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## **Institutional Repositories: Awareness and Self-Archiving Practices of Academic Researchers in Selected Public Universities in Kenya**

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## **Abstract**

Kenya has experienced rapid growth of Institutional Repositories in the past few years. The number of Institutional Repositories in Kenya as listed in the Directory of Open Access Institutional Repositories has risen from two in 2009 to twelve in 2014 and currently 22. However the status of self-archiving practices by Kenyan academic researchers has not been empirically documented. This paper therefore seeks to investigate the development of Institutional Repositories in selected public universities in Kenya. It will also look at the awareness and self-archiving practices of Kenyan academic researchers. This quantitative study adopted the survey research design and a questionnaire was used to collect data from academic researchers in selected public universities. The findings of this study indicate that all the five universities involved have Institutional Repositories. Out of these five universities three adopted mandatory open access policies and the attitude of academic researchers regarding the concept of Open Access is positive. However, awareness on the available IRs and Open Access policies is low and as a result self-archiving is not widely practiced. Factors that contribute to low participation in IRs and self-archiving are concerns about copyright issues, lack of enough time and lack of adequate technical skills. The findings further indicate that mandatory Open Access policies are generally accepted by majority of Kenyan academic researchers as majority of those who practice self-archiving said they do so because it's mandatory. Open Access advocates in Kenyan universities need to devise innovative ways of raising awareness on self-archiving and Open Access policies.

**Keywords:** Institutional Repositories, self-archiving practices, public Universities, Kenya

## **1.1 Introduction**

Self-archiving is defined as the act of depositing a free copy of an electronic document online by the author in order to facilitate free availability of the article online (Harnad 2001). Self-archiving allows authors to provide Open Access (OA) to their publications which would otherwise only be available through subscription or other payment modes for access. The benefits of practicing self-archiving include increasing visibility, readership and citation of one's publications and increasing researchers' recognition in the field (Cerejo, 2013). Whereas self-archiving primarily refers to the archiving of peer reviewed journal articles, authors may self-archive other documents such as, conference papers, theses and dissertations and book chapters (Suber 2012; Ochoa and Duval, 2009; Lynch 2003, Genoni 2004; SPARC 2002).

Self-archiving has the potential to improve access to scientific and technological data, information and knowledge being generated in Africa and other developing countries (Contreras 2012; Chisenga 2012). This is especially the case when the practice involves archiving publications such as unpublished thesis and dissertations, work published in less known or print local journals and other material which may otherwise not appear in mainstream publications. This will in turn address the problem of shortage of research based literature from Africa and other developing countries. In addition self-archiving will make researchers from these countries not just consumers of scientific information but also contributors of knowledge that can be used by their counterparts in Africa and around the world.

Publications may be self-archived in the author's own websites, authors' institutional repository (IR) or subject repositories. Universities around the world have established IRs which gives an opportunity for authors affiliated to these institutions to exercise self-archiving. In addition, the IRs enable institutions to collect, preserve and provide free access to their scholarly output. At the time of conducting this study, the Directory of OA Institutional Repositories (OpenDOAR) had a listing of 3 033 repositories, most of them based in Europe (1 124 or 43.8%) while Africa had 133 or 4.4% of the repositories worldwide, with majority of them being in South Africa (31 or 23%), followed by Kenya (22 or 15%). Statistics from OpenDOAR show the repository count in African countries though still representing a small margin of the total global repository count, is steadily increasing as more institutions are establishing repositories so as to facilitate self-archiving by their staff members.

Despite the benefits of self-archiving, the awareness and self-archiving practices of academic researchers in African countries and particularly Kenya is not known. The purpose of this study is to investigate the development of Institutional Repositories in selected universities in Kenya and study the awareness and self-archiving practices of academic researchers.

## **1.2 Statement of the problem**

Kenya has experienced rapid growth of IRs in the past few years. The number of IRs in Kenya listed in OpenDOAR has risen from two in 2009 to twelve in 2014, and by the year 2016 Kenya had a total of twenty two IRs listed in OpenDOAR. The statistics from OpenDOAR therefore placed Kenya as the second-largest contributor of IRs in Africa, after South Africa, based on the repository counts. However the status of self-archiving by Kenyan academic researchers is not yet empirically documented. Moreover, the awareness and self-archiving practices, views and opinions of academic researchers who are the most important stakeholder group as far as self-archiving is concerned is not known.

Studies which have been done in Kenya so far are mainly on the subject of OA and scholarly communication in general, none of these studies have specifically addressed the status of self-archiving by Kenyan academic researchers (Muinde and Gorman, 2009; Munge, Kamilie and Nasieku, 2012; Otando, 2011, Mutwiri, 2014, Chilimo,2015). Studies from other African countries such as Onyancha (2011) pointed out that the status of OA repositories and self-archiving services and practices in Africa is not known. In India Goutam and Dibyendu, 2014 reported that low rate of participation by faculty members in IR phenomenon is a major issue for the success of IRs, while a study by Abrizah (2009) in Malaysia reveals that the majority of academicians/academic researchers had no or little knowledge of, or experience with, institutional repositories and are unfamiliar with self-archiving opportunities.

This study is set to investigate the development of Institutional Repositories in selected universities in Kenya as well and study the awareness and self-archiving practices of academic researchers. The study aims at establishing the extent to which academic researchers in Kenya are aware of the available IRs and OA policies in their institutions as well as their practices in self-archiving.

## **1.3 Significance of the study**

Empirical evidence, use, awareness and perceptions of academic researchers towards IRs in Kenya and in Africa as a whole is scanty. There is very little information available on the development and use IRs in Africa. This study is an attempt to fill this gap. The findings of this

study will give the OA advocates and librarians in developing countries a greater understanding of the attitudes, behaviors and concerns of the authors from whom they wish to obtain content, and to identify issues that might either encourage or discourage authors from putting their work in repositories.

This information, as Houghton and Swan (2013) pointed out, is of significant importance considering that self-archiving in institutional repositories is the most cost-effective and affordable means of enforcing movement towards OA especially for institutions and authors from developing countries. In addition, the information on awareness, attitudes and general perceptions of academic researchers regarding IRs and self-archiving is useful in projecting future trends not only in Kenya but also in other developing countries with similar socio-economic conditions.

#### **1.4 Objectives of the study**

The main objective and the specific objectives of this study are as shown below:

##### ***1.4.1 Main objective***

The main objective of this study was to investigate the development of IRs in selected universities in Kenya and the awareness and self-archiving practices of academic researchers

##### ***1.4.2 Specific objectives***

1. To determine the extent of IRs adoption in selected Kenyan universities.
2. To investigate IR awareness by academic researchers in the selected universities
3. To establish self-archiving practices of academic researchers in universities involved in the study.
4. To determine OA policies, awareness and perceptions regarding mandatory self-archiving.

#### **2.1 Methodology**

To attain the objectives of this study, a survey research design was employed. Survey is a research method by which information is typically gathered by asking a subset of people questions on a specific topic and generalizing the results to a larger population (Babbie 2011). Survey research design was adopted for this study because it can be used to collect information on how people think and act.

The study population for this research involved academic researchers from selected public universities in Kenya which at the time of data collection for this study had some form of OA activities going on. This included institutions which have established IRs, adopted OA policy, participated in OA week or have organized OA workshop(s). Purposive sampling was employed to select public universities which had some OA initiatives going on at the time of conducting this study i.e. June 2014. The information on OA activities going on in these universities was obtained from various sources and it involved checking if they have IRs listed in the Directory of Open Access Institutional Repositories (OpenDOAR) or an OA policy listed in the Mandatory Archiving Policies (ROARMAP) website. Websites of these universities were also checked for evidence of OA activities going on..

Based on the criteria outlined above six universities were selected for this study. These were University of Nairobi (UoN), Kenyatta University (KU), Egerton University (EU), Dedan Kimathi University of Science and Technology (DeKUT), Jomo Kenyatta University of Agriculture and Technology (JKUAT) and Pwani University (PU). One university, JKUAT, did

not respond to the invitation to participate in this research and therefore the researcher was not able to collect data from the said institution. Out of the five universities that were responsive to the study, three (UoN, KU and Egerton) are among the oldest and established universities with large number of students and academic researchers while the other two, DeKUT and PU are fairly new universities that were established in 2007 as constituent colleges and subsequently were awarded charters in 2012 and 2013 respectively.

The representative sample of academic researchers who are employees of the selected universities was obtained by stratification. This involved dividing the population into mutually exclusive sets or strata to ensure that all the /cadres of academic researchers are adequately represented to ensure no bias prevails. In this study the different ranking of the university teaching staff e.g. lecturers, senior lecturers, associate professors and full professors formed the strata.

A questionnaire was used to collect data from the academic researchers on their awareness, perception and self-archiving practices. The questionnaire was self-administered and was delivered to the respondents in hard copy. It was used to collect mainly quantitative data, however, some qualitative data was also collected from the open ended questions

In addition, the researcher reviewed websites of the selected universities to determine the extent of OA adoption by these universities and presence of an established IR, or policies which support Open Access.

### **3.1 Results and Discussions**

This section provides and discusses the results based on the objectives of the study as follows: Characteristics of the respondents, IRs adoption in universities involved in the study, IR awareness by academic researchers, self-archiving practices of academic researchers in selected universities, OA policies awareness of academic researchers in the universities, perception of academic researchers regarding mandatory self-archiving.

### **3.2 Characteristics of the Respondents**

Identifying the characteristics of the respondents was not part of the specific objectives of the study. However, it is necessary to present this data for the reader to understand the background of the respondents. This data provides a snapshot of the background of the respondents and their suitability for the study. In addition, it provides information on how well the respondents represents the characteristics of the academic researchers in Kenyan universities hence provided appropriate background information for the presentation of the findings of the study. The characteristics of the respondents also describe the individual traits of the respondents which in one way or another may enhance or hinder their perception and/or adoption of OA. Several studies reported that individual characteristics of academic scholars such as academic rank, age, and technological skills may determine their OA usage (Kim, 2011; Dulle and Minishi-Majanja, 2011).

For purposes of this study data on the characteristics of the respondents including their institutional affiliation, age, gender, academic rank and area of specialization is presented in Table 1. A total of 317 respondents participated in the study where 103 (32.5%) were from KU, 64 (20.2%) were from UoN, 61 (19.2%) were from DeKUT, 56 (17.7%) were from PU and 33 (10.4) were from EU.

Out of all the respondents 207 (65.5 %) were males and females 110 (34.5%). Majority of the respondents were between the age bracket of 30-39 (30.6%) and 40-49 (30.3%). These findings

show that majority of the respondents were early and mid-career researchers. The relationship between the age of the respondents and their institutional affiliation was statistically significant at 1% indicating that younger universities PU and DeKUT tend to have younger staff members as compared to institutions which have been around for many years such as UoN, KU, and EU.

Studies indicate that young academics and early career researchers especially those from developing countries face many challenges in embracing the concept of OA including lack of funds to enable them pay for the Articles Process Fees (APF) charged by some OA publishers, lack of awareness about scholarly publishing process, challenges involved in choosing the right journal to publish their work, concerns about visibility and impact of their work and their prospects for obtaining employment, grants and tenure (Donati 2015; Moore 2015; Pontika 2015; Clobridge 2014, McKiernan 2014).

**Table 1: Demographic Characteristics of the Respondents (N=317)**

		<b>Frequencies</b>	<b>Percentages</b>
University	PU	56	17.7
	DeKUT	61	19.2
	Egerton University	33	10.4
	UoN	64	20.2
	KU	103	32.5
Gender	Male	207	65.5
	Female	110	35.5
Age	>30	43	13.5
	30 -39	97	30.6
	40-49	96	30.3
	50-60	59	18.6
	60 or Older	22	6.9
Academic Rank	Professor	24	7.5
	Senior Lecturer	46	14.5
	Lecturer	116	36.6
	Assistant Lecturer	131	41.3
Specialization	Pure Sciences	90	28.4
	Health Sciences	30	9.5
	Agriculture and Veterinary Science	19	5.9
	Technology Engineering and Architectural Studies	31	9.7

	Humanities and Social Sciences	57	17.9
	Education	50	15.7
	Business	40	12.6

However, when properly sensitized young career researchers may also be more willing to embrace self-archiving and sharing of their publications online. The benefits of providing OA to their publications through self-archiving such as increased readership and citation impact of their publications may be more appealing to them. As pointed out by Pontika (2015) the highly competitive environment that researchers find themselves in may compel them to embrace open access and self-archiving so as to effectively promote both their research work and research outputs.

McKiernan (2014) further pointed out that early career researchers are in a position to be game changers in ushering a new era of open science. The citation benefit becomes more important for early career researchers, since they need to establish a reputation in their field and make their research known (Pontika 2015). This calls for OA advocates in developing countries to put more emphasis on this group of academic researchers and probably use them as ambassadors in their campaigns.

In terms of the academic rank of the researchers involved in the study, majority of the respondents were at the assistant lecturer level i.e. 131 (41.3 %), this category represents staff members with Masters Degree. This was followed by staff members at the lecturer rank i.e. 116 (36.6%). Academic researchers at the rank of lecturer have normally attained a PhD degree and at least three years experience in research and teaching at the university. In addition the sample had 46 (14.5%) senior lectures and 24 (7.5%) professors. In terms of specialization, the sample had representation from various fields of study including Pure and Applied Sciences 90 (28.4 %), Humanities and Social Sciences 57 (17.9%), Education 50 (15.7), Business 40 (12.6 %), Technology, Engineering and Architectural Studies 31 (9.7 %), Health Sciences 30 (9.5%), Agriculture Science 19 (5.9%).

### **3.3 Institutional Repository Adoption in Universities Involved in the Study**

This sub-section deals with the findings that followed from the review of websites of the institutions involved in the study and the review of other directorates such as ROARMap ([roarmap.eprints.org](http://roarmap.eprints.org)) and OpenDOAR to investigate the extent of OA adoption in universities involved in the study and determine the presence of established IRs or policies which support OA.

The results for this sub-section are as shown in Table 2. The results indicate that at the time of conducting this study all the five institutions had established IRs which were hosted using the Dspace software. Four repositories (KU, UoN, DeKUT, and PU) were listed in the OpenDOAR meaning that they have been rated as having met the quality criteria set for inclusion in the OpenDOAR. One repository (EU repository) was not yet listed in the OpenDOAR. The review of website also shows that all the five institutions have participated in various OA activities such as conducting workshops to raise awareness on the concept of OA (KU, UoN, PU), participation in OA week (KU, UoN, PU, DeKUT) while EU was hosting an OA journal.

The main source of data for OA policy was ROARMap ([roarmap.eprints.org](http://roarmap.eprints.org)) website. Out of the five institutions three had OA policies which were identified in the ROARMap websites. The three institutions are UoN whose policy was registered in 2013, KU 2014 and PU 2014. All the OA policies from the three universities are mandatory policies also known as OA mandates (Suber 2012) which makes it compulsory for members of the institution to self-archive and deposit their scholarly articles in the IR. Whereas the UoN and KU policies are general OA mandatory policies which applied to a wide range of content type, the PU thesis mandate only applies to thesis and dissertations produced by students graduating from that institution (UoN 2012, KU 2013, EIFL 2014). Other institutions with similar mandates in Kenya include Jomo Kenyatta University of Agriculture and Technology and Strathmore University. Other African countries with similar mandates include South Africa 8, Zimbabwe 2, Algeria 2, Nigeria 1 and Ghana 1 (ROARMap 2016)

The results of this section show that various OA activities taking place in these institutions such as the OA policy formulation process might have also raised awareness and sensitized the academic researchers on the issue of self-archiving. Literature shows that the OA policies at UoN and KU were formulated through a rigorous process in these universities which involved several workshops and training sessions conducted to raise awareness on both the policies and the OA movement (EIFL 2012a, EIFL 2012b Kabugu 2012, EIFL 2014). The study by Xia *et al* (2012) further pointed out that it takes tremendous efforts for an OA mandate policy to be discussed, proposed, and implemented, particularly at the institutional level. This process is likely to have raise awareness and sensitize members of these institutions on the importance of making their research articles OA.

Open Access mandates are believed to be a solution to the problem of content accumulation in IRs and therefore most OA policy addresses green OA with the aim of increasing content of material deposited in IRs and ensuring that self-archiving is done (Poynder 2014; Vincent-Lamarre *et al* 2014). Various studies have confirmed that adopting a good OA policy can have positive effect on the rate of repository content accumulation and self-archiving (Björk *et al* 2014; Gargouri, *et al* 2013; Xia *et al* 2012; Gargouri *et al* 2012; Gargouri *et al* 2010). However, OA mandate policies are not a magic bullet to the problem of content accumulation in IRs. None of the studies mentioned above reported a 100 % compliance rate of the mandates indicating that adopting an OA mandate is only part of the equation as policy implementation and compliance is more complicated.

More research is required to determine the effectiveness of the OA mandates in promoting self-archiving in Kenyan universities and other African universities which have adopted these kinds of mandates. Further research needed to determine the effectiveness of the policies in term of deposit rates, that is, percentage of annual published output that is deposited. In addition, comparative studies on the effectiveness of various policy models will help institutions planning to adopt OA policy to pick the most effective model. For instance it was observed that in South Africa very little progress has been made in terms of OA policy adoption and formulation and yet the country has the highest number of repositories' count, size and content (OATP 2012; Chilimo 2015).

Another issue to consider with regard to content accumulation in IRs is quality of materials that are being deposited in IRs. For the content deposited in Kenyan IRs to have an impact, worldwide, universities must put in place mechanisms to control quality of research publications deposited in IRs. Without such mechanisms, low quality locally published materials or papers published in predatory OA publishers which often times do not undergo adequate peer review (Beall 2012), will find their way to the repositories. Depositing low quality publications in IRs will undermine the value and contribution of IRs in Africa. Some of the strategies used by some Kenyan universities to control quality of material deposited in IRs include conducting plagiarism check for all the materials submitted for inclusion in the IRs (KU 2016; Njoroge *et al* 2013). As pointed by Warr (2003), plagiarism check does not entirely address the issue of quality of material deposited in IRs, however it provides a minimal level of screening and helps repository managers avoid materials that are manifestly irrelevant, offensive, or silly. Pinfield, (2004) further pointed out that repository managers should carry out low-level checks on quality before making a paper live on the system, but they can assume that the real quality checks and peer review occur elsewhere.

**Table 2: Institutional Repositories and OA Policies in Universities Involved in the Study**

Institution	Name of the repository	Software	URL	OA policy
KU	Kenyatta University Institutional Repository	Dspace	<a href="http://ir-library.ku.ac.ke/">http://ir-library.ku.ac.ke/</a>	Mandatory OA policy
UoN	University of Nairobi Digital Repository	Dspace	<a href="http://erepository.uonbi.ac.ke/">http://erepository.uonbi.ac.ke/</a>	Mandatory OA policy
EU	Egerton University Institutional Repository	Dspace	<a href="http://ir-library.egerton.ac.ke/jspui/#">http://ir-library.egerton.ac.ke/jspui/#</a>	No policy
DeKUT	DeKUT Repository	Dspace	<a href="http://repository.dkut.ac.ke:8080/xmlui/?Itemid=250/">http://repository.dkut.ac.ke:8080/xmlui/?Itemid=250/</a>	No policy
	e-Space	Dspace	<a href="http://elibrary.pu.ac.ke/ir/">http://elibrary.pu.ac.ke/ir/</a>	

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### 3.4 Institutional Repository awareness

Academic researchers' views and awareness about the IRs is an important component in sustaining the digital archives. Authors will use the IRs services more if they are aware of their existence and the benefits of using such services. As pointed out by Watson (2007) making the IRs available does not necessarily mean that authors will automatically be aware and start depositing their work for inclusion.

In order to gauge the success of OA advocacy activities taking place in universities that participated in this study, the respondents were asked if their institutions have IR, the results are as shown in Table 3. Only 169 (53.3%) were aware of the availability of IRs in their own institution. Almost half of the respondents i.e. 148 (46.6%) were not aware that their institutions have an IR. This is despite the fact that all the five institutions have established IRs, participated in OA activities and some even adopted OA policies. These results are not satisfactory given the level of OA activities that are already taking place in these universities.

Cross tabulation shows that the relationship between awareness and other characteristics of the respondents such as gender, age, discipline and academic ranks was not statistically significance. However, the relationship between awareness and the institutional affiliation of the respondents was statistically significant at 1%. This implies that awareness varies from one institution to another and is probably a factor in advocacy strategies and OA campaigns taking place in institutions. This calls for the librarians to up their game to put more emphasis on OA advocacy work. There is need to intensify advocacy campaigns in these universities so as to raise awareness about IRs.

However, this problem is not unique to Kenya, similar findings have also been reported by other authors, for instance in a study done in the UK, Watson (2007) reported that only 43 per cent reported they were aware of the IRs. In the United States, a study by Kim (2011) shows that only 40.1 % faculty members were aware of their university's IR. In India a study by Goutam and Dibyendu (2014) showed that 50% of the respondents were not aware of IRs in their institutions.

**Table 3: Institutional Repository Awareness (N=317)**

	Frequency	Percentage
Aware	169	53.3
Not aware	148	46.6
<b>TOTAL</b>	<b>317</b>	<b>100</b>

The question on awareness of IRs was followed by another question that sought to establish the perception of academic researchers and their general opinion regarding the concept of OA. The respondents were asked to indicate whether they strongly agree, agree, not sure, disagree or strongly disagree with the various facts about the concept of OA. The results of this question are as presented in Table 4. The multivariate analysis using component principal analysis, on this aspect shows that on average, academic researchers strongly agree that Open Access boosts access to scholarly literature and also agree that it promotes engagement with global science, advancement of scientific knowledge, and open access articles are read and cited more.

**Table 4: Perceptions of Academic Researcher about Open Access (N=317)**

	Scale	Frequency	Percent
OA promote engagement with global science	Strongly agree	143	45.1
	Agree	137	43.2
	Not sure	34	10.7
	Disagree	3	0.9
	<b>Total</b>	<b>317</b>	<b>100</b>
OA promotes advancement of scientific knowledge	Strongly agree	141	44.5
	Agree	135	42.6
	Not sure	38	11.9
	Disagree	3	0.9
	<b>Total</b>	<b>317</b>	<b>100</b>
OA articles are read and cited more	Strongly agree	140	44.2
	Agree	127	40.1
	Not sure	47	14.8
	Disagree	3	0.9
	<b>Total</b>	<b>317</b>	<b>100</b>
OA exposes scholarly work to possible plagiarism	Strongly agree	71	22.4
	Agree	119	37.5
	Not sure	59	18.6
	Disagree	60	18.9
	Strongly disagree	7	2.2
	<b>Total</b>	<b>317</b>	<b>100</b>

These results show that although the awareness of IRs is low, majority of researchers in Kenya are already familiar with the general concept of OA and its benefits. In addition a majority of them agree with the general principles and advantages accorded by the concept of OA.

### **3.5 Self-Archiving Practices in IR**

The respondents were asked if they have submitted any of their publications in their University's OA Institutional Repository or any other subject specific repository. The aim of this question was to find out the extent to which academic researchers practice self-archiving or the extent to which they are aware of the practice. 292 respondents answered this question where only 73 (24.6%) of the respondents answered in affirmative. The majority of the respondents 219 (75.3) have not done self-archiving. These findings indicate that awareness does not automatically translate to usage as 53.3% of the respondents indicated that they were aware of the availability of IRs in their institutions but only 24.6 have actually used it. Similar findings have also been reported in studies done in other countries. For instance, a study by Pelizzari (2004) in Italy show that 44 % of the respondents know about the existence of IRs, but of those aware of the existence of IRs, only 4 % affirmed they had already used them to deposit papers.

#### **3.5.1 Reasons for practicing self-archiving**

The question on whether or not respondents have submitted any of their publications in their University's OA Institutional Repository or any other subject specific repository was followed by an open ended question where respondents were asked to give reasons for their answer. Various responses were given. The results of this question were analyzed using content analysis and organized into themes. The major themes that emerged from the response are presented in Table 5.

**Table 5: Reasons for Practicing Self-Archiving (N=73)**

Reasons	Count	Percentage
Need to share own publications with others	47	64.4
Self-archiving is mandatory in my institution	19	26.0
Provide quick and easy access to information	5	6.8
Increase visibility and citations of one's publications	2	2.7
<b>TOTAL</b>	<b>73</b>	<b>100</b>

Those who practiced self-archiving 73 (24.6%) gave their opinion regarding the practice and their reasons for practicing self-archiving. The major themes that emerged from the response are summarized in Table 5. According to these responses, majority of the respondents 47 (64.4%) practice self-archiving because they want to share their work with others. The mandatory requirement available in institutions which have adopted OA policy (such as UoN, KU) also seems to influence academic researchers to practice self-archiving, Nineteen (26%) of the respondents indicated that the reason they do self-archiving is that the practice is mandatory in their institutions. However, it was strange to note that only 2 (2.7 %) of the respondents mentioned the desire to have their work read and cited more as one of the motivation for practicing self-archiving. Repository managers need to emphasize on the benefits of self-archiving to the researchers (e.g. increased citations for their work) during OA advocacy campaigns. Emphasizing on the benefits of the practice to the individual authors will make them see the value of the services and hence participate more in IR related activities including self-archiving.

### 3.5.2 Reasons for not Practicing Self-Archiving

Respondents who have not practiced self-archiving 219 (75.3) gave various reasons for not doing so. The responses were analyzed and summarized into themes presented in Table 7. Majority of the respondents 93 (42.6%) cited lack of awareness about the practice and existence of an IR in their institution as the main reasons for not practicing self-archiving. This includes respondents who said they have no information about it and those who said they need more information to be able to do it.

**Table 7: Reasons for not practicing self-archiving (N=219)**

Reasons	Count	Percentage
Not aware of the process	93	42.6
Lack of time	51	23.3
Concerns about copy right	32	14.6
Lack of technical skills	27	12.3
Not been keen about the process	9	4.1

I have not yet published hence no paper to self-archive	7	3.1
<b>TOTAL</b>	<b>219</b>	<b>100</b>

Fifty one (23.3%) of the respondents cited lack of time as the reason for not practicing self-archiving, implying that they are aware of the process but don't have time to actually go through the process of self-archiving. Respondents who pointed out that their reasons for not practicing self-archiving as concerns about copyright constitute 32 (14.6 %) of the respondents. Lack of technical skills on how to do self-archiving was reported by 27 (12.3%) of the respondents. This category includes those who have given reasons such as journal articles being in hard copy and don't know how to self-archive them, and those who indicated that the process should be done by library staff indicating that they are not very confident doing it themselves but they will be happy to have an intermediary in this case a library staff doing the process on their behalf.

Library staff can come in handy in assisting researchers who have limited technical skills or those who do not have the time to do self-archiving themselves. The involvement of librarians in self-archiving or mediated deposit plays an important role to facilitate content accumulation in IRs. However, overreliance on librarians can limit full implementation of self-archiving and long term sustainability of the IR projects especially when it comes to availability of pre-prints and other versions of the articles. Another group of respondents 9 (4.1) were categorized as those who were not keen about the process. These include respondents who gave reasons such as, 'I am planning to do this as soon as possible', 'I have not considered doing so at the moment', 'it has never occurred to me to do so', 'It's at milestone stage' e.t.c. While another group 7 (3.1) reported that they have nothing to archive since they have not yet published any paper.

The unwillingness of researchers to take part in self-archiving have been reported in several studies (Goutam and Dibyendu 2014; Abrizah; 2009; Kim 2011). Many reasons behind the unwillingness of researchers to participate in IRs project have been reported. Key among these reasons and which is also supported by the findings of the current study is lack of awareness and concerns about copy right issues.

### 3.6 Open Access Policies Awareness and Perceptions Regarding Mandatory Self-Archiving

The results on awareness about OA policies in the institutions are as shown in Table 8. Majority of the respondents 216 (68.1) are not aware of the OA policy in their institutions. This phenomenon was observed even in institutions which have adopted OA policies. This is a worrying trend given the fact that the OA policies adopted in these institutions are mandatory.

**Table 8: OA Policy Awareness (N=317)**

	<b>Frequency</b>	<b>Percentage</b>
Aware	101	31.8
Not aware	216	68.13
<b>TOTAL</b>	<b>317</b>	<b>100</b>

The question on awareness was followed by another question where respondents were asked to indicate if they support policies which make it mandatory for researchers to self-archive publications in IRs. This was followed by an open ended question where researchers were asked to give reasons of their answer. The results for this question are provided in Table 9 and the section that follows.

**Table 9: Perceptions Regarding Mandatory Self-Archiving (N=317)**

	<b>Frequency</b>	<b>Percentage</b>
Support	196	61.8
Not Support	121	38.1
<b>TOTAL</b>	<b>317</b>	<b>100</b>

As shown in Table 9 majority of the respondents 196 (61.8 percent) indicated that they support policies which make it mandatory for researchers to self-archive their publications in institutional repositories. The results further show that some of the respondents who said they are not aware of the policies still support mandatory self-archiving policies. Therefore, mandatory self-archiving policies are generally accepted by Kenyan researchers. When the respondents were asked why they support mandatory self-archiving policies they indicated the following reasons: that such policies may increase content in the repository, it will improve institutional status and visibility, build the databank of research publications, bring fairness and transparency in promotion and that it will foster research commitments as well as encourage publishing.

From these results it is apparent that the strategies adopted by universities to raise awareness on the OA policies have not been successful in reaching majority of academic researchers. Whereas these policies are discussed and approved at the Senate level, individual researchers in the same institutions are unaware of their existence. The fact that majority of academic researchers support mandatory OA policies is good for the Open Access movement in Kenyan universities. However, this needs to go alongside a comprehensive awareness programme as well strategies to ensure that OA adopted in institutions are implemented. Consequences for not complying with mandatory requirement for self-archiving should also be clearly stipulated in the policy. Compliance clause is currently missing in some of the mandatory OA policies adopted by Kenyan universities as most policies are silent about compliance and consequences involved for not complying with the policy (Chilimo,2016).

121 (38.17%) of the respondents indicated that they do not support mandatory self-archiving because they are concerned about copyright issues, believe that authors should have a discretion on whether to self-archive or not. They further indicated that mandatory self-archiving should only apply to research output form research work sponsored by the institution and should not apply to privately funded research.

### **3.7 Conclusion and Recommendations**

At the time of doing this study, Kenya had a total of 22 IRs listed in OpenDOAR. All the five universities involved in this study had Institutional Repositories. Three of these institutions adopted mandatory OA polices and the general attitude of the academic researchers regarding the concept of OA was positive. However, awareness of the available IRs and OA policies in these institutions was low and as a result self-archiving was not widely practiced. Factors contributing to low participation in IRs and self-archiving include lack of awareness about the process, lack of time and copyright concerns. Majority of researchers who practice self-archiving said they do so

because of the need to share their publications with others and because self-archiving is mandatory in their institutions.

This study further concludes that mandatory policies are generally accepted by majority of Kenyan researchers and they believe that such policies will help have more content in the repositories, improve institutional prestige and visibility, build the databank of research publications and bring fairness and transparency in academic staff promotion procedures.

From the result of this study it is apparent that the strategies adopted by universities to raise awareness on self-archiving and OA policies have not been successful in reaching a majority of academic researchers. Open Access advocates in the universities need to devise more innovative ways of raising awareness on self-archiving issues. Some of the recommended strategies include engaging researchers on a one-on-one basis and showing them the importance of self-archiving. Open Access advocacy campaigns should make use of statistics and evidence to show researchers the value of self-archiving. Some of the recommended statistics that can be used include download statistics, evidence of citation of articles from repositories, testimonials, and case studies

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