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# Determining the Extent of Use of Electronic Information Resources by the Distance Learners

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**Abstract**. This paper presents an analysis survey of the Nelson Mandela African Institution of Science & Technology (NM-AIST), the University of Dar es Salaam (UDSM) and Mzumbe University (MU). The survey aimed to assess the degree to which the academic community uses electronic information resources (EIRs). Data were collected using questionnaires and both quantitative and qualitative methods were used inthe methodology. The entire population in selected institutions was very large and 5258 library users were selected using the Kish formula for cross-sectional studies and convenient sample size was chosen including 120, 4888 and 250 library users from NM- AIST, UDSM and MU respectively under purposive sampling technique. The study found that 1217 (73%) of the respondents were aware of EIRs but had limited access because of social and technical challenges. The results conclude that users need practical information-retrieval skills and library managers should ensure adequate infrastructure to facilitate the productive use of EIRs.

**Keywords**: Electronic; information; resources; services; accessibility; satisfaction.

## 1. Introduction

The development of ICT has transformed the way information is created, stored and accessed, and the digitally circulation of knowledge has become possible through internet and web-based technology resources. According to Amjad, et al., (Amjad, Ahmed, & Naeem, 2013) “the move from physical to virtual products has created new ways to create, store, access, use and manage content although there are new challenges on the way to understand and learn from those digital processes." In many academic institutions, people not only rely on printed material but also use electronic services to meet their information requirements.

Electronic information resources (EIRs) are materials that are provided online and are stored, accessed and used electronically. Such resources are dynamic

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and widely employed by students, researchers, and faculty members to supplement printed resources and support knowledge discovery and collaborative learning.

The application of data and communication technology and its related facilities in higher learning institutions within the past decades have brought several information products and services for our routine activities such as teaching, learning, research, and community developments (Ibrahim, 2018). According to Montenegro, et al., (Montenegro et al., 2016) "the potentiality of e-resources is huge because they do not occupy physical space, save time and cost, and there is the ease of archiving content which is arranged subjectively and available 24 hours daily, 7 days a week." Tiemo & Ateboh, assert that EIRs is a very broad term that includes CD-ROMs, OPACs, and online databases that comprise e-books, e-journals, web publishing, and other internet resources (Tiemo & Ateboh, 2016). The benefits of EIRs have impelled university libraries to offer dedicated services to satisfy users' needs. According to Ukachu, 2015 (Ukachi, 2015), "E-resources are a crucial element for the academic community since they enable users to access updated information in the right format without spending much time." Chen, et al., (Chen, Makani, & Bliemel, 2016) added that "E-resources are convenient to access, easy to search and are also downloadable."

Various studies have been done regarding the utilization of EIRs. Most of these studies, however, have not focused on a particular group, especially in the case of Tanzania at the University of Dar es Salaam (UDSM) with around 32589 faculty members, the Nelson Mandela African Institution of Science and Technology (NM-AIST) having around 800 faculty members, and Mzumbe University (MU) accommodates around 8200 faculty members. Motivated by this gap, the present study was designed to assess the utilization, accessibility, and complications of electronic library resources by scholars from these three Universities. The objectives of the study were to; i) To determine awareness of EIRs by library users at UDSM, NM-AIST, and MU, ii) To examine the accessibility of electronic library resources and services offered in the universitylibraries, iii) To identify the problems encountered by the community users in accessing the e-library resources, and iv) To draw opinions and suggestions regarding ease-of-use towards improving the accessibility of e-library resources available at these universities.

## 2. Materials And Methods

The present study employed both quantitative and qualitative approaches. The quantitative approach involved use of a well-structured questionnaire while the qualitative approach involved unstructured interviews, casual talks, and in-depth discussions. The number of universities engaged in the survey was three; NM-AIST (with a population of 800 people), UDSM (with a population of 32589

people), and MU (with a population of 8200 people). The entire population included about 41589 faculty members from these three universities which were extremely large and not practical to survey. A reasonable, convenient, and manageable sample size of 5258 library users was randomly selected from these institutions for the study. The sample included 4888 users from UDSM, 120 users from NM-AIST, and 250 users from MU.

The minimum sample size was decided following the Kish formula (Equation 1 below) for cross-sectional studies (Muwonge, Zavuga, & Kabenge, 2015). The calculation was based on the library users' prevalence of 32% and the whole population of the universities of about 41589 people at the precision of 50, and a confidence level of 95%. Using this approach, the minimum sample size was established to be 332 people.

n^'=(NZ^2 P(1-P))/(d^2 (N-1)+Z^2 P(1-P))  Equation 1
Where n^'= Sample size with finite population correction,
N = Population size,
Z = Z Statistic for a level of confidence,
P = Expected proportion (prevalence),
d= Precision

A semi-structured questionnaire was designed and distributed as a data collection tool. The questionnaire was divided into three main categories. The primary part was an awareness of EIRs, the second on how one gets to access electronic library resources, and the third was about the issues and challenges faced when using the online searching platform to access electronic library materials and references. A 19-questions survey was used to investigate the extent of use of EIRs by distance learners. A total number of 5258 library users were involved in the study. The library users population that responded was 1667 drawn from the three universities USDM, NM-AIST, and MU (Table 1 below).

Table 1: Universities participated within the survey questionnaire, the population, the sample size, number of library users responded, and percentage of respondents

| No. | Name of the University | Population | Sample Selected | Respondents (res) | Percentage of Respondents ((No. of res/ Total res)*100) |
|---|---|---|---|---|---|
| 1 | University of Dar Es Salaam | 32589 | 4888 | 1350 | 81 |
| 2 | The Nelson Mandela African Institution of Science and Technology | 800 | 120 | 100 | 6 |
| 3 | Mzumbe University | 8200 | 250 | 217 | 13 |
| | Total | 41589 | 5258 | 1667 | 100 |

A total number of 1667 library users responded to the questionnaire; the number of library users responded from each university by percentage is as shown in (Table 1 above). USDM was 1350 (81%), NM-AIST 100 (6%), and MU 217 (13% ).

Gender

A total of 1184 (71%) of the respondents were males while 483 (29%) were females (Table 2 below).

Table 2: Number of male and female library users who responded from the three universities; UDSM, NM-AIST, and MU

| | | Name of the University | | | | |
|---|---|---|---|---|---|---|
| Rank | Gender | UDSM | NM-AIST | MU | Total | Percentage |
| 1 | Male | 960 | 71 | 153 | 1184 | 71 |
| 2 | Female | 390 | 29 | 64 | 483 | 29 |
| | Total | 1350 | 100 | 217 | 1667 | 100 |

Qualifications

Regarding the distribution of the status of the respondents, the analysis showed a majority 1100 (66%) were at Master's level, followed by Bachelor's at 300 (18%), Ph.D. holders at 250 (15%), and Diploma 17 (1%) (Table 3 below).

Table 3: The distribution of the status of respondents at UDSM, NM-AIST, and MU

| | | Name of the University | | | | |
|---|---|---|---|---|---|---|
| Rank | Membership Category | UDSM | NM-AIST | MU | Total | Percentage |
| 1 | PhD | 202 | 17 | 31 | 250 | 15 |
| 2 | Master's | 966 | 41 | 93 | 1100 | 66 |
| 3 | Bachelor | 167 | 42 | 91 | 300 | 18 |
| 4 | Diploma | 15 | 0 | 2 | 17 | 1 |
| 5 | Certificate | 0 | 0 | 0 | 0 | 0 |
| | Total | 1350 | 100 | 217 | 1667 | 100 |

Group Title

A huge majority of the respondents, 1384 (83%) were students, 217 (13%) teaching staff, and the rest 66(4%) were non-teaching staff (Table 4 below).

Table 4: Group title percentages of respondents at UDSM, NM-AIST, and MU

| | Name of the University | | | | |
|---|---|---|---|---|---|
| Group title | UDSM | NM-AIST | MU | Total | Percentage |
| Teaching staff | 153 | 13 | 51 | 217 | 13 |
| Non-teaching staff | 43 | 7 | 16 | 66 | 4 |
| Student | 1154 | 80 | 150 | 1384 | 83 |
| Library staff | 0 | 0 | 0 | 0 | 0 |
| Total | 1350 | 100 | 217 | 1667 | 100 |

Faculty

The faculty distribution of the respondents in the study is shown in Table 5 below. The analysis showed that 350 (21%) respondents were affiliated with Science and Engineering. Other respondents 317 (19%) were from the faculty ofEngineering and technology followed by the respondents from Faculties of Science and Technology 300 (18%). Natural and applied science had 217 (13%), Health and Allied Science133 (8%), Social Sciences 117 (7),

Agricultural Science and Fisheries 83 (5%), Law 83 (5%), Education 33 (2%), Business and Development Science 17 (1%), and Resource Assessment 17(1%).

Table 5: Faculty percentages of respondents at UDSM, NM-AIST, and MU

| Rank | Discipline area | Total respondents | Respondents Percentage |
|---|---|---|---|
| 1 | Science and technology | 300 | 18 |
| 2 | Engineering and technology | 317 | 19 |
| 3 | Science and Engineering | 350 | 21 |
| 4 | Natural and Applied science | 217 | 13 |
| 5 | Humanities | 0 | 0 |
| 6 | Social Sciences | 117 | 7 |
| 7 | Agricultural Science and Fisheries Technology | 83 | 5 |
| 8 | Health and Allied Science | 133 | 8 |
| 9 | Business and Development Science | 17 | 1 |
| 10 | Education | 33 | 2 |
| 11 | Law | 83 | 5 |
| 12 | Journalism and Mass Communication | 0 | 0 |
| 13 | Kiswahili Studies | 0 | 0 |
| 14 | Resource Assessment | 17 | 1 |
| 15 | Marine Studies | 0 | 0 |
| | Total | 1667 | 100 |

## 3. Results

### 3.1 Awareness of EIRs

Regarding the awareness of EIRs by the library users, four questions were formulated to analyze the aim. The first question was; are you aware of electronic library resources available at your Institution? A total of 1217 (73%) of the respondents were aware while 450 (27%) were not aware (Figure 6 below).

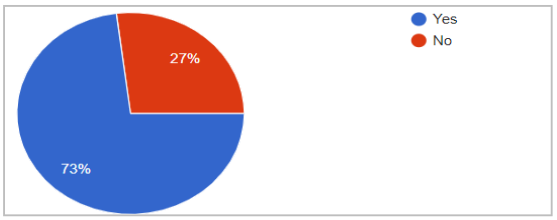


Figure 6: Awareness of respondents at UDSM, NM-AIST, and MU about the question above

The second question was to establish whether the respondents had ever received announcements concerning electronic library resources. A total of 1034 (62%) of the respondents confirmed to have received announcements while 633 (38%) had never received any information regarding electronic library resources (Figure 7 below).

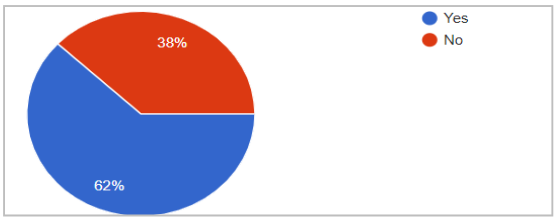


Figure 7: Awareness of respondents to information in the study

The third question was to determine whether one had a user electronic library account on the university library portal to allow for access, and use of electronic library resources. A total of 884 (53%) of the respondents affirmed having a library account while 783 (47%) did not have a library account (Figure 8 below).

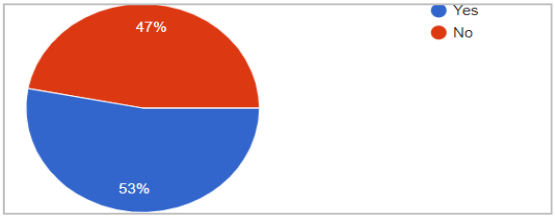


Figure 8: Possession of library user accounts by the respondents in the study

The fourth question was dependent on the previous answer; seeking reasons asto why respondents had never opened an account with the library. A total number of 1342 people was responded, whereby 420 (31.3%) of the respondents had access to other adequate information resources, 399 (29.7%) lacked awareness, 252 (18.8%) had a library account, 168 (12.5%) lacked time, and the rest 103 (7.7%) had poor internet access and no need for it (Figure 9 below).

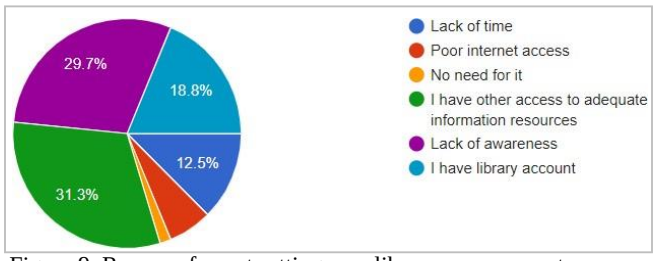


Figure 9: Reasons for not setting up a library user accounts

### 3.2 Accessing EIRs

The second category of the survey was on how members of the academic community of the university get to access EIRs. A majority 483 (29%) of the respondents were found to be using two ways; physically by getting help from a librarian as well as remotely, 400 (24%) physically through the university library's print collections, 250 (15%) none of the choices provided and 67 (4%) physically through university library getting help from a librarian (Figure 10).

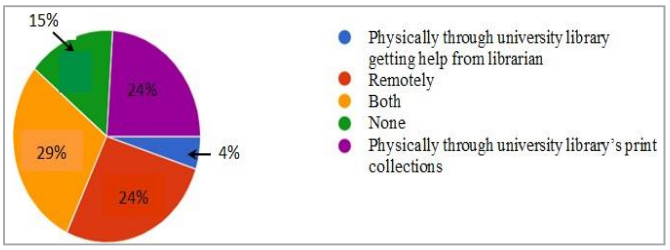


Figure 10: Accessibility of EIRs percentages of respondents in the study

### 3.3 Satisfaction with EIRs

Measuring users' satisfaction levels regarding electronic resources and services being offered by the libraries at UDSM, NM-AIST, and MU was the third aim of this survey. The question was formulated to understand the difficulties the library users face when using the online searching platform to access electronic library materials and references. A total of 834 (50%) of the respondents revealed that lack or poor internet connectivity was a major barrier to accessing electronic materials followed by 782 (46.9%) who attribute this to license restrictions to access digital collection, 628 (37.7%) to a limited number of downloads, 547 (32.8%) to the large mass of irrelevant information, 522 (31.3%) to the high cost of affordable online access, 495 (29.7%) to download delays, 338 (20.3%) to lack of in-depth ICT skills and knowledge, 300 (18%) to user authentication, 235 (14.1%) to information overload, 208 (12.5%) to poor ICT infrastructure, 130 (7.8%) to ack of standard interfaces on e-resources, 78 (4.7%) to the preference of print resources over e-resources, 27 (1.6%) to

academic staffs discouragement, 27 (1.6%) to a lot of ads alerts and a final 27 (1.6%) did not use e-library resources (Figure 11 below).

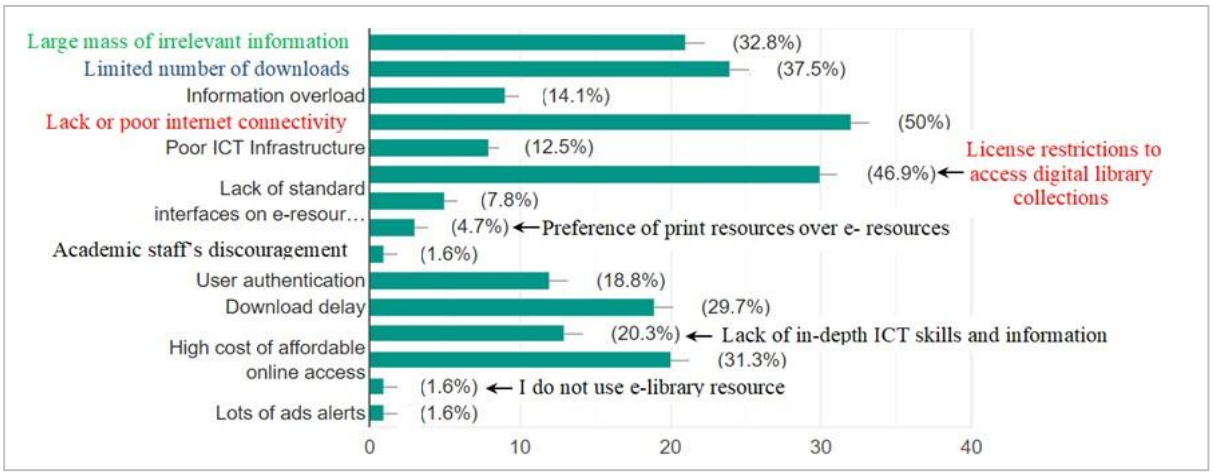


Figure 11: Problems faced by respondents in accessing EIRs in the study

## 4. Discussion

### 4.1 Awareness of EIRs

The present study found that a majority of the respondents 1217 (73%) appeared to be aware of EIRs but indicated that they had restricted access to the resources. It was also discovered that a total of about 1034 (62%) had received announcements about electronic library resources, and had been provided with access links to set up library accounts, but only 884 (53%) of the total population created the accounts. Although a larger percentage of the respondents 1354 (81.2%) specified having access to other adequate information access, it was concluded that a number of them lacked awareness, did not have time to set up a library user account, did not see the need for having a library user account and others faced difficulties to set up library account due to lack of ICT skills and poor internet connectivity. These findings are in line with Isibika who revealed that surveyed participants at MU were moderately aware of the library-subscribed e-resources, and the major barriers that caused underutilization were unstable network connectivity and lack of searching skills.It was recommended that library managers should equip library users with intensive training on information searching skills to increase utilization of the subscribed e-resources. Furthermore, it was strongly recommended that the library should market its subscribed e-resources to attract more users. (Isibika & Kavishe, 2018). Ruth (Ruth Simon, 2015), in her study of the use of e-resources at the University of Calabar Library, Nigeria established that even though

respondents were conscious of various sorts of EIRs within the university library, the rate of usage of those resources was low.

According to Ukachi (Ukachi, 2015) “the benefits that organizations and institutions reap from investments in information technologies and EIRs depend on the extent to which users possess the specified information literacy skills to utilize them.” The author also notes that "it is extremely important that one is well-conversant with the utilization and exploitation of e-resources to realize a quicker and simpler usage." Acquiring skills in information literacy increases students’ opportunities for self-directed learning since it allows their engagement in using a large variety of information to expand their knowledge, and sharpen their critical thinking (Natarajan, 2017).

According to Ferdows and Ahmed (Ferdows & Ahmed, 2015) "even though information literacy skills are hailed as essential lifelong skills in line with many other digital skills, there are limited opportunities for college students to improve and doing several assignments which may require them to refine and truly master the skills to search for information can help”. The researchers maintained that “Universities have to be compelled to develop well-defined curricula that encompass abilities and competencies to help undergraduates students to be competent in the use of various online resources.”

### 4.2 Access to EIRs

The present study established that a majority of the respondents had access to EIRs through alternative ways. The first alternative 483 (29%) accessed EIRs physically through the university library getting help from a librarian, 400 (24%) physically through the university library's print collections, 400 (24%) remotely, 250 (15%) none of the choices provided and 67 (4%) physically through university library getting help from a librarian. Generally, these results reveal that an information source can be difficult to access because of two main obstacles, poor EIRs facilities and lack of remote help.

The access and utilization of EIRs was conducted by Daniel (Daniel, 2016), the aspects that promote EIR utilization are timely availability, quick access, full- text searching of e-documents, and an assistance service. The use of EIRs by the undergraduates students at the University of Namibia’s Northern Campus was assessed by Ndinoshiho, (Ndinoshiho, 2010), and Natarajan, 2017 (Natarajan, 2017). Their findings revealed that a majority of the scholars used the web, however, e-databases were significantly underutilized. The scholars used electronic resources to get academic information but the major constraints faced were the inadequacy of computers, poor internet connection, and lack of skills.

### 4.3 Problems in accessing EIRs

The problems in accessing the e-library resources always hinder the motto of library managers to avail information to its users and defeat the aim of the second law of library science. The present study established that about 50% of the respondents felt that lack or poor internet connectivity is a major problem in accessing electronic materials, 46.9% were unsatisfied with the license restriction to access digital collection, 37.7% felt that a limited number of downloads are not user-friendly, 32.8% confirmed that large mass of irrelevant information is not suitable for users, 31.3% revealed that high cost of affordable online access is the barrier for accessing EIRs, 29.7% complained of download delays, and 20.3% lack of in-depth ICT skills and knowledge.

The underutilization of EIRs in many universities could be due to various reasons. Ndinoshiho (Ndinoshiho, 2010) showed that a lot of EIRs were considerably under-used by undergraduate nursing students at the University of Namibia's Northern Campus. The identified barriers included; unreliable intrnet,shortage of computers, and lack of information literacy. Another study by Joo and Choi (Joo & Choi, 2015) further revealed that the factors affecting online library resource selection by undergraduate students included usefulness and ease-of-use, resource quality, and individual preferences. Their study reported several things such as lack of awareness among students as well as faculty members, inadequate funding towards subscriptions, computer illiteracy,inadequate computer lab facilities, lack of training and orientation programs as well as poor knowledge about the links to e-library resources as part of the main challenges to e-library resources utilization.

Some constant challenges like low bandwidth, and funding, still affect the use of e-resources in many institutions. The high cost of bandwidth especially remains a serious challenge that hinders the general utilization of e-resources whereby users do literature searches and/or attempt to download articles but find the web slow (Alison, Kiyingi, & Baziraake, 2012).

According to Singh and Khan (Singh & Khan, 2015) “unavailability of printing facilities and trained personnel could be the main reason that discourages the use of EIRs. The factors that impeded the effective utilization of EIRs in their study were a large mass of irrelevant information, the necessity to filter search results, download delays, failure to seek information, and inadequate or lack of search skills. Their study showed that EIRs positively impacted the academic performance of the scholars but recommended the necessity for them to accumulate more skills in the use of EIRs.

Sivapragasam (Sivapragasam, 2011) also examined students' utilization of EIRs and established that the utilization of these resources was constrained by a lack of computers and information literacy skills and slow internet connectivity. The frequency of use of these resources indicated that the university needed to do a lot to enhance the use of EIRs in the institution. Ani (Ani, Ngulube, & Onyancha, 2015) administered a survey to find out the utilization of EIRs by theacademic staff at selected universities in Nigeria. The study showed that the resources were used for normal class assignments and research work but barriersto their usage included slow network connection, a large mass of irrelevant information, subscription issues, information overload, and absence of standard interfaces on e-resource portals, preference of print resources over EIRs, user authentication, and a high cost of affordable online access. Furthermore, the users also needed to get trained for the effective use of those resources.

Although enormous funding is invested for the subscription and management of e-resources by libraries, the utilization of these resources remains a concern in Tanzanian universities as was established by Angello, et al., (Angello & Wema, 2010; P. A. Manda, 2005; Mtega, Dulle, Malekani, & Chailla, 2015; Mtega, Nyinondi, & Msungu, 2013), the main problems encountered by respondents in gaining access to and using EIRs were slow internet connectivity, frequent incessant power failure, the users' poor attitude, inadequate data literacy skills, subscription funds, and few computers with internet facilities. Open-access initiatives that enable access to e-resources previously inaccessible in third world countries are now deployed to them for more effective utilization to enhance research and academics. Scholars in other developing countries have similarly reported such findings, for instance, (Adeniji, 2015; Isah & Bwalya, 2014; Kinengyere, 2007; Msiska, Kumitawa, & Kumwenda, 2017) established that the inadequacy of computers, length of passwords, poor internet connectivity, inaccessibility of some databases, and an unreliable power supply hindered scholars from using e-resources.

A review of Indian universities also found that lack of internet-connected computers and orientation on the use of e-resources, unreliable electricity, and the inadequate number of librarians hindered the utilization of e-resources among library users (Tawfeek Nazir, 2015). The indication is that a majority of e-resources do not seem to be effectively used as a result of individual and institutional factors which can cause other constraints associated with a reduced interest in the use of e-resources (Ahmed, 2013).

In Tanzania, most studies have focused on how and which e-resources are used together with the challenges inhibiting faculty members from using e-resources (Angello & Wema, 2010; P. Manda & Nawe, 2009; Mtega et al., 2015) then proposing the way forward which aligned with the following researchers' endorsements. User-satisfaction is one way of assessing the effectiveness of library services (Montenegro et al., 2016). According to Yousefianzadeh, et al.,

(O Yousefianzadeh, J Ghazi Mir Saeed S, 2015) libraries should introduce a feedback system to observe the utilization of e-resources. In line with Yebowaa (Yebowaa & Plockey, 2017), understanding user demands to enhance the efficiency and value of use e-resources has become a huge task for producers and providers of these resources. Dhanavandan et al., (Dhanavandan, Esmail, & Nagarajan, 2012) conducted a survey on the extent of satisfaction with the e-resources among scholars and faculties of the Krishnasamy College of Engineering and Technology library in India. They distributed nearly 150 questionnaires among the faculties and students, and 78.7% were responded to and the analysis rated the general assessment of service quality and user-satisfaction was as moderate. Mirza (Mirza & Mahmood, 2012) investigated the expectations of users Pakistani libraries using the LibQUAL. This was a questionnaire-based cross-sectional survey employing a sample size of 546 undergraduates, 501 graduates and, and 426 faculty members of different genders, ages, disciplines, and qualifications selected from 22 university libraries of Pakistan. The study evaluated the effectiveness of EIRs and library services on the premise of user satisfaction and concluded that infrastructure for the resources should be upgraded. In line with these results, some gaps call for more work to establish users' satisfaction with EIRs and services being offered in university libraries to come up with possible solutions.

## 5. Recommendations

To improve the use and awareness of e-library resources the following suggestions have been put forth after the analysis of e-resources conducted among research scholars of NM-AIST, UDSM, and MU. There should be several department-wise training and orientation programs for students and faculty members to optimize the utilization of e-resources. Similarly, from time to time, e-library resources demonstrations and trials should be organized for the new resources from publishers for users to create awareness of recent developments within the e-library resources technology. Additionally, a high- speed internet network should be availed within campuses and hostels with security measures agreeable to the users to limit the time users spend searching for information. Regarding the provision and use of e-resources, library managers should introduce services such as content alert, bulletin board, library newsletters, pamphlets, training tutorials/modules on use of the subscribed e-resources/databases. Librarians have to be compelled to improve the infrastructure of libraries EIRs which may increase the literacy skills of the users. Library managers should also develop web-based library services for the research scholars for librarians to survey and obtain feedback regarding the awareness and usefulness of the available e-resources.

## 6. Conclusion

The current study established that more than half of the respondents, 1217 (73%) were aware of EIRs and had knowledge of what they constitute but have restricted access due to numerous obstacles. Concerning the satisfaction of a provision of access to the EIRs, it was strongly agreed by the respondents that poor EIRs infrastructure is the most pressing problem faced in accessing electronic materials. Other problems included license restriction to access digitalcollection, a limited number of downloads, a large mass of irrelevant information, high cost of affordable online access, download delays, lack of in- depth ICT skills and knowledge, user authentication, information overload, poorICT infrastructure, lack of standard interfaces on e-resources, preference of printresources to e-resources, academic staffs discouragement, many ads alerts and not using e-library resources. The users preferred to search e-resources with simple and user-friendly interfaces. This study concludes that there should be key steps to increase the confidence, awareness, and use of e-library resources by users. These can include the organization of pro-active end-user training sessions in the libraries and various departments. Librarians should improve EIRs through re-structuring, designing and developing simple, easy and user- friendly tools to mitigate users' technical hitches.

## 7. Data Availability

The authors confirm that the data supporting the findings of this study are available within the article.

## 8. Acknowledgments

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## Appendix A

Survey Questions

What is your institution?

Nelson Mandela African Institution of Science and Technology
University of Dar es Salaam
Mzumbe University

What is your gender?

Male
Female
Others

What is your education level?

PhD
Master's
Bachelor
Diploma

Certificate
Others

What is your title?

Teaching staff
Non-teaching staff
Student
Institutional library staff

What is your discipline area?

Science and technology
Engineering and Technology
Science and Engineering
Natural and Applied Sciences
Humanities
Social Sciences
Agricultural Sciences and Fisheries Technology
Health and Allied Sciences
Business and Development Studies
Education
Law
Journalism and Mass Communication

Kiswahili Studies
Resource Assessment
Marine Sciences
Others

How would you rate your basic ICT knowledge and skills in searching the electronic resources?
Very Good
Good
Average
Poor

Have you received announcements about electronic library resources?
Yes
No

Do you have a user electronic library account on your university library portal for you to access and use electronic library resources?
Yes
No

If not from question number 8 above why have you not set up a library account?
Lack of time
Poor internet access
No need for it
I have other access to adequate information resources
Lack of awareness
I have a library account

How do you get to access electronic library resources?
Physically through university library getting help from a librarian
Remotely
Both
None

Does Internet connectivity prevent you from accessing electronic library resources?
Yes
No
Sometime

How important is it for you to have access to electronic library resources?
Not important

Slightly important
Moderately important
Important
Very important

Are you aware of electronic library resources available at your Institution?
Yes
No

Have you been exposed to any kind of online electronic library resource before?
Yes
No

Which electronic resources have you been using for searching for relevant academic materials? (Tick all that applies)
E-Newspapers
E-thesis and Dissertations (Institutional Repository)
E-Reference sources
Scholarly database (i.e. TEEAL, Research4life)
Publishers Journal Archive
Publishers Journal Collections
E-magazines
E-books Collections (Library System/ILS, OPAC)
Bibliographic Databases
Full-Text Abstracting and Indexing
Google Scholar
Others

What mode/type of e-learning were you or are you using to access electronic resources? (Tick all that applies)
Computer-based learning
Mobile-based learning
Video-based/CD-ROM based learning
Webinars (a.k.a. Web seminars/video conferencing)
Virtual classroom (e.g. Online portal)
Others

Which one of the following information sources have you used over the past 3 months? (Tick all that applies)
World Wide Web/www
Electronic library resources
Institution library print materials
Institutional repository
Colleagues in other Universities

Personal library collection
None
Others

Your studies/work/research work had been affected by the difficulty of accessing online library references
Yes
No

What problems are you facing when using the online searching platform for accessing electronic library materials and references? (Tick all that applies)
A large mass of irrelevant information
Limited to the number of downloads
Information overload
Lack of or poor internet connectivity
Poor ICT Infrastructure
License restrictions to access the digital library collection
Lack of standard interfaces on e-resources portals
Preference of print resources over electronic resources
Academic staff discouraging the use of e-resources
User authentication
Download delay
Lack of in-depth ICT skills and information searching skills
The high cost of affordable online access
Others