

Evaluating Academic Staff Awareness and Use of Open Access Resources in Polytechnics in Lagos State, Nigeria

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Abstract

Open access resources have the potential of increasing academic staff productivity and output in higher institutions of learning. The study investigated academic staff awareness on the use of open towards open access resources in higher institutions in Lagos State, Nigeria. The descriptive survey was used for the study. The population consisted of 1,826 academic staff of Yaba College of Technology (YABATECH) and Lagos State Polytechnic (LASPOTECH) in Lagos State. The multistage random sampling technique was used to arrive at a sample size of 555 respondents via Slovin's formula for the determination of sample size; while the questionnaire was the instrument used for data collection. Analysis was done using descriptive and inferential statistics. Academic staff level of awareness of open access resources is high. Furthermore, several challenges still confront academic staff in the use of open access resources, such as: low quality of publications, lack of search skills and slow network access. The findings shows that there is a positive relationship between awareness and use of open access resources ($r=0.829$, $n=349$, $p<0.05$). The study recommends that institution's or library management wishing to succeed in promoting the use of open access resources must work toward removing the challenges that confront academic staff.

Keywords: Academic Staff Awareness, Open Access Resources, Use of Open Access Resources, frequency of use of open access resources and Lagos State Polytechnics.

Introduction

The diverse definition of open access (OA) by several researchers and authors has generated the concerns of many. Open access can be defined as an online digital literature that is free of charge without copyright and licensing restrictions. It simply means an online article that is available for readers and libraries without cost implication. This is possible through the internet and permission from the author or copyright holder (Subar, P. 2019). The use of open access resources is a vital variable in the quest and advocacy for open access publishing. When there is willingness to utilize resources in open access outfits, it will no doubt spur significant growth in scholarly communications. Recently, the use of online electronic information resources otherwise known as “open access resources” to support research and teaching is increasing compared to subscription based or pay/closed access repositories/resources. This invariably implies increase in the use of open access resources due to its free and unhindered access and use.

Globally, open access resources is assisting faculty members in various tertiary institutions in publishing of scholarly articles. Open Access Resources Use simply means making available access to published information free of charge and unwarranted restrictions to their usage or access and use of scholarly works (intellectual works) available in an open access journal or other digital free of charge information repositories thereby de-emphasizing “the business mode of scholarly resources use which has existed for more than three centuries wherein publishers had made huge profits at the expense of authors or scholars’ exploitation from such ventures especially when unaware authors and libraries are still used to such “a difficult to sustain” system.

Statement of the Problem:

In academic institutions, Open access resources help in making teaching, learning and research easier; help in developing curriculum; provide students more information to supplement the curriculum, help in identifying the required and quality information quickly. Regardless of the fact that open access has various benefits, this form of publishing is still not prevalent in third world countries as compared to countries of the developed world. According to Ghavifekr, S. & Rosdy, W.A.W. (2015), the scholarly literature is accessible online freely; the use of these resources is not up to the expectations. In developing countries, one of the major developmental

challenges of open access institutional repository is just sheer ignorance. This lack of knowledge needs to be tackled before there is meaningful progress. The concept of open access in academic institutions in Nigeria will take time with awareness campaign before acceptance just like most novel concepts. Hence, this study was designed to investigate academic staff awareness and use of Open Access in polytechnics in Lagos State, Nigeria.

Research Objectives

The main purpose of the study is to do the staff awareness and use of open access resources in government owned polytechnics in Lagos State. The specific objectives are to:

- i. assess the extent of use of open access resources by academic staff in Yaba College of Technology and Lagos State Polytechnic.
- ii. determine the purpose of use of Open Access resources among academic staff in Yaba College of Technology and Lagos State Polytechnic,
- iii. ascertain the level of awareness of open access resources among academic staff members in Yaba College of Technology and Lagos State Polytechnic.
- iv. identify the challenges with the use of open access resources by academic staff in Yaba College of Technology and Lagos State Polytechnic.
- v. determine the relationship between academic staff awareness and use of open access resources by academic staff in Yaba College of Technology and Lagos State Polytechnic.

Research Questions

This study aims to investigate and answer the following research questions:

- i. What is the extent of use of Open Access resources by academic staff of Yaba College of Technology and the Lagos State Polytechnic?
- ii. What is the purpose of use of Open Access resources among academic staff of Yaba College of Technology and the Lagos State Polytechnic?
- iii. What is the level of awareness of open access resources among academic staff of Yaba College of Technology and the Lagos State Polytechnic?
- iv. What are the challenges associated with the use of open access among academic staff of Yaba College of Technology and the Lagos State Polytechnic?

Hypotheses of the Study: The following null hypotheses were formulated to further guide the study and tested at 0.05 level of significance.

H₀₂: There is no significant relationship between academic staff awareness and use of open access resources by academic staff in Polytechnics, Lagos State in Polytechnics, Lagos State,

Reviewed Literature

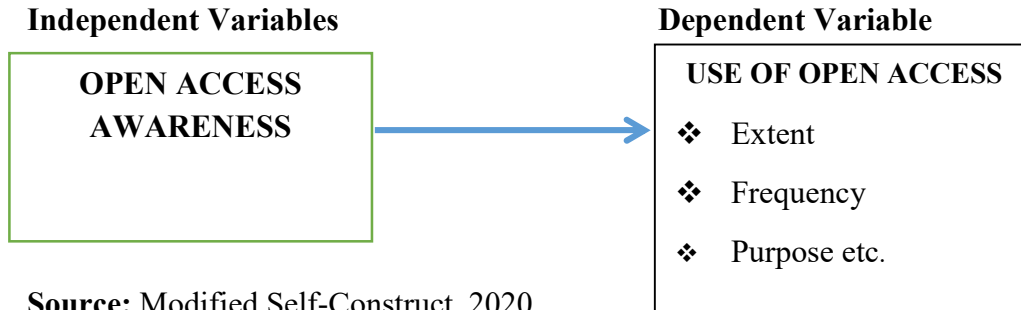
According to Ghavifekr, and Rosdy (2015), Open access publications (OAP) is an important communication tool for national growth and development by stimulating high productivity among academic scholars. Many global institutions are prioritising the use of OA and development of open access publishing. The increasing growth, acceptance and use of OA among current research communities is becoming very critical and unavoidable. The benefits of OA and OAP in guarantying effective use of library information resources are been accessed through different strategies in several institutions across the world including Nigeria. This need has been dominant research or discussion interest among scholars and information practitioners/libraries in recent times. Hence, several studies on OA and OAP agreed that the effectiveness on scholars' information access will be enhanced through OA and OAP specifically in area of material identification, location and selection which will improve learning and research publication (Abdelrahman, 2020). Many of the studies focused on lecturers (Faculty) members' perceptions or views of the state and nature of open access publishing in developed nations with very few on developing countries such as Nigeria. In other words, many of these authors' works were foreign based case studies. For instance, some studies dwelled on open access publishing technicalities. Such examined the levels of open access awareness and its usage in relation to scholarly communication in Tanzanian universities; and emphasized that there still exist dearth of knowledge and skills with regards to the current attitude towards open access publishing in across the globe among others (Okendo and Elliah, 2014).

Also, some authors carried out conceptual analysis of OAP and how authors and libraries are imbibing them into their information services in recent times. Many others dwelled on comparative study of librarians' perceptions about the current trends (modern) versus traditional (old) model of publishing in relation to open access functions and benefits without considering factors that could possibly influence their use. However, some closely related studies from

available literature dwelled on Lecturers' awareness and attitude towards open access resources and challenges confronting their development and use in university setting only without considering other tertiary institutions.

However, several studies have also shown that open access publishing and use in Nigeria is still skeletal and questionable. According to Obuh and Bozimo (2012), some authors emphasized that OAR and use help to increase academic outcomes; and that if facts about this proposition are insufficient or lacking, then, more critical research would be needed to understand scholars' perception of OARs and use for the enhancement of increased academic achievements. In order to meet-up with this recommendation among others, coupled with the fact that most studies on OARs and use among scholars were focused on the foreign environment or setting with very few works in Nigeria with problems of poor understanding of its relevance in terms of information resources access via open access publishing initiatives which would make this study handy and useful when allowed to continue.

It therefore becomes necessary to fill the vital gap created in this respect. Consequently, there have been many reports from revealed literature above that would serve as useful guides to this present study. Conclusively, we observed from literature available that no considerable or in-depth study has been conducted to investigate "academic staff awareness, use and attitude towards open access resources or publishing in selected higher institutions in Lagos State, Nigeria". In other words, it is observed that no study exists on the relationship between awareness, use and attitude towards open access publishing among academic staff in higher institutions in Lagos State, Nigeria. Therefore, this urgently necessitate this study on "academic staff awareness, attitude and use of open access resources: a study of selected higher institutions in Lagos State, Nigeria" to generate data that could fill this vital knowledge gap in the existing literature.

FIGURE 1: Conceptual Model

Source: Modified Self-Construct, 2020

Research Methodology:

The survey research design is correlational. Correlational research is that it helps to determine the direction of connection between “awareness and use of open access resources”.

The Population of the study is selected from Academic staff in two selected polytechnics in Lagos State formed the population of the study. The total population size consists of 1,826 academic staff strength.

Sample Size and Sampling Techniques: The multistage sampling technique was adopted in this study. **Research Instrument:** The instrument for data collection for this study was the questionnaire. The questionnaire was entitled “Academic Staff Awareness, and Use of Open Access Publishing Questionnaire (ASAUATOAPQ).

Reliability of Instrument: The instrument reliability was done using the Guttman Split-Half, and employs the Cronbach Alpha decision rule. The reliability test produced the following corresponding correlation co-efficient alpha values: $\alpha = 0.780$ (for Awareness of Open Access Resources Scale); $\alpha = 0.860$ (for “Use of Open Access Resources Scale”); $\alpha = 0.910$ (for Frequency of “Use of Open Access Resources” Scale; (for Challenges faced in the use of Open Access Resources Scale); and while their aggregate co-efficient alpha value was $\alpha = 0.839$.

Method of Data Collection: Via Google Forms to targeted respondents online through social platforms and groups to facilitate quick data collection and completion of the study while considering other logistics especially during the lockdown period resulting from the COVID 19 Pandemic.

Data Analysis: Data collected were analysed using SPSS. The mean was answered through the use of Descriptive statistics and standard deviation for the study research questions; and inferential statistics for the t-test for independent samples/Levene's Test for Equality of Variances were used to test the eight study hypotheses at 0.05 level of significance and criteria mean (Cut-off Point) placed at 2.50 and 3.00 respectively for four and five Likert Scale type.

Table 3.1 Showing Distribution of Academic Staff in each of the Federal and State-Owned Higher Institutions Selected for the Study in Lagos State.

S/N	Name of Institutions and Location	Population of Academic Staff	Sample Size via Slovician Formula
-	<i>Federal Institution</i>	-	-
1	Yaba College of Technology, Yaba, Lagos State	1,016	287
-	<i>State Institution</i>	-	-
2	Lagos State Polytechnic	810	268
	Grand Total	1,826	555

Source: Respective Institutions Administrative records 2019/2020 Academic session

Presentation of Data: The study data analysis is presented as follows.

Table 4.1.1: Demographic Data of Respondents

Statements	Frequency	Percentage
Gender Distribution of Respondents		
Female	198	56.7
Male	151	43.3
Total	349	100

4.1.2 Presentation and Analysis of Research Questions (Analysis of Responses)

The presentation and analysis of the study eight research questions are shown as follows.

Research Question 1: What is the extent of use of Open Access Resources among academic staff in Polytechnics, Lagos State?

The study respondents' responses to research question one is shown on Table 4.1.2.2.

Table 4.1.2.1: Extent of Use of Open Access Resources among Academic Staff

S/N	Statements	VHL (%)	HL (%)	LL (%)	VLL (%)	Mean
1	E-books	72 (20.6)	220 (63.0)	51 (14.6)	6 (1.7)	3.03
2	E-journals	70 (20.1)	228 (65.3)	45 (12.9)	6 (1.7)	3.04
3	Institutional Repositories	72 (20.6)	210 (60.2)	59 (16.9)	8 (2.3)	2.99
4	Open Courseware	74 (21.2)	221 (63.3)	47 (13.5)	7 (2.0)	3.04
5	Electronic Theses and Dissertations	84 (24.1)	214 (61.3)	42 (12.0)	9 (2.6)	3.07
6	Open Access Digital Libraries	98 (28.1)	209 (59.9)	37 (10.6)	5 (1.4)	3.15
7	Online Reference Tools	104 (29.8)	193 (55.3)	42 (12.0)	10 (2.9)	3.12
8	Open Archives	102 (29.2)	190 (54.4)	50 (14.3)	7 (2.0)	3.11
9	Subject Gateways	102 (29.2)	190 (54.4)	50 (14.3)	7 (2.0)	3.18
Cluster Mean / Overall Mean (3.081)						

Source: Field Survey, 2020

Results on table 4.1.2.1 shows the descriptive analysis of the extent of usage of Open Access Resources among academic staff. The overall mean rating of Extent of use of OAR is high (3.0081) based on the cut-off point of 2.5 on a scale of 4 Likert scale type. We can therefore conclude that the extent of use on OAR is very high among academic staff.

Research Question 2: Purpose of use of “Open Access resources” among academic staff for their professional needs? Respondents’ responses to research question three is shown on Table 4.1.2.2.

Table 4.1.2.2: Purpose of Use of Open Access Resources among Academic Staff

Purpose	Response
Teaching/ Learning e.g. for the preparation of lecture notes	330 (93.8%)
Article Publication	298 (84.7%)
Book / Monograph Publication	267 (75.9%)
Conference Paper Writing & Presentation	290 (82.4%)
Theses and Dissertations	279 (79.3%)
General Reading and Information Gathering	298 (84.7%)
Others e.g. for multimedia purpose, etc	280 (79.5%)

The table reveals that academic staff purpose of use of OARs spans across: Teaching/Learning (preparation of lecture notes), for articles writing/publication, Book/Monograph Publication, Conference Paper Writing and Presentation, writing of Theses and Dissertations, general reading and information gathering, as well as for multimedia purposes among others.

Research Question 3: What is the frequency of use of Open Access resources among academic staff? Respondents' responses to research question four is shown on Table 4.1.2.

Research Question 4: What is the Academic Staff Level of Awareness of "Open Access Resources" of academic staff in Polytechnics, Lagos State? Responses to research question one is shown on Table 4.1.2.1.

Table 4.1.2.4: Academic Staff Level of Awareness of Open Access Resources/Publishing

S/N	Statements	VHL (%)	HL (%)	LL (%)	VLL (%)	Mean
1	E-books	50 (14.3)	240 (68.8)	54 (15.5)	5 (1.4)	2.96
2	E-journals	52 (14.9)	249 (71.3)	43 (13.3)	5 (1.4)	3.00
3	Institutional Repositories	48 (13.8)	246 (70.5)	48 (13.8)	7 (20.)	2.96
4	Open Courseware	63 (18.1)	228 (65.3)	46 (13.2)	12 (3.4)	2.98
5	Electronic Theses and Dissertations	72 (20.6)	229 (65.6)	43 (12.3)	5 (1.4)	3.05
6	Open Access Digital Libraries	88 (25.2)	204 (58.5)	52 (14.9)	5 (9)	3.07
7	Online Reference Tools	94 (26.9)	200 (57.3)	46 (13.2)	9 (2.6)	3.09
8	Open Archives	96 (27.5)	194 (55.6)	50 (14.3)	9 (2.6)	3.08
9	Subject Gateways	101 (28.9)	200 (57.3)	42 (12.0)	6 (1.7)	3.13
Cluster Mean / Overall Mean (3.052)						

Source: Field Survey, 2020

Results on Table 4.1.2.4 shows the descriptive analysis of academic staff level of awareness of Open Access publishing/resources. The overall mean rating of academic awareness of Open Access resources is high (3.052) based on the cut-off point of 2.5 on a scale of 4 Likert scale type. it implied that the mean ratings of items 1, 2, 3, 4, 5, 6, 7, 8 and 9 with respective Mean of: 2.96, 3.00, 2.96, 2.98, 3.05, 3.07, 3.09, 3.08 and 3.13. Based on the cut-off point of 2.5,

the researcher concluded that Academic Staff Level of Awareness of Open Access Resources is very high.

Research Question 6: What are the challenges associated with the use of open access among academic staff in institutions of higher learning? The study respondents' responses to research question seven is shown on Table 4.1.2.7.

Table 4.1.2.6: Challenges faced in the use of Open Access Resources

S/N	Statements	SA (%)	A (%)	D (%)	SD (%)	Mean
1	Non availability of full text	36 (10.3)	13 (3.7)	107 (30.7)	193 (55.3)	2.14
2	Slow network access	83 (23.8)	229 (65.6)	34 (9.7)	3 (0.9)	3.12
3	Inadequate search facility	82 (23.5)	221 (63.3)	42 (12.0)	4 (1.1)	3.09
4	Lack of subject coverage	92 (26.4)	205 (58.7)	45 (12.9)	7 (2.0)	3.09
5	Lack of time	105 (30.1)	186 (53.3)	43 (12.3)	15 (4.3)	3.09
6	Lack of search skill	105 (30.1)	196 (56.2)	32 (9.2)	16 (4.6)	3.12
7	Lack of up-to-date information	13 (3.7)	36 (10.3)	193 (55.3)	107 (30.7)	2.12
8	Low quality of publications	107 (30.7)	193 (55.3)	36 (10.3)	13 (3.7)	3.13
9	Not user friendly	92 (26.4)	7 (2.0)	45 (12.9)	205 (58.7)	2.15
10	Inactive links	83 (23.8)	34 (9.7)	229 (65.6)	3 (0.9)	2.01
Cluster Mean / Overall Mean (2.706)					N = 349	

Source: Field Survey, 2020

Results on Table 4.1.2.6 shows the descriptive analysis on challenges faced during the use of "Open Access Resources". The overall mean rating on the challenges faced in the use of OAR is high (2.706) based on the cut-off point of 2.5 on a scale of 4 Likert scale type. We therefore conclude that the challenges faced by academic staff in the use of OAR is equally high. Thus, Table 4.1.2.7 reveals: slow network access, inadequate search facilities, lack of subject coverage, lack of time, lack of search skills, low quality of publications are among the challenges faced by academic staff in the use of OAR.

Test of Research Hypotheses (Hypotheses Testing): The study hypotheses were respectively tested in line with the three hypotheses formulated as follows:

Ho₁: There is no significant relationship between academic staff awareness and use of open access resources by academic staff of Polytechnics, Lagos State.

Table 4.2.2: PPMC Relationship between Academic Staff Awareness (ASAW) and Use of Open Access Resources (UOAR)

		ASAW	UOAR
ASAW	Pearson Correlation	1	.829*
	Sig. (2-tailed)		.000
	N	349	349
UOAR	Pearson Correlation	.829*	1
	Sig. (2-tailed)	.000	
	N	349	349

*. Correlation is significant at the 0.05 level (2-tailed).

Source; Authors SPSS (22.0) Output

Coefficient of Determination: C.O.D = $r^2 \times 100$

Where r = Pearson correlation = 0.829

Interpretation: The connection between Academic Staff Awareness (ASAW) and Use of Open Access Resources (UOAR) was investigated using Pearson's correlation coefficient. There was a significant positive correlation between the two variables [$r = 0.829$, $n = 349$, $p < 0.000$].

Decision: The correlation ($r = 0.829$ between Academic Staff Awareness (ASAW) and Use of Open Access Resources (UOAR)) is significant at 0.05 level, thus we reject null hypothesis (Ho) and accept the alternate hypothesis (H₂).

Conclusion: This implies that there is significant relationship between Academic Staff Awareness (ASAW) and Use of Open Access Resources (UOAR)

Discussion of Findings

The study major findings are logically discussed under separate paragraphs to suit its research questions and formulated hypotheses' analyses to reflect the study specific research questions above for easy understandings as follows:

Research question 1: Extent of Use of OAR: On the issues of Open Access resources use, the study showed that academic staff use of Open Access resources is high. Put differently, the extent at which academic staff utilize OARs or publishing is high. This could be due to the unique benefits derived from OARs on one hand and inadequate availability of subscription based scholarly published works on the other hand in libraries due to inadequate funding. This finding of high use of OARs among academic staff of the investigated institutions is in conformity with the study of Akintunde, (n.d) who cited Ghosh and Das (2007:3) who stated that OARs facilitate increasing use of all forms of scholarly communications in higher institutions of learning.

Research question 2: Purpose of Use of OAR: On purposes of use of OARs among academic staff, table 4.1.2.3 reveals that academic staff purpose of use of OARs are many and at very high rate/percentages that spans across all academic activities. This includes: Teaching/Learning (preparation of lecture notes), for articles writing/publication, Book/Monograph Publication, Conference Paper Writing & Presentation, writing of Theses and Dissertations, general reading and information gathering, as well as for multimedia purposes among others with the following respective responses and percentages: 330 (93.8%), 298 (84.7%), 267 (75.9%), 290 (82.4%), 279 (79.3%), 298 (84.7%) and 280 (79.5%). This finding is in support of Lee and Stvilia (2017) statement that OAR platforms have the ability of storage, curating research data that can increase the value of academic activities of various kinds among scholars for credibility and reuse potentials of OARs in higher institutions.

Research question 3: Frequency of Use of OAR: The study also discovered that the rate/frequency of use of OAP among academic staff in higher institutions in Lagos State is very high as shown on table 4.1.2.4. This could be due to its convenience of use compared to subscription-based information resources and related difficulties. This finding correlates with that of Okonedo (2015) who discovered that the rate at which scholars utilizes OARs in developing countries is high and increasing daily.

Research question 4: Academic Staff Awareness of OAR: Table 4.1.2.1: Academic Staff Level of Awareness of Open Access Resources/Publishing. The study data analysis on table 4.1.2.1, revealed that academic staff level of awareness of Open Access resources or Publishing is high. This could be attributed to the increasing proliferation or acceptance of digital devices

among staff and students in higher institutions as well as online scholarly information resources on the internet on one hand, and librarians' awareness and access creation responsibilities of relevance of Open Access resources/publishing to user community of the investigated institutions on the other hand, as well as issues of subscription challenges; as libraries/librarians are duty bound to do so or seek avenues to support teaching, learning and research efforts activities of its parent institutions irrespective of prevailing circumstances. This finding is in line with the opinion of Ivwighreghweta (2012) who revealed that scholars (academic staff) were totally aware of open access resources and institutional repository existence.

Research question 5: Challenges of using OAR: The study also found that the challenges faced by academic staff in the use of OARs is equally high in the selected higher institutions in Lagos State as presented in table 4.1.2.7. This suggests that respondents were of the view that irrespective of the high frequency of use of OARs among them, they also experience challenges the course of their use of Open Access Resources or published resources. These challenges as depicted on table 4.1.2.7 include: slow network access, inadequate search facilities, lack of subject coverage, lack of time, lack of search skills and low quality of publications. This finding is in support of the findings of Christian (2011) as cited by Ivwighreghweta (2012:9) who disclosed among others that OARs use challenges include: “inadequate knowledge or awareness and use of open access institutional repositories, poor state of information and communication technology, inadequate advocacy for open access repositories, poor or inadequate funding, and copyright and intellectual property rights”.

Conclusion

Findings showed the extent of use of Open Access Resources by academic staff in polytechnics, Lagos State is high. Academic staff of polytechnics in Lagos State indicated their purpose for using OARs is for teaching/learning (preparation of lecture notes), for writing of articles/publication, conference paper writing and presentation among others. There exists high frequency of use of Open Access resources among academic staff of polytechnics in Lagos State. The study also revealed that Academic staff level of awareness of Open Access Resources was very high among staff in polytechnics, Lagos State. The attitudinal disposition of academic staff of Polytechnics in Lagos State towards open access resources is negative. Challenges faced by academic staff in the use of OARs was equally high in the selected higher institutions in Lagos

State. Academic staff awareness of open access resources has a significant relationship with use of open access resources by academic staff in Polytechnics, Lagos State.

Recommendations

Recommendations are therefore put forward in line with the study for policy considerations especially now that the study outcomes have shown academic staff level of OARs awareness and use could have similar influence on their level of use of Open Access Resources in teaching/learning and research.

As touching the usage of open access resources, significant variation exists in the extent of use of open access resources between federal and state-owned institutions”, with LASPOTTECH showing high level of use than YABATECH. YABATECH management should try and ensure that proper trainings are given to their academic staff on the usage of this information resources and access to usage should be less cumbersome.

The researcher recommends that academic staff awareness of open access resources significantly influence their use of open access resources for teaching and research, this means that for there to be increase in usage, proper effort must be put in place through orientations and exposures to make sure that academic staff are properly aware of the open access resources available to them.

The findings shows that academic staff attitude towards open access resources significantly influence their use of open access resources for teaching and research, so efforts should be made by ensuring academic staff seeing the benefits of open access resources and what they stand to gain through continues effort by the library managements.

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