



Utilization of Open Access Library Resources by Postgraduate Students at Karatina University, Kenya

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Open Access

Abstract

Open Access (OA) are research publications published in scholarly journals or institutional repositories online without restrictions. It enables end users to consume, transfer and reproduce the full text of scholarly works in their fields of study. OA library resources support academic and research within institutions of higher learning as it strives to provide an alternative solution in a place where there is no equality in information and knowledge. The pursuit and use of OA library resources reduces the information divide between developed and less developed countries. Despite the availability of the OA library resources, there is still low uptake of OA library resources in Kenyan universities. The aim of this study was to investigate the utilization of OA library resources by postgraduate students. Objective of this study was to determine challenges facing utilization of open access library resources by post graduate students. The study employed descriptive research design while both qualitative and quantitative approaches were used. Data was analysed using Statistical Package for Social Sciences (SPSS) version 25. The findings established that there were internet challenges, information overload and inadequate awareness on the availability of OA library resources. The study recommends the increase of awareness of OA library resources and services, increase internet speed, conducting training on OA library resources and services for library staff as well as students.

Subject Areas

Information Science, Library, Intelligence and Philology

Keywords

Open Access, Library Resources, Library Staff, Postgraduate Students, Kenya

1. Introduction

The paper introduces the background to the study. It describes the statement of the problem, objectives of the study, literature review, methodology, results and discussion, conclusion and recommendations.

1.1. Background to the Study

Open Access (OA) serves as a crucial function in academics and research. It ensures unrestricted access to information resources and services. It has an affirmative result on research whereby it increases ease of access to information, usability, productivity and sustainability among scholars. OA is a broad terminology for information resources which are always accessible to the information user community so as to utilize and open for use to a wider range, with no hindrances or charges (Pinfield, 2015) [1]. OA came up as a substitute due to the exorbitant cost of library journal subscriptions, Lewis (2012) [2]. It is a platform that allows scholars to disseminate their research findings more widely without incurring article processing fees (Woszczyński & Whitman, 2016) [3].

The three definitions of OA statements include the Budapest Open Access Initiative from February 2002, the Bethesda Statement on Open Access Publishing June 2003 and the Berlin Declaration on Open Access to Knowledge in Science and Humanities. The fundamentals of OA scholarly publishing are agreed upon by all the statements. These statements point out that OA resources allows end users to consume, transfer, reproduce, print, examine, or connect to whole text, genuine use for authentic reasons and if the materials can be accessed using the internet (Budapest, 2003) [4].

OA in the technological age is a term used to describe the act of creating scholarly peer-reviewed journals and articles freely available to anybody, anywhere on the internet. For any user published in peer-reviewed journals, OA means free, permanent, immediate, full text and online access. It gives direct connections from publishing bibliographical data to the entire text. It also gives all web users free access to scientific articles. OA library materials include resources that are freely accessible to anybody at any time without any limitations. (Joshi *et al.* 2012) [5]. As a result of the OA movement, OA library resources have various advantages for users such as faculty members, scholars, libraries, librarians among others. It provides free access to information resources without any cost implications, which is one of the OA library resources strengths.

Sawant (2009) [6] investigated the state of OA journal projects in India, including the kind of OA journal, host organization, full-text availability and content. According to the findings, there were over 300 universities and institutions of higher learning, as well as hundreds of research laboratories, but only 178 OA journals were registered. This scenario could change if national agencies and leaders of major research councils decide that all research financed by public should be made available through IRs and OAJ projects should be encouraged.

Sub-Saharan Africa has been able to publish more than 300 OA journals while

more than 40 OA repositories are in the pipeline in the region. Though such steps have been achieved so far in OA resources, it stills requires putting more effort in building capacity, advocacy and increasing awareness among the scholars. In addition, OA policies are still very vital in the region to change the journals from being subscribed to open journals. Scholars and learners should be urged to self-archive in the already established repositories to make them sustainable. South Africa is among the highest African nations in relations to OA policies, which has been evident on the grass roots and at the governmental level, academic institutions and research organizations (UNESCO, 2015) [7].

Directory of Open Access Repositories (DOAR) has registered 173 OA digital repositories in the region. Some of the regions are; (Eastern Africa, Northern Africa, Southern African region and Western Africa). On the other hand, Registry of Open Access Repository Policies and Mandates (ROARMAP) had also registered 36 OA policies. These countries include; Kenya with the highest number of OA policies (sixteen OA policies). South Africa follows with a total number of (eleven OA policies), then Algeria and Zimbabwe with (three and two OA policies) respectively, lastly Nigeria, Burundi and Ghana with (one OA Policy) each ROARMAP (2022). This led to adoption of such policy by the International Livestock Research Institute (ILRI) (Kenya/Ethiopia) to utilize the open licence for its published outputs (UNESCO, 2015) [7].

Gold road and green road are the two roads to OA. Articles published in gold road journals are OA, but articles published in green road journals are non-OA. Green road articles are preserved for OA resources in the authors' institutional repository or self-archived for OA on authors' personal web pages. The most significant benefit for the scholarly community has been OA to scholarly communication. Scholars, institutions and the general public benefit from it. For researchers, it increases the visibility, use and outcome of their work. While for institutions, it provides the same benefits in a consolidated form. Scholars deposit their publications according to publishers' policies on their personal websites, their institution's institutional repository or subject-based repositories to obtain the aforementioned benefits (Borchert & Cleary, 2011) [8].

Nicholas *et al.* (2017) [9] analyzed perspectives towards OA uptake by academic staff in the United States and United Kingdom. They discovered that academic staff were careful with OA publication because of quality issues. On the other hand, how quality of published work deposited in OA was measured and the standards. The study established that academic staff had trust issues when it comes to publishing their work. This was attributed to lack of sensitization issues which made them not to understand OA context and its benefits on academics and research. The study also indicated that since authors were required to pay for their work to be published so as to be made open, it led to poor research quality. This was discovered to be in conflict with the advantages of OA for both the author and the end user (Pinfield, 2015) [1].

Research was conducted to examine factors affecting the implementation and usage of OA resources in Tanzanian health sciences universities. Despite the

poor usage of OA in terms of self-archiving in OA avenues, the research revealed that members of the faculty were positive on OA resources usage and adoption (Lwoga, 2014) [10].

Advocacy of OA library resources in Kenya has been through Kenya Libraries and Information Services Consortium (KLISC). Scholars need an understanding and learning of the accessibility and importance of OA electronic resources for them to be able to use them effectively. They should also have knowledge on internet and better search skills to assess and judge relevant information materials on such platforms (Chan *et al.* 2011) [11].

1.2. Statement of the Problem

The Lyon Declaration on Access to Information and Development as stated in International Federation of Library Associations and Institutions noted that half of the world's population lacks access to online information and as a result, there is a low uptake of OA library resources. Despite the promising potential of OA library resources in developing countries, this form of scholarly communication has been less exploited in Kenya as compared to developed countries. This is due to low uptake of the OA library resources hence may not be of value to return on investment of the financial resources in OA library resources. In the event that OA library resources and services are not adequately utilized then taxpayer's money will have been put to waste. This provides reasonable justification to investigate the low uptake of OA library resources services and therefore lay bare, the status of use of OA library resources in tandem with the financial resources invested in the program. Kenyan universities Karatina university being part suffer low uptake of OA library resources. It is against this background that this phenomenon was investigated to avoid a situation where resources are deployed in a facility that may not be adequately utilized. Therefore, this study explored the utilization of OA library resources by postgraduate students, and established approaches that can be adopted to overcome challenges that hinder its utilization.

1.3. Research Objective

The study objective was to identify challenges faced by postgraduate students in utilizing open access library resources at Karatina University.

2. Literature Review

This chapter reviewed literature on utilization of OA library resources as per the objective of the study.

2.1. Challenges Facing Utilization of Open Access Library Resources

OA library resources have more benefits but also there are aspects that deter their access and usage effectively. Additionally, major factors hindering access

are quality of the information that can be challenging to find at times, too much quantity of information online, slow internet connectivity and inadequate technology skills (Veena, 2016) [12]. Ashraf & Haneefa (2017) [13] added that users encounter challenges such as finding the uniform resource locator, inconsistency of available OA resources and inadequate support and guidance.

Numerous studies Bossu *et al.* (2012a) [14] have noted that the OA resources movement's potential to change educational practices have not been fully realized, largely as a result of limited attention given to the policies and procedures necessary to advance the idea of openness within higher education institutions. Higher education institutions in Australia have been notably hesitant to adopt OA resources and open educational practices, according to a study on participation in the development of OA resources there Bossu, *et al.* (2012b) [15]. This is mostly as a result of unclear copyright and intellectual property regulations as well as undeveloped institutional and governmental policy frameworks.

A study by S & Kumar (2018) [16] on the use of OA resources among academic community in Birla Institute of Technology Pilani Goa campus in India. It was discovered that the academic community had low utilization level of the resources. The major causes were inadequate training and awareness of OA resources. The study suggested that the libraries should take up the role of training on OA resources.

According to Anuradha *et al.* (2011) [17] in India, the biggest obstacle to using OA resources was inadequate training and awareness. On the other hand, Meera & Ummer (2010) [18] stressed that OA resources to scientific publications becomes a barrier for researchers when fundamental infrastructures such as a good internet connection, a contemporary computer facility and a stable electricity supply were inadequate.

According to Shukla and Mishra's (2011) [19] study, majority of scholars regarded the issue of poor internet connectivity as the biggest infrastructure barrier to using e-resources. A study by Madhusudhan (2010) [20] in India, slow access speed was the most frequent issue for the majority of respondents. They commented that it took too long to access or download pages and that finding pertinent information was challenging. Some respondents believed that too much information was retrieved and that their insufficient IT skills prevented them from efficiently utilizing OA resources.

Another study by Mulla (2011) [21] in India found that the majority of academics had trouble using e-resources due to a lack of time or because they lacked the necessary training. Some users were concerned by hardware and software issues.

In a related study, Mulla (2011) [21] discovered that (30%) of respondents said they had inadequate IT skills necessary to use the services successfully, (31.7%) claimed insufficient training and (20%) thought having limited access to computers was an issue. Inadequate IT expertise suggests that their utilization of OA resources may be impacted by not possessing information literacy abilities.

2.2. Literature on the Use of OA Resources among Library Users of Cochin University of Science and Technology (CUSAT) and Pondicherry University (PU)

The findings were that the majority of respondents used OA resources for research. The most persistent issues faced by the library users were inadequate skills, search skills, training and guidance for utilizing OA resources fully (Ashraf & Haneefa, (2017) [13].

Study findings by Ukwoma & Onyebinama (2020) [22] on undergraduate students utilization of OA resources in Asom Bur Learning Resource Centre, University of Mkar, showed that majority of the students utilized OA resources to add-on the library's insufficient information materials. Furthermore, students' ability to make the best use of the OA materials was hampered by inadequate online search abilities and services. Similarly, Ani *et al.* (2015) [23] found that students in the universities preferred to use the internet for teaching and learning over electronic resources and online databases.

According to Solanke & Osuchukwu (2018) [24], the biggest obstacles to effectively facilitate public access to information are insufficient financial assistance and inadequate internet connectivity. Low internet connectivity was identified by Mwantimwa *et al.* (2017) [25].

According to survey by Norch, (2022) [26] users of electronic resources have faced a variety of difficulties in various institutions. Low internet connectivity and frequent power outages are reportedly the two biggest problems with electronic resources in African institutions. Information saturation, high access costs, and an inadequate training on search techniques were identified as additional difficulties. The issues identified by the postgraduate students of library and information science in Southern Nigeria throughout his research included insufficient bandwidth and slow download speeds.

Despite the fact that libraries and librarians around the world have supported their users by giving access to well-structured knowledge and encouraging its use regardless of format for centuries, issues concerning OARs still exist as a result of the rapid changes brought on by ICT. Walji (2014) [27] lists a number of OARs problems that librarians should deal with, including poor digital literacy, geographic isolation and inadequate internet connectivity.

According to Smith & Lee (2017) [28], academic librarians must constantly improve their ability to manage change in order to keep up with the changing needs of users and manage several tasks at once. This issue is caused by the fact that technology is advancing rapidly. Academic librarians do, in fact, require relevantly updated skills and competencies in order to stay up with the evolving developments in the information environment and era.

The goal of a librarian is to make it easier for patrons to access data they can acquire via different avenues. A librarian's role is to make information more accessible when it is available. There are numerous obstacles that prevent librarians from providing users with the information they require. According to a study by Van der Merwe (2013) [29], some of the barriers that prevent librarians

from providing users with access to OA resources include unknown permanence, growing volume of free content, difficulty ensuring that free content is archived and difficulty identifying high quality and helpful resources.

According to Ghosh & Das (2007) [30], institutions in developed and developing nations differ in how they create access to information and how important it is for growth. They noticed that the developed world is made up of knowledge-rich nations, businesses, and organizations that have strong control over priceless information resources. The growth of technology, economies, and humanity as a whole, however, is at a crucial juncture in the developing world where access to adequate and pertinent information resources is crucial. Due to the shortage of funding or restricted budgetary constraints, academic and research institutes in the developing countries cannot afford to subscribe to a broad range of primary literature.

According to a report produced by the Open Educational Quality Initiative (OPAL) (Andrade *et al.*, 2011) [31], there are five main obstacles that prevent persons from using and creating OARs, such reasons include inadequate support from institution, insufficient technological tools for sharing and adapting resources, limited knowledge and time, the quality or suitability of OARs and personal problems like trust issues with OA library resources. These issues pose serious challenges to maintaining the viability of OAR efforts in higher education.

While a study by Garg *et al.* (2017) [32] shows that using digital resources saves students time, other studies (Recker *et al.*, 2004 [33]; Thanuskodi & Ravi, 2011 [34]) reveal that doing so takes a lot of time due to the challenges encountered in locating pertinent learning resources. This is as a result of challenges in finding relevant OA resources which consumes a lot of time as compared to what is available in books. Therefore, some users lose interest in these resources.

In low and middle-income nations (LMICs), the majority of researchers, particularly in Africa, face significant challenges in accessing current academic research because journal subscriptions or one-time access fees are prohibitively expensive.

In addition, some researchers have concerns about the quality of some OA resource. Other difficulties noted include inadequate ICT infrastructure, unstable internet connections and the skills required to utilize these resources. These factors all seem to limit the efficient use of digital learning tools (Henderson *et al.*, 2017) [35].

In research carried out in developing nations, the issues of inadequate ICT infrastructure and slow internet connections are frequently reported Lwoga & Sukums, (2018) [36]. In addition, inefficient information literacy programs in higher education institutions with knowledge gaps. Additionally, the use of these OA library resources is hindered by the huge amounts of retrievable information and the little amount of time available for retrieving what is pertinent. Also, internet tools give scholars the chance to plagiarize without crediting the author or citing the source Mbilinyi & Msuya, (2018) [37].

Mwamlangala (2015) [38] explained obstacles to effective adaptation and usage of OARs at the Shanghai Open University and the Open University of Tanzania, such as poor ICT infrastructure, inadequate of OAR policies, insufficient bandwidth, insufficient investment resources in OARs and low awareness of copyright and intellectual property rights.

Mtebe & Raisamo (2014) [39] conducted a study on perceived barriers facing utilization of Open Educational Resources in Tanzania. They revealed that inadequate access to computers low internet bandwidth, policies issues and inadequate skills required to generate and utilize open educational resources are the main hurdles for effective utilization. In their second study, inadequate ICT infrastructure, limited understanding of copyright concerns associated to the implementation of open educational resources, relevance of some open educational resources to curriculum and insufficient knowledge about existing open educational resources are among the other reasons they discovered that limit the adoption and usage of open educational library resources.

3. Research Methodology

3.1. Research Design

Kothari (2014) [40] defined research design as the approach a researcher make use to convey diverse mechanisms of the study by making sure it is in an organized way. The study used descriptive research design to explain utilization of OA library resources by post graduate students of Karatina University for academic and research purposes. The design was considered appropriate for the study because it has the ability of handling variety of evidence and it can also clarify why or how events may arise. The study made use of qualitative and quantitative approaches. Both approaches helped the researcher to use different methods in collecting and analysing data. This prevented any challenge that could occur when data was collected and analysed using a single approach.

3.2. Geographical Location of the Study

The study was conducted at Karatina university main campus. It is situated 15 km North off Karatina town, on the slopes of Mt Kenya. It was chosen because there is no research that has been done on OA library resources at Karatina University yet it provides OA library services and products. The university gave the researcher a platform to conduct research.

3.3. Target Population

According to Maxfield *et al.* (2014) [41] target population is a subject from which the sample is selected. The study population was 124 subjects comprising of 100 postgraduate students and 24 library staff of Karatina University.

3.4. Sampling Technique

Karatina University was chosen using convenient sampling because was antici-

pated to give an opportunity that would facilitate the researcher to study utilization of OA library resources. Purposive sampling was used in order to have the sample of postgraduate students and library staff since they make more use of OA as compared to undergraduate students. Kothari (2014) [40] defines a sample as a subset of a target population drawn from the total population. It enables the researcher to obtain data from a subset of the population and generalize the findings to the entire population. The sample size was calculated using the Krejcie and Morgan table of 1970 (**Appendix I**), where N represents the population of the study and S is the sample size as shown in **Table 1**.

3.5. Instruments for Data Collection

Data was collected using questionnaires designed as per the objectives of the study and interview schedules.

3.6. Questionnaires

Questionnaire is a set of questions meant for respondents to give their opinions and thoughts in order to help the researcher collect data (Kothari, 2014) [40]. For this study, a structured and unstructured questionnaire was used because could be administered easily. It also offered privacy of the respondents as compared to other data collection methods. It was administered to post graduate students.

3.7. Data Analysis

According to Ad'er, Hand, D. J., & Van (2008) [42], data analysis is the act of evaluating, cleansing, transforming and interpreting data with the aim of identifying relevant information, recommending inferences and aiding decision-making. The Statistical Package for Social Sciences (SPSS) version 25 was used to organize, code and analyze quantitative data. This entailed the use of arithmetic means, tables and percentages to represent analyzed data, as per the research objectives. Data collected from qualitative were analyzed thematically and presented in descriptive form.

4. Data Results and Discussion

4.1. Response Rate

The return rate according to this study consisted of 78 respondents who took part in the survey including post graduate students and library staff.

Table 1. Sample size.

Subject	Sample
Post graduate students	80
Library staff	24
Total	104

4.2. Challenges Encountered While Accessing Open Access Library Resources

The respondents were required to highlight the challenges they face while using OA library resources and services. The outcomes are illustrated in table.

From the results in **Table 2**, low internet speed or networks issues was the main challenge that users encountered while using OA library resources and services at 33.8%. Followed by lack of awareness on the availability of OA library resources (15.4%), inadequate search skills of access (14.6%) and lack of training on OA library resources (14.6%). The least challenges were lack of available and reliable infrastructure (7.7%), inconsistency of available OA library resources (6.2%) and finding the uniform resource locator (7.7%). These findings collaborate with Veena (2016) [12] who listed slow internet access as one of the major problems encountered in accessing information resources. This implies internet speed, connectivity and reliable and also navigation and information finding process were the main challenges faced by post graduate students in Karatina University.

Challenges Faced by Library Staff while Enhancing Utilization Accessing Open Access Library Resources

The library staff were required to highlight the challenges they encounter while enhancing utilization of OA library resources. The findings are illustrated in **Table 3**

The finding in **Table 3** indicate that the main challenge faced by library staff while enhancing utilization of accessing OA library resources is slow internet connectivity and speed (81.3%). This implies that internet connectivity and speed is a key requirement in accessing OA library resources and services at Karatina University. Library assistant 7 said that: *“The major challenge we encounter is the slow internet connectivity”*. While another library assistant stated that: *“Some of the users are computer illiterate which is a challenge in access open access resources”*.

To address the challenges, a deputy librarian 1 proposed that: *“Some solutions that can solve such challenges includes increase internet bandwidth and create awareness among the users for maximum utilization of OA resources”*. Another senior library assistant 11 said that: *“I suggest the use of off campus and training of users on how to access the resources”*. Yet another library assistant 10 recommended that: *“The best way to overcome the challenges is by encouraging the use of personal computers to enhance computer literacy which may help users to be independent in retrieval of information. Also assisting users on how to find relevant information will aid in overcoming the challenges”*.

To address all this challenges, increase awareness and skills on utilization of OA resources for academic and research purpose, technology infrastructure be enhanced, internet be made available and affordable to everyone Wright & Reju (2012) [43]. Adoption and utilization of such resources would improve if the challenges can be addressed.

Table 2. Challenges encountered while accessing open access library resources and services.

	Responses		Percent of Cases	
	N	Percent		
Challenges faced using Open Access Resources	Low internet speed or network issues.	44	33.8%	84.6%
	Inadequate search skills of access.	19	14.6%	36.5%
	Inadequate training on Open Access Resources.	19	14.6%	36.5%
	Lack of awareness on the availability of open access resources.	20	15.4%	38.5%
	Inadequate available and reliable infrastructure.	10	7.7%	19.2%
	Inconsistency of available open access resources.	8	6.2%	15.4%
	Overload of information on the internet.	10	7.7%	19.2%
	Total	130	100.0%	

Table 3. Challenge faced by library staff while enhancing utilization of open access library resources.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Computer literacy	3	18.8	18.8	18.8
Valid Slow internet connectivity/speed	13	81.3	81.3	100.0
Total	16	100.0	100.0	

5. Conclusion and Recommendations

The main challenges faced by OA library resources users were slow access speed, lack of awareness on the availability of OA library resources, inadequate search skills of access, inadequate training on OA library resources, difficulty in finding and navigating information, inadequate ICT infrastructure, dynamic nature of technology and overload of information on the internet. The main challenge faced by library staff enhancing utilization of OA library resources is slow internet connectivity and speed.

Some solutions were presented in handling the challenges encountered using and utilizing OA resources and services at Karatina University. They include encouraging personal computer training, encouraging use of off campus access, finding relevant information for users, utilization the available resources and data, increase internet bandwidth, create awareness and train users on access and retrieval. Veena (2016) [12] listed slow internet access as one of the major problems encountered in accessing information resources. This implies internet speed, connectivity and reliable and also navigation and information finding process were the main challenges faced by post graduate students in Karatina University.

OA library resources can aid in the removal of access barriers to information by providing researchers across the world with unrestricted access to scientific

and academic information. As stated by Mutwiri (2014) [44], the study concluded that utilization of OA library resources and services by post graduate students at Karatina University has not been fully utilized and more needs to go in creating awareness, training on usage and components, navigation and utilization of OA library resources and services and improvement of infrastructure requirements of OA library resources to ensure maximum utilization of the OA library resources and services at Karatina University. Collaboration should be established between universities, library staff, OA library resource providers and students to ensure proper utilization, adoption and usage of OA library resources. Invest in ensuring proper infrastructure is built for better utilization, access and usage of OA library resources ICT components and internet accessibility should be built and improved progressively depending on technological changes infrastructure.

Conflicts of Interest

The authors declare no conflicts of interest.

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Appendix I: Sample Size Determination Table

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10,000	370
150	108	750	254	15,000	375
160	113	800	260	20,000	377
170	118	850	265	30,000	378
180	123	900	269	40,000	380
190	127	950	274	50,000	381
200	132	1000	278	75,000	382
210	136	1100	285	1,000,000	384

Note: *N* is population size. *S* is sample size. Source: Krejcie & Morgan, 1970.

Appendix II: A Questionnaire for Post Graduate Students

Dear respondent,

I am a student at Kisii University pursuing Master's Degree in Library and Information Science. I am conducting a research on Utilization of open access

library resources by postgraduate students in Kenya, a case study of Karatina University. Please give your honest response in the following questions. The information you give will be treated with utmost confidentiality and will only be used for research purpose.

Thank you in advance for accepting to take part in this study.

INSTRUCTIONS

Please indicate your response by ticking the provided boxes. For questions, suggestions or comments please use the provided space.

PART A: Personal Data

1) Age group

20 - 25 26 - 35 36 - 45 55 above

2) For how long have you been in this institution?

0 - 3 yrs 4 - 7 yrs 18 - 10 yrs

3) Nature of your studies (Kindly tick where applicable)

Current Status	Tick where Applicable
Doctoral	
Masters	
Post graduate Diploma	

4) What are some of the challenges faced while using open access library resources?

a) Low internet speed or network issues

b) Inadequate search skills of access to

c) Lack of training on open access library resources

d) Lack of awareness on the availability of open access library resources

e) Lack of available and reliable infrastructure

f) Inconsistency of available open access library resources

g) Finding the uniform resource locator

4b) How can the above challenges be addressed?

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Thank you very much for your response.