among Physicists

Table 5 presents the result of the investigation about the challenges of self-archiving in arXiv.org among the Physicists under study.

Table 5 Challenges of Self-archiving in arXiv.org among Physicists

S/N	Statement	YES		NO	
		F	%	F	%
1	I don't self -archive my work in arXiv.org because I am not aware of the practice	40	37.0	68	63.0
2	Self-archiving on arXiv.org is an extra burden over my primary assignment	20	18.5	88	81.5
3	I don't have the applicable skill to self-archive in arXiv.org	41	37.9	67	62.1
4	Lack of supporting facilities and equipment (e.g. computers, Internet connection, electricity) hinder me from self -archiving in arXiv.org	45	41.7	63	58.3
5	Lack of direct incentive s hinder me from self -archiving my work in arXiv.org	27	25.0	81	75.0
6	Fear of copyright embarrassment hinders me from depositing my work in arXiv.org	26	24.0	81	76.0

Source: The Researcher, generated with SPSS Statistics Version 20

As it can be seen from Table 5 that, less than half 40(37.0) of the respondents agreed that lack of awareness was a challenge towards self-archiving in arXiv.org. Secondly, the table shows it only 20(18.5%) of the respondents agreed that self-archiving is an extra burden over their primary assignment. Furthermore, the result shows that less than half 41(37.9%) of the respondents agreed that lack of applicable skill is a challenge towards self-archiving. The result also shows that,45(41.7%) of the respondents agreed that lack of supporting facilities and equipment is a challenge to self-archiving in axXiv.org. The result also shows that Only a quarter 27(25.0%) of the respondents agreed that, lack of direct incentive is a challenge towards self-archive their work in arXiv.org. Similarly, about a quarter 26(24.0%)of the respondents indicated that fear of copyright embarrassment hindered self-archiving in arXiv.org.

Possible Measures to Develop Self-archiving in arXiv.org among Physicists

Table 6, presents the result of the investigation for the possible measures to develop self-archiving in arXiv.org among Physicists Northwestern Nigeria.

Table 6: Possible Measures to Develop Self-archiving in arXiv.org among Physicists

S/N	Statement	SA/A		U		D/SD	
		F	%	F	%	F	%
1	Universities should create a unit to assist Physicists who want to self-archive in arXiv.org	79	73.2	13	12.0	16	14.8
2	Universities should mandate Physicists to self - archive their work in arXiv.org	56	51.9	23	21.3	29	26.9
3	Universities should provide incentives for Physicists to self-archive their work in arXiv.org	57	52.8	33	30.7	18	16.7
4	Universities should improve supporting facilities and equipment (e.g. computers, Internet connection, electricity) for Physicists to self - archive in arXiv.org	67	62.0	15	13.9	26	24.1
5	Universities should deploy staff to support Physicists who want to self -archive their work in arXiv.org	54	50.0	33	30.6	21	19.4
6	Universities should have training programmes to support Physicists who want to self -archive their work in arXiv.org	64	59.2	15	13.9	29	26.9
7	Libraries in universities should maintain awareness campaign for self -archiving in arXiv.org	75	69.4	20	18.5	13	12.0
8	Research funders should make self -archiving in arXiv.org a condition for their grants	45	41.7	23	21.3	40	37.0

Source: The researcher, generated with SPSS Statistics Version 20

Table 6 shows that majority79(73.2%) of the respondents agreed that Universities should create a unit to assist Physicists who want to self-archive in arXiv.org. fifty-six (51.9%) agreed that Universities should mandate Physicists to self-archive their work in arXiv.org. Similarly, 57(52.8%) of the respondents agreed Universities should provide incentives for Physicists to self-archive their work in arXiv.org. Furthermore, 67(62.0%) of the respondents agreed that Universities should improve supporting facilities and equipment for Physicists to self-archive in arXiv.org.

On the same vein, 54(50.0%) of the respondents agreed that Universities should deploy staff to support Physicists who want to self-archive their work in arXiv.org and another 64(59.2%) of the respondents agreed that Universities should have training programmes to support Physicists who want to self-archive their work in arXiv.org. whereas, 75(69.4%) of the respondents agreed that university libraries should maintain awareness campaign for self-archiving in arXiv.org. Lastly, 45(41.7%) of the respondents agreed that Research funders should make self-archiving in arXiv.org a condition for their grants.

Discussions

In general the finding of this study is almost similar to that of Onyancha (2011).This study reveals that about half of the respondents of the study were aware of the arXix.org open access repository. This finding implies that the spread of the self-archiving awareness among physicists of Northwestern Nigeria is moderate. The finding also indicates that physicists were also aware about depositing their research work in arXiv.org open access repository. They were also aware that it is acceptable to deposit their work in the arXiv.org open access repository. On the other hand, the study discovered that, physicists could be motivated to self-archiving if it can be awarded with marks in their annual assessment. In addition, physicists spend much of their time on the primary assigments of research and teaching so, they need supporting personell to carry out the task of self-archiving on their behalf. However, the idea of introducing self-archiving as top-bottom policy in whch university management make it compulsory for physicits to self-archive their work is not popular among the physicisits. So, universities need to be tactical when introducing self-archioivng project. Physicits need to be consulted and the process should be as liberal as possible allowing the physicits to enjoy their academic freedom. Self-archiving project is bound to fail if it fails to take cognizance of the academic freedom of the physicists.

The study further reveals that, physicists under study have a positive perception towards self-archiving in arXiv.org as more than half of them believed self-archiving allows them to develop their career and it has the tendency to accelarate research

communication. This finding corroborates that of Schopfel, Ferrant, Andre & Fabre (2016). The positive perception towards self-archiving is a good omen towards the development of self-archiving culture in Nigeria, which is imperative in opening access to the research literature of the country. Nevertheless, the study discovered some misconceptions about self-archiving among the physicists as about half of them assumed that self-archiving might expose their work to plagiarism. This is mere misconception because self-archiving provides anti-plagiarism software with addition source for data mining and indexing. This makes a work more difficult to be plagiarised. So, these misconceptions are baseless and in some cases stem from resistance to change. This corroborates the finding of Yang & Li (2015); Furnival (2010); Dulle & Minishi-Majanja (2009) and Cullen (2009). However, universities organise training programme and awareness campaign to alleviate the problem of misconceptions among of physicits with regards to self-archiving in open access repositories. Furthermore, this study also discovered that, more than half of the physicists under study might embrace self-archiving culture if it carries marks in their annual evaluation. The result of this study indicates that, although physicists have a tight schedule they may not welcome interference in their work of teaching and learning. However, incentive may be good stimulant of self-archiving among the subjects under study, this supports the findings of Carter (2011) and Watson (2007). But, institution need to be careful to introduce self-archiving policy, because, if the policy fails to respect the academic freedom of the physicits they may in the long run, develop aversion towards the policy. Academics have regards to academic freedom which they are not ready to surrender. Therefore, introducing self-archiving mandate in Federal Universities of Northwest may meet an objection. This is in line with the finding of Grundmann (2009) and Yang & Li (2015).
Some of the challenges that hinder self-archiving among the physicists of Northwestern Nigeria include, insufficient equipment and facilities as well as lack of applicable skills. Lack of awareness of self-archiving, fear of copyright embarrassment as well as fear of extra burden are also appeared to be among the obstacles towards self-archiving development. This is in line with the findings of Musa, Musa, & Aliyu (2014); Aliyu & Mohammed (2013) Mohammed (2013), and Emojorho, Ivwighregweta & Onoriode (2012).

It is interesting to note that, the physicits under study expressed the need for support in order to embrace self-archiving culture. This as evident to their enthusiasms towards self-archiving in arXiv.org. So, universities need to create a unit that would assist their staff to self-archive their work in any available repository, especially, if the university has not yet hosted open access repository. Their staff could be assitted to self-archive their work in other subject repositories such as arXiv.org open access repository. The finding attests to the fact that academics are busy with their primary assignment of

teaching and research, so they assume that self-archiving task may be an extra burden over their primary assignments of research and teaching. This assertion confirms the finding of Carr & Harnad (2005) and Swan & Brown (2005). There is a need for university libraries to create awareness campaign that would facilitate self-archiving adaptation among them. This is in line with the assertion of Allen (1995); Bruns, Brantley, & Duffin (2015) and Valentino (2016). The need for training is also imperative in order to develop self-archiving culture as suggested by Ayris *et al,* (2011) and Roy, Biswas & Mukhopadhyay (2016).

In general, the results of this study indicated that physicists of Northwest Zone of Nigeria are willing and interested to accept self-archiving culture. But, it is evident that, there are no deliberate attempts to support self-archiving culture among the physicists. The support may be in form of training, incentive or staff deployment. Although, the physicists under study are sceptical to accept self-archiving mandate in their institutions, as already observed by Roy, Biswas, & Mukhopadhyay (2016) and Pinfield (2004). However, they are more sceptical to agree with mandate in order to win research funding grant. Therefore, institutions need to be cautious in introducing self-archiving mandate as suggested by Xia (2008) andBeckett & Inger (2007).

Conclusion and Recommendations

The spread of self-archiving awareness among physicists of Northwestern Nigeria is fair. However, this is not translated into self-archiving practice, because they still hold some misconceptions about the practice. In addition, there is no deliberate attempt from the part of the university managements to support self-archiving among the physicists under study. Consequently, the researchers recommend the followings;

1. In order to support the enthusiasm of physicists towards self-archiving practice, Nigerian Universities need to create units and deploy staff to assist physicits who want to self-archive their work in any available repository anywhere in the world.
2. Universities need to develop and improve their ICT facilities and equipment to allow the physicists to self-archive their work in open access repository.
3. Nigerian Universities need to develop training programmes in order to empower physicists who want to self-archive their work in open access repository.
4. University Libraries in the Northwest Zone of Nigeria should develop programmes and awareness campaign to assist physicists who want self-archive their work in open access repository.
5. Nigerian Universities as well as research funders in Nigeria should be considerate in introducing mandatory self-archiving, because the physicists might not accept it in good faith.
6. There is need for the Federal Government to coordinate and support self-archiving projects in Nigerian universities.

References

Aliyu, A., & Mohammed, Z. (2013). Deployment of Ahmadu Bello University Zaria, Nigeria Institutional Digital Repository. *The Information Manager*, *13*(1&2), 30–34.

Allen, B. (1995). Academic Information Services: A Library Management Perspective. *Library Trends*, *43*(4), 645–62.

Amy, B. (2012). Beyond Mandate and Repository, Toward Sustainable Faculty Seslf-Archiving. *Learned Publishing*, *25*(1), 29–34. https://doi.org/10.1087/20120105

Anne, K., & Kautz, K. (2007). Scholarly Publishing and Open Access: Searching for Understanding of an Emerging Is Phenomenon. Presented at the 15th European Conference on Information Systems, St. Gallen, Switzerland: 15th European Conference on Information Systems. Retrieved from http://eprints.rclis.org/11652

Ayris, P., Björnshauge, L., Collier, M., Ferwerda, E., Jacobs, N., Sinikara, K., … Wesenbeeck, A. (2011). The Leru Roadmap Towards Open Access.

Barton, M., & Waters, M. (Eds.). (2004). Learning About Digital Institutional Repositories Creating an Institutional Repository. MIT Libraries.

Beckett, C., & Inger, S. (2007). *Self-Archiving and Journal Subscriptions: Co-Existence or Competition?: An International Survey of Librarians' Preferences* (International Survey No. 2). London: Publishing Research Consortium.

Bruns, T., Brantley, S., & Duffin, K. (2015). *Scholarly Communication Coaching: Liaison Librarians' Shifting Roles*. Faculty Research & Creative Activity, Eastern Illinois University.

Carr, L., & Harnad, S. (2005). Keystroke Economy: A Study of the Time and Effort Involved in Self-Archiving. University of Southampton UK. Retrieved from http://eprints.ac.uk/id/eprint/260688

Carter, D. (2011). *Faculty Self-Archiving Attitudes and Behavior at Research Universities a Literature Review*. Doctoral Seminer Paper, University of Michigan.

Covey, D. T. (2009). Self-Archiving Journal Articles: A Case Study of Faculty Practice and Missed Opportunity. *Libraries and the Academy*, *9*(2), 223–251.

Cullen, R. (2009). Institutional Repositories and the Role of Academic Libraries in Scholarly Communication. In *Preparing Informatfion Professionals for International Collaboration*. Tsakuba-Japan.

Dulle, F., & Minishi-Majanja, M. (2009). Researchers' Perspectives on Open Access Scholarly Communication in Tanzanian Public Universities. *South African Journal of Information Management*, *11*(4). Retrieved from http://www.sajim.co.za/index.php/SAJIM/artcle/view/413

Emojorho, D., Ivwighregweta, O., & Onoriode, K. (2012). Awareness of Open Access Scholarly Publication Among Lecturers in University of Benin, Benin City in

Edo State, Nigeria. *Journal of Research in Education and Society*, *3*(1).

Eve, M. (2014). *Open Access and the Humanities: Contexts, Controversies and the Future*. Cambridge: Cambridge University Press.

Furnival, A. C. (2010). Open Access to Scholarly Communications: Advantages, Policy and Advocacy. In *International Conference on Libraries, Information and Society* (pp. 15–30). Kuala Lumpur.

Grundmann, A. (2009). Increasing Self-Archiving of Faculty Publications in Institutional Repositories. San Jose State University School of Library and Information Science.

Herna´ndez-Borges, A., Cabrera-Rodrı´guez, R., Montesdeoca-Melia´n, A., Martı´nez-Pineda, B., Arcaya, M., & Jime´nez-Sosa, A. (2006). Awareness and Attitude of Spanish Medical Authors to Open Access Publishing and the "'author Pays'" Model. *Journal of Medical Library Association*, *94*(4), 449–451.

Heuvel, J. van den. (2015, October 23). The Arxiv Cannot Replace Traditional Publishing Without Addressing the Standards of Research Assessment. Retrieved from http://blogs.lse.ac.uk/impactofsocialsciences/2015/10/23/open-repositories-arxiv-scientific-publishing/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+feedburner%2FLSEImpactBlog+%28LSE+Impact+Blog%29

Karla, H. (2008). Talk About Talking About New Models of Scholarly Communication. *Journal of Electronic Publishing*. https://doi.org/http://dx.doi.org/10.3998/3336451.0011.108

im, J. (2011). Motivations of Faculty Self-Archiving in Institutional Repositories. *Journal of Academic Librarianship*, *37*(3), 246–254.

Leedy, P. D., & Ormrod, J. E. (2010). *Practical Research: Planning and Design* (9th ed.). New Jersey: PEARSON.

Makama, G. A. (2013). Patriachy and Gender Inequality in Nigeria: The Way Forward. *European Scientific Journal*, *9*(17), 115–144.

Mohammed, A. (2013). Institutional Digital Repositories: An Option for Scholarly Communication in Nigeria. *International Journal of Education and Research*, *1*(6).

Musa, A., Musa, S., & Aliyu, A. (2014). Institutional Digital Repositories in Nigerian: Issues and Challenges. *IOSR Journal Of Humanities And Social Science*, *19*(1), 16–21.

Needham, P., & Stone, G. (2012). IRUS-UK: Making Scholarly Statistics Count in UK Repositories. *Insights*, *25*(3), 262–266. https://doi.org/doi: 10.1629/2048-7754.25.3.262

Onyancha, O. B. (2011). Self-archiving by LIS schools in South Africa: practices, challenges and opportunities. Journal of the Eastern and Southern Africa Regional Branch of the International Council on Archives, 30, 57–82.

Pinfield, S. (2004). Self-Archiving Publications. In G. E. Gorman & F. Rowland, (Eds.) (pp. 118–145). Facet.

Pinfield, S. (2009). Journals and Repositories: An Evolving Relationship? *Learned Publishing*, *22*(3), 165–75.

Ren, X. (2013). *Open and Networked Initiatives and the Digital Transformation of Academic Publishing in China* (PhD Dissertation). Queensland University of Technology, Australia.

Roy, B., Biswas, S., & Mukhopadhyay, P. (2016). The COAPI Cats: The Current State of Open Access Repository Movement and Policy Documentations. *International Journal of Knowledge Content Development & Technology*, *6*(1), 69–84. https://doi.org/http://dx.doi.org/10.5865/IJKCT.2016.6.1.069

Salkind, N. (2009). *Exploring Research* (7th ed.). London: Pearson Prentice Hall.

Schopfel, J., Ferrant, C., Andre, F., & Fabre, R. (2016). Ready for the Future? A Survey on Open Access with Scientists from the French National Research Centre (CNRS). *Interlending and Document Supply*, *44*(4), 141–149.

Strain, B. (2007). Publishing in Science. In *The Academic's Handbook* (3rd ed.). Durham: Duke University Press.

Suber, P. (2012). *Open Access*. Massachusetts: The MIT Press.

Swan, A., & Brown, S. (2005). Open Access Self-Archiving: An Author Study. Key Perspectives Limited.

Swan, A., Needham, P., Steve, P., Andrienne, M., Charles, O., Ann, O., … Sheridan, B. (2005). Developing a Model for E-Prints and Open Access Journal Content in Uk Further and Higher Education. *Learned Publishing*, *18*(1), 25–40.

Valentino, D. (2016). Awareness and Perception of Copyright Among Teaching Faculty at Canadian Universities. *The Canadian Journal of Library and Information Practice and Research, 10*(2). https://doi.org/http://dx.doi.org/10.21083/partnership.v10i2.3556

Watson, S. (2007). Authors' Attitudes to, and Awareness and Use of, a University Institutional Repository. *Serials*, *20*(3), 225–230.

Winget, M., & Ramirez, M. (2004). *Developing a Meaningful Digital Self-Archiving Model: Archival Theory Vs. Natural Behavior in the Minds of Carolina Research Project* (Research Project). North Carolina: University of North Carolina at Chapel Hill.

Xia, J. (2008). A Comparison of Subject and Institutional Repositories in Self-Archiving Practices. *Journal of Academic Librarianship, 34*(6), 489–495.

Yang, Z., & Li, Y. (2015). University Faculty Awareness and Attitudes Towards Open Access Publishing and the Institutional Repository: A Case Study. *Journal of Librarianship and Scholarly Communication*, *3*(1). Retrieved from eP1210. http://dx.doi.org/10.7710/2162-3309.1210