

## The Role of Institutional Repositories in Facilitating Scholarly Communication at the Open University of Tanzania and University of Dar es Salaam

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### Abstract

This study explored the role of Institutional Repositories (IR) in facilitating scholarly communication in Institutions of higher learning in Tanzania with the case of the Open University of Tanzania and the University of Dar es Salaam. The study examined the benefits of IR among researchers and explored the challenges facing its management. The study employed a survey research design. Data was collected using a questionnaire survey, involving 148 postgraduate students. Moreover, the study used interviews to collect data from two library directors and two directors of research and publications of the two Institutions of higher learning under review. Of the respondents, 89(73.6%) reported that IR enhances research outputs. However, they also identified several challenges including poor internet connectivity 56(83.6%), unreliable power supply 49(73.1%) and limitations of accessing IR contents 34(50.7%). Other bottlenecks identified included a lack of policy to guide the IR management, limited motivation among academic staff to submit their research output, and a lack of institutional support and commitment from the management. Based on the findings, strategies suggested include formulating and instituting comprehensive policies to guide the proper management of IR, enhanced management support in allocating sufficient budget for ICT infrastructures and hardware, and motivating staff to use IR. In addition, the librarians should market the services provided by IR to inform users on what is available in the IRs, because the value of information deposited depends much on its accessibility and usage. Doing so could further effectively contribute to enhancing scholarly communication at the two institutions.

**Keywords:** Institutional repository, scholarly communication, higher learning institutions, Tanzania

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## **Introduction**

The main objective of this study was to explore the role of Institutional Repository (IR) in facilitating scholarly communication in the selected Institution of higher learning in Tanzania. Institutional repositories in the present era of digitisation have provided access to vast opportunities for the dissemination and sharing of scholarly communication (Njagi & Namande, 2018). This innovation in scholarly communication provides scholars with wider access to scholarly publications than ever before (Bwardwaj, 2014). According to Crow (2002), Institutional Repositories are digital collections that capture and preserve the intellectual output of a single or multi-university community. In this context, institutional repositories are vital technologies for capturing structural intellectual capital, knowledge sharing, and management in academic and research institutions. On the other hand, scholarly communication is a subset of human communication that facilitates connections among scholars and the establishment of awareness of scholars' ideas. After, as Klain-Gabbay and Snunith (2019) and Hill (2016) further explicate, research findings usually have little to no significance unless they are disseminated and shared.

The two terms 'Institutional repository' and 'scholarly communication' complement each other. The IR facilitates the broader accessibility of scholarly communication by removing barriers, thus enhancing learning, teaching, and research and consultancy services at institutions of higher learning (Bicknese, 2003; Gibbons, 2004). Clarke and Kim (2023) have identified motivating factors behind the formation of institutional repositories. These include the desire to improve access to research and other scholarly literature and to raise institutional research its visibility by promoting the research conducted by its members through enhanced access to that research (Clarke & Kim, 2023).

Samzugi (2017) asserts that changes in the traditional system of scholarly communication have prompted universities to adopt novel ways of accessing and communicating their research results. After all, the ICT use-engendered revolution has resulted in the emergence of institutional repositories (IRs) which facilitate the collection, preservation, and dissemination of institutional research outputs (Christian, 2008). IR is premised on its capacity as an enabler to provide opportunities for accessing the intellectual wealth of an institution but also provides a platform through which scholars contribute and share institutional research outputs (Prosser, 2003). IR is essential in pollinating interdisciplinary research within an

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institution (Bwardwaj, 2014). Indubitably, institutional repositories in the institutions of higher learning acquire, preserve, and disseminate locally generated scholarly content (Giesecke, 2011). Significantly, institutional repositories facilitate scholarly communication and knowledge sharing within and outside the country, increase research impact, and provide an environment for scholars to find, use, and cite their works (Foster & Gibbons, 2005). Information access and delivery have equally changed from traditional handbound to electronic, whereby collection, preservation, dissemination and access are mostly performed electronically (Muneja & Ndenje-Sichalwe, 2016).

Before the advent of IR, most university libraries in East Africa had established an East Africana collection section as part of their library special collections. These collections, which have accrued over the years, are unique in their local context in preserving for posterity locally-generated content. Consequently, they have served as core sources of information and references in research, teaching, and learning. In this context, these collections have also acted as institutional repositories for their universities. However, their accessibility to the wider community was limited to printed indexes which were shared among universities in the East African region, under the umbrella of the Inter-University Council for East Africa (IUCEIA, 1991).

Besides, resource sharing vide the interlibrary loan arrangements for physical documents between sister university libraries in East Africa was difficult, costly, and often time-consuming, particularly, in getting documents transferred from one East African country to another (IUCEA, 1991). This difficulty was attributable to the unreliable postal services at the time, which were slow and expensive. Consequently, the scholarly output that emanated from East African universities, including those in Tanzania, was barely known to the outside world, nor was it cited extensively by other scholars. Under such a scenario, these countries ended up being consumers of foreign ideas and knowledge, which, at times, do not provide requisite unique solutions to the challenges facing the continent. The advent of IRs, on the other hand, has facilitated efficient dissemination, access, use, and sharing of scholarly information amongst library users globally.

Nevertheless, the efforts made to put in place functional institutional repositories at the Open University of Tanzania and the University of Dar es Salaam, two of the country's public universities, there is still a paucity of research conducted on the extent to which IRs have benefited library users at the two universities. Neither have the challenges facing these universities in managing Institutional repositories been explored from a scholarly



perspective. Even though scholarly works conducted in Tanzania pertaining to IRs are abundant (see, for example, Muneja & Ndenje-Sichalwe, 2016; Nunda & Elia, 2019; Kayungi, a-Sichalwe, & Manda 2021; Mbughuni, 2022; Mbughuni *et al.*, 2022; Mbughuni *et al.*, 2023; Msofe & Buhomoli, 2023), much needs to be done. Despite the valuable contributions made by these studies, however, the role of IR in facilitating scholarly communication has not been established empirically. This study, therefore, intends to examine the benefits and challenges facing Institutional repository management at the Open University of Tanzania and the University.

## **Literature Review**

### ***Benefits of Institutional Repositories***

Institutional repositories can enable users to perceive them to be beneficial based on deliverables, including meeting their information needs and facilitating their accomplishing what they want to do. Different scholars have acknowledged the benefits the Institutional repositories provide. Neugebauer and Murray (2013) assert that institutional repositories and their contents are more reliable and authentic because they are subjected to rigorous peer reviews than information from search engines such as Google. Muneja and Ndenje-Sichalwe (2016), on the other hand, contend that an IR enhances the visibility of scholarly work generally, hence promoting images of researchers and their respective institutions.

In addition, Nunda (2018) proffers that IRs' easy access remained their major advantage to succeed in the scholarly world. Other additional motivating factors behind the formation of institutional repositories include the desire to improve access to research and other scholarly literature (Bicknese, 2003; Gibbons, 2004), timely dissemination of information, expediting copyright protection, and helping to curb plagiarism. In short, extant literature reaffirms that IRs allow institutions to store and track what universities produce while easily availing them to others. In the same vein, IRs also serves as a means for scholars to share knowledge. Sharma, Meichio and Saha, (2008) reported it increases visibility, reflects a high quality of scholarship; demonstrates the value that can translate into tangible benefits such as funding from public and private sources that drive in part from an institution's status and reputation.

Baro and Echedom(2023) assert that faculty members depositing their research papers on the IR will make them visible globally, attract more citations, increase the usage of their work, and allow for global access to scholarly literature. Besides that, IR enables researchers outside to access

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literature more easily were seen as the perceived benefit of depositing their works to the IR. However, the extent to which IR is beneficial in helping users achieve their objectives at the Open University of Tanzania and the University of Dar-es-Salaam remains a subject worth this investigation.

### ***Challenges to Institutional Repositories***

Besides the obvious benefits associated with institutional repositories, there are also challenges affecting them. Literature from both developed and developing countries has indicated some differences in the challenges institutions face in establishing, adopting, and managing IRs. The most commonly cited challenges that African institutions include unreliable power supply, lack of knowledge or awareness of its potential (Dlamini & Snyman, 2017; Muneja & Ndenje-Sichalwe, 2016; Otando, 2011; Mbughuni, 2022), ill-established ICT infrastructure (Dlamini & Snyman, 2017; Otando, 2011; Mbughuni *et al.*, 2023; Clarke & Kim, 2023), technology, infrastructure, budget, inadequate funding or financial support (Dlamini & Snyman, 2017, Mbughuni *et al.*, 2023). Otando (2011) noted that the establishment of IRs faces challenges of copyright and policy issues, as well as promotional and sustainability challenges. Lwoga and Questier (2014), Clarke and Kim (2023) identified copyright as an issue when engaging in archiving library materials via institutional repositories.

Implicitly, not all library materials are open for uploading and accessing online, without the authors' or publishers' permission. Nunda (2018), Nunda, and Elia (2019, Muneja, 2022, Mbughuni, 2022) also observed that lack of policy constituted one of the major challenges that affect the effective adoption and use of IRs in Tanzania's institutions of higher learning. Kathewera's (2016), Adedapo's (2020) study identified poor network infrastructure and lack of awareness of the very existence of institutional repositories to be among the challenges to the accessibility and visibility of IRs. Also, some university IRs are only accessible via the Local Area Network (LAN). Talam (2014), cited cost to be one of the challenges since it had implications for the type of technology used and services rendered for data preservation and staffing. Njagi and Nyamage (2018), on their part, noted that the management of IRs in Kenya faces challenges such as the unwillingness of researchers to submit their research content to the IRs, lack of resources, inadequate staff, and lack of submission policy. The study found that poor Internet connectivity, lack of technical know-how, lack of motivation from management, time-consuming, fear of plagiarism, and copyright issues might hinder them from depositing documents to the IR of



the university. Adedapo (2020) revealed that the access process of the IR scholarly resources is hindered by the lack of sufficient information about IR scholarly resources and inadequate ICT infrastructure, Ukwoma and Ngulube (2019) showed that the key barriers to the utilization of IRs were lack of enough infrastructure, lack of frequent sensitization programmes. Massawe *et al.*, (2023) cited the inability to access full text as a challenge that postgraduate students face when accessing IR resources because most of the materials only have abstracts thus demotivating users to utilize repository resources.

To overcome some of these challenges, studies have provided a wide range of solutions and suggestions. Dlamini and Snyman (2017), and Mbughuni *et al.*, (2023) suggest awareness creation on IRs among academic institutions, setting aside budgets that cover both the cost of the technology and human resources (Clarke & Kim, 2023) through effective advocacy strategies suitable for the African context (Dlamini & Snyman, 2017). There is also a need to expand the network coverage and increase the internet bandwidth for the IRs to be made accessible to a wider campus community (Kathewera, 2016).

Previous studies have also implored academic libraries to serve as control units for institutional repositories in addition to developing mandatory institutional repository policy documents that consider the interests of all stakeholders (Kathewera, 2016). Such policy documents should also stipulate whether submission would be made directly by authors (self-archiving) or mediated by designated individuals (library staff) and clearly state the content type to be captured in the repository, as well as eligibility criteria for control submission.

## **Research Methodology**

This study was conducted in two purposively selected public universities in Tanzania, namely the University of Dar es Salaam (UDSM) and the Open University of Tanzania (OUT). These two Universities had well-established and fully functional institutional repositories, hence their selection. In addition, the two institutions differ in their mode of delivery. The Open University offers its programmes through open and distance methods, with students scattered all over the world, hence making it increasingly difficult for them to access the research output stemming from their university through bricks and mortars library. On the other hand, the University of Dar es Salaam was selected to represent the conventional university system.

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The study employed questionnaires with both closed- and open-ended questions to collect primary data from postgraduate students through an Online Web-based survey to collect quantitative data from 121 postgraduate students. To complement data from the online survey, face-to-face interviews with four key informants (2 library directors and 2 heads of research and publication directorates) were conducted through the use of interviews.

Quantitative data were collected and analysed via the online Google form in real time. The data collected and analysed were then imported into Microsoft Excel and Microsoft Word for further analysis and presentation. Qualitative data obtained through face-to-face interviews and web content methods was thematically arranged and analysed. Qualitative findings were presented using narrative and interview extracts. The quantitative data from the questionnaire, on the other hand, have been presented based on the specific research objectives and their corresponding research questions using tables, graphs, and figures. Together, the qualitative and quantitative results constitute a comprehensive outlay of the findings.

## Results

### *Demographic Characteristics of Respondents*

The demographic information helped to establish relationships between social demographic characteristics and the respondents' responses on the perceived benefits and challenges of IRs. The presentation and interpretation of socio-demographic information is followed by the presentation and analysis of the results in accordance with the research objectives. The table presents the respondents' institutional affiliation, gender, and age distributions.

**Table 1:** Respondents' Gender, Age Distribution, and Institutional Affiliation (n=121)

Background Information	Frequency	Percentage
<b>Respondents' Gender</b>		
Male	76	62.8%
Female	45	37.2%
<b>Age Groups (In years)</b>		
Below 30	9	7.4
31-35	41	34
36-40	32	26.4
41-45	17	14
46-50	4	3.3



51-55	11	9
>55	7	5.9
<b>Name of the Institutions</b>		
Open University of Tanzania	51	42.1
University of Dar es Salaam	70	57.9

**Source:** Field Data (2021)

Out of 121 respondents who participated in the survey, 76(62.8%) were males and 45(37.2%) were females. Of these respondents, 70 (57.9%) were from the University of Dar es Salaam and 51(42.1%) from the Open University of Tanzania. With regard to the respondents' ages, it was evident that the majority of the respondents were aged between 31 and 36 years and from 36 to 41 years. The lopsided gender distribution in favour of male respondents signals the continued under representation of women in higher learning institutions particularly at the postgraduate level dominated by in-service males in Tanzania.

#### ***Respondents' Level of Postgraduate Studies and Degree Programmes***

The majority of the participants 84(69.2%) were enrolled in master's programmes. None of the participants was in a postgraduate diploma programme, as Table 2 illustrates:



**Table 2: Level of Postgraduate Studies and Degree Programmes (n = 121)**

<b>Level of Studies and Degree Programmes,</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Level of Postgraduate Studies</b>		
Masters' Degree	104	85.95
Doctoral (Terminal) Degree	17	14.05
<b>Degree Programmes</b>		
Master of Archaeology	7	5.9
Master of Arts in Archaeology	4	3.3
Master of Art in Records and Archival Management	8	6.6
Master of Library and Information Management	9	7.4
Master of Arts in Information Studies	11	9
Master of Arts in Statistics	6	4.9
Master of Arts in Cultural Heritage Management	5	4.1
Shahada ya Umahiri wa Kiswahili (Master of Arts in Kiswahili)	6	4.9
Master of Education Management and Administration	8	6.6
Master of Arts in History	7	5.9
Master of Arts in Economics	6	4.9
Master of Arts with Education	9	7.4
Master of Arts in Applied Social Psychology (MAASP)	5	4.1
Master of Laws in Information Communication and Technology	2	1.7
Master of Arts in Mass Communication	4	3.3
Master of Law Intellectual Property	5	4.1
Master of Arts in Strategic and Peace Studies	2	1.7
PhD in Biological Anthropology	2	1.7
PhD in Education	4	3.3
PhD in Archaeology	2	1.7
PhD in Information Studies	5	4.1
PhD in Public Administration	2	1.7
PhD in History	2	1.7

**Source:** Field Data, (2021)

The results in Table 2 show that 104(86%) of the respondents were master's students enrolled in 17 different programmes. Another 17 (14%) were PhD candidates in six different PhD programmes. The master's degree respondents outnumber those in the PhD programme much in line with the enrolment statistics in the two universities under review. The PhD mostly



attracts those who are in academia or research institutions, hence the limited number.

***IR Benefits for Researchers and Scholars at OUT and UDSM***

Institutional repositories (IRs) can contribute to a wide range of benefits for the University communities, particularly in the aspect of scholarly communication. As such, respondents were asked to indicate the perceived benefits that IRs offer to the researchers and university generally. Table 3 summarises the results on perceived IR benefits:

**Table 3:** Benefits accruing from institutional repositories for researchers at OUT and UDSM (n=121)

<b>Statements</b>	<b>Frequency</b>	<b>Percentage</b>
Submitting research outputs to IR increases the number of times the work is cited	37	30.6
IRs improve the visibility of research outputs	48	39.7
IRs enhance the prestige of my institution	17	14
IRs facilitate future research collaborations	26	21.5
IR supports learning and teaching	14	11.6
IR increases the accessibility of research outputs	89	73.6
IR improves the quality of research outputs	62	51.2
IR enables keeping track (monitoring trends) of research outputs	21	17.4
IR promotes wider scholarly communication	92	76
IR increases the role of the library as a viable partner in the research endeavour	8	6.6
IR maintains control over the institution’s intellectual property	48	39.6
IR reduces dependence on the library’s print resources	21	17.4

**Source:** Field Data (2021)

As Table 3 illustrates, the respondents identified a wide range of IR benefits, particularly in disseminating research output from respective universities, the potential of establishing research collaboration and improving the visibility and accessibility of research outputs. These findings highlight how IRs play a key role in facilitating scholarly communication within and outside the university communities. Concerning benefits accruing for the institutions after establishing an IR, the study participants similarly identified different benefits during interviews with key informants as the following interview extracts exemplify:

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IR provides easy access to research outputs. Due to the nature of our university, which is an ODL where members of our university community are scattered all over the world can remotely access research outputs produced by academic staff and students. This is essential in saving time. There are other associated benefits of IR such as reducing the possibility of other people plagiarising previous works, especially theses and dissertations (Respondent A, OUT)

At the institutional level, the respondent pointed out:

IR offers numerous benefits including increasing the visibility of the intellectual outputs of the institution, improving institutional ranking, and facilitating scholarly communication. (Respondent A, OUT)

### ***Challenges OUT and UDSM face in managing Institutional Repositories***

The institutional initiatives to effectively manage their IR invariably face several challenges. Such challenges and their suggested mitigation measures were categorised into technical, user-related and administrative. The results show that poor internet connectivity attributable to low bandwidth (83.6%), unreliable power supply (73.1%), inadequate number of publications (61.2%), lack of wider access to the IR content (50.7%) and unnecessary restrictions to IR contents (43.3%) are the main technological challenges facing the management of OUT and UDSM’s IRs. Table 4. details the findings on this aspect:

**Table 4:** Technological Challenges in Managing IRs at OUT and UDSM (n=67)

<b>Responses</b>	<b>Frequency</b>	<b>Percentage</b>
Poor internet connectivity attributed to low bandwidth	56	83.6
Lack of wider access to the IR content	34	50.7
Inadequate network infrastructure	11	16.4
Insufficient and outdated hardware and software components	12	17.9
Unreliable power supply	49	73.1
I do not know since I have never used the IR	6	9
Inadequate number of publications	41	61.2
Libraries have not adopted the latest technology with an IR.	7	10.4
Members are not ready to deposit their publications	15	22.4
Unnecessary restrictions on IR contents	29	43.3

**Source:** Field Data (2021)

Table 4 presents results similar to those by Dlamini and Snyman (2017), and Njagi and Nyamage (2018), Mbughuni *et al.*, (2023), whose studies reported



challenges to include researchers' reluctance to submit their research content to the IRs and poor power supply. Respondents suggested different strategies for mitigating technological challenges faced by OUT and UDSM IRs. The different strategies they suggested have been presented in Table 5:

**Table 5:** Strategies for Overcoming Technological Challenges (n=67)

<b>Responses</b>	<b>Frequency</b>	<b>Percentage</b>
Increasing the budget for IT infrastructure	48	71.6
Increasing the speed of internet connectivity	32	47.8
Providing power backup	46	68.7
Making deposition of content to IRs mandatory for all	22	32.8
Hiring IT specialist for data security	9	13.4
Ensuring that all research content is populated to IRs	61	91
Strengthening the IT department	4	6
Making IR content available for public access	51	76.1
Installing the latest version of IR software	3	4.5

**Source:** Field Data (2021)

The predominant suggested strategies for mitigating technological challenges included taking measures to ensure that IRs are populated with research content (91%), ensuring the availability and public access to IR contents (76.1%), improving financial support for ICT (71.6%), providing power backup (68.7%), boosting internet connectivity speed (47.8%), and making submission of research contents mandatory (32.8%).

#### ***User-Related Challenges Facing OUT and UDSM IRs***

Respondents further identified IR user-related challenges. Table 6 presents the results:

**Table 6:** IR User-related challenges at study universities (n=32)

<b>Responses</b>	<b>Frequency</b>	<b>Percentage</b>
Computer illiteracy among users	9	28.1
Lack of awareness of the importance of IR	10	31.3
Lack of awareness of the existence of IR	8	25
Lack of customer care skills among librarians	17	53.1
Lack of Technical skills among staff	4	12.5
Lack of searching skills	2	6.6

**Source:** Field Data (2021)

As Table 6: illustrates, out of the 32 respondents who responded to this question, 17(53.1%) indicated that librarians should be equipped with customer care skills which they lacked to enable them to provide good

support to IR users whereas 10(31.3%) mentioned lack of awareness among IR users on the importance of IR, as a major challenge. Computer illiteracy among users (n=9, 28.1%), lack of awareness of the existence of IR (n=8, 25%), lack of technical skills among staff (n=4, 12.5%) and lack of search skills (n=2, 6.6%) were other hurdles they cited. These results are generally congruent with those of Dlamini and Snyman (2017), Otando (2017), and Mbughuni *et al.*, (2023), who reported a lack of knowledge and awareness, as the challenges IR users faced.

Respondents also suggested various mitigation measures aimed at addressing IR user-related challenges. These suggestions include the removal of restrictions imposed on accessing IR content, marketing of IR to promote usage, and **provision** of training to IR users. Figure 1: provides details of the suggested measures:

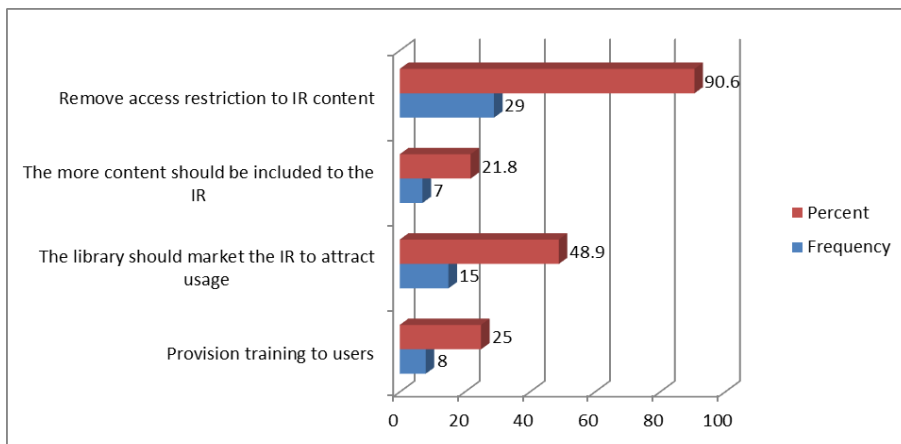


Figure 1: Suggestions to address IR User-related challenges  
**Source:** Field Data (2021)

The majority (n=29, 90.6%) of the respondents mentioned the removal of restrictions imposed on accessing IR content as a strategy for overcoming challenges that users face. However, the restriction imposed on accessing IR contents contradicts the philosophy of establishing IR, which, *inter-alia*, is designed to encourage the accessibility of information without any undue restrictions. Another suggestion mentioned by 15(48.9%) has to do with libraries taking initiatives to market the services IRs provide to inform users about the IR collections because the value of information deposited depends much on its accessibility and usage. Meanwhile, eight (25%) respondents

suggested providing training to users to equip them with the much-needed information search skills to ease the associated challenges of locating and using content available in the IR. Another seven (21.8%) called for including more content in the IR most probably to meet their perceived unmet information needs.

***Institutional Repository Management Challenges OUT and UDSM Face***

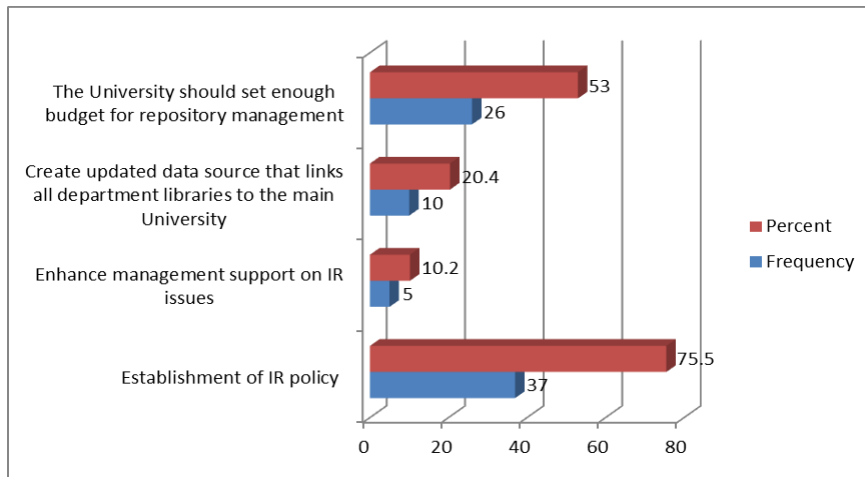
Furthermore, the respondents identified the management challenges the two universities face in managing their IRs. Table 7 presents the results:

**Table 7: IR Management Challenges the Two Institutions Face (n=49)**

<b>Challenges</b>	<b>Frequency</b>	<b>Percentage</b>
Lack of support and commitment from the management	6	12.2
<b>Reluctance</b> in making IR content available to the public	39	79.6
Lack of policy to guide IR management	31	63.3
Lack of motivation among academic staff to submit their research outputs to IR	26	53.1

**Source:** Field Data (2021)

Out of 49 respondents who responded to this question, 39 (79.6%) cited the university management’s reluctance to make IRs freely accessible to the public with full-text content as a major management challenge facing IRs. Other challenges they identified include a lack of policy to guide the management of IR (n=31, 63.3%), a lack of motivation among academic staff to submit their research output (n=26, 53.1%) and a lack of support and commitment from the management (n=6, 12.2%). The respondents suggested strategies for addressing management challenges, as summarised in Figure 2:



**Figure 2:** Strategies for Overcoming IR institutional challenges (n=49)  
**Source:** Field Data (2021)

Formulating and instituting viable IR policies and allocation of sufficient budgets for such IR management were the most frequently suggested solutions to mitigating the challenges of the two universities. Similarly, findings on different challenges from the questionnaire survey were complemented by those reported from interviews. Indeed, subsequent interviews revealed that institutions contended with challenges related to technical, financial, and human resources. As one of the key informants explained:

Some of our researchers are reluctant to submit their research output to the repository. Likewise, the available ICT infrastructures in terms of hardware and internet connectivity are not sufficient enough to support effective management of IR. (Respondent B, OUT).

For the University of Dar es Salaam, there is restricted access to some materials, particularly theses and dissertations, for which users can only access the abstracts. This restriction contradicts the philosophy of IR, which aims to provide wider dissemination of research output to the members of the university community without any restrictions:

While we need to promote our research outputs, we still have some contradictory directives that restrict access to full texts of our postgraduate students' theses and dissertations. This has an impact on both the visibility and accessibility of research output and researchers and it goes against the philosophy of IR. (Respondent C, UDSM).

With regard to mitigation measures required to overcome these challenges, the respondents identified different strategies. One of the respondents said:

Researchers should note that it is their moral and intellectual responsibility to participate in the development of the repository. There is a need to initiate a university-wide campaign for raising awareness among university community members on the importance of contributing their publications to the IR” (Respondent D, UDSM).

Another respondent said:

The budget set for the management of IR is not sufficient to suffice all the needs. Allocation of sufficient funds will eliminate other challenges related to hardware for managing IR as well as poor Internet connectivity. (Respondent C, UDSM).

The paper aimed to explore the benefits offered by the Institutional Repository and the challenges faced. The study of the IRs at the Open University of Tanzania and the University of Dar es Salaam illuminates the benefits and challenges of IR in scholarly communication. The findings show that IRs facilitate scholarly communication by disseminating research output stemming from respective universities. Besides, they have the potential to promote research collaboration and improve the accessibility of research outputs. Based on these findings, it is apparent that IRs play a crucial role in facilitating scholarly communication within and outside the university communities.

On the other hand, the respondents also highlighted the challenges their institutions faced in managing their institutional repositories. These challenges are technical, user-related, and administrative. Technical challenges include unreliable power supply, poor internet connectivity, limitations in accessing IR contents, and the inadequate number of contents in IRs. User-related hurdles mainly had to do with skills, knowledge, and awareness of the importance of IR. At the institutional level, the lack of a viable policy to guide the IR management, limited motivation among academic staff to submit their research output, and lack of support and commitment from the management emerged to be systemic challenges.

## **Discussion**

This study examined the role of IRs in facilitating scholarly communication in institutions of higher learning in Tanzania. Specifically, it has examined and appraised both the IR benefits and the challenges in

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scholarly communication. After establishing an IR for disseminating research output from respective universities, the accruing benefits for the institutions include the potential of establishing research collaboration and raising the visibility and accessibility of research outputs. This finding highlights how IRs play a key role in facilitating scholarly communication within and outside the university communities. IR provides easy access to research outputs. Due to the nature of our university, which is an ODL where members of our university community are scattered all over the world can remotely access research outputs produced by academic staff and students. This is essential in saving time. There are other associated benefits of IR such as reducing the possibility of other people plagiarising previous works, especially theses and dissertations.

These evidential statements reaffirm the crucial role that IRs play in facilitating scholarly communication within and outside university communities. Similarly, Nunda (2018), Muneja and Ndenje-Sichalwe (2016), Bicknese, (2003), and Gibbons, 2004) confirmed such benefits accruing from IRs to include facilitating access to scholarly works while promoting images of researchers and their respective institutions. IRs serve as institutional research hubs for storing and disseminating current research results. Moreover, they facilitate institutional auditing of research outputs and trends.

On the other hand, despite the institutional initiatives aimed at managing effectively their IR, the institutions under review invariably face technological, user-related, and administrative challenges. Technical challenges include poor internet connectivity attributable to low bandwidth, unreliable power supply, and inadequate number of publications. Other challenges include a lack that emerged in this study include inadequacy of financial resources, university reluctance to make IRs freely accessible to the public with full-text retrievable content, a lack of viable policy to guide its management, and lack of motivation. User-related hurdles had to do with skills, knowledge, and awareness of the importance of IR. These findings are congruent with other studies such as Dlamini and Snyman (2017), Otando (2011), Nunda (2018), and Nunda and Elia (2019) also varyingly come up with similar findings. Nevertheless, the most striking feature in this study emerged to be the institutional reluctance to make IR content freely accessible because such restrictions contradict the very essence of the institutional repository of promoting the availability of content freely and



without any restrictions. This finding tallies with Dlamini and Snyman (2017), and Njagi and Nyamage (2018), Mbughuni et al. (2023), Massawe et al. (2023) whose studies reported challenges to include reluctance to deposit their research content into IRs, the inability to access full text because most of the materials only have abstracts tends to demotivate users to the utilize repository resources.

Subsequently, at the institutional level top of the list was the lack of a viable policy to guide the IR management, limited motivation among academic staff to submit their research output, and lack of support and commitment from the management emerged to be significant systemic challenges, which aligns with Muneja (2022), Muneja and Ndenje-Sichalwe (2016), Otando (2011), and Mbughuni (2022). Moreover, there was a problem of ill-established ICT infrastructure, a finding similar to Dlamini and Snyman (2017), Otando (2011), Mbughuni et al. (2023), and Clarke and Kim (2023) in their respective studies. These studies, as the current one, had also identified technology and infrastructure as challenges that are detrimental to the IRs playing their role in facilitating scholarly communication in the Institutions of higher learning, thus, there is a dilemma of maximizing its potential in fulfilling users' desires.

The identified IR obstacles call for proper intervention to overcome them including formulating and instituting viable policies to guide the management of IR, management support on IR issues and staff motivation. Moreover, as the value of information deposited largely depends on its accessibility and, eventually, utilisation, librarians should promote the IR services to users to tell them about the collections accessible and to successfully contribute to academic communication. While allowing academics to access full-text information, all research outputs should be made available to the public and the university research community. To further enhance the research content in IRs, submission of research outcomes is required.

### **Conclusion and Recommendations**

Apparently, little effort has been made to transform these important IR platforms to be the central research hub of the universities. Even though massive research outputs have been produced over the years by researchers from the University of Dar es Salaam and the Open University of Tanzania, the contents available in these repositories do not reflect this reality. The

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University of Dar es Salaam (UDSM) and the Open University of Tanzania (OUT) should develop policy documents to guide the management of IR, which should be comprehensive and flexible. Access to all research outputs should also be made accessible to the university research community and the public while letting researchers have access to full-text content. Furthermore, submission of research outputs should be mandatory in a bid to further improve research content in IRs. Also, the universities should motivate researchers and set aside sufficient budgets for supporting ICT infrastructure and boosting the bandwidth to facilitate and expedite access to the IRs' contents. Overall, undertaking such comprehensive measures would not only improve the efficiency and effectiveness of the IRs at the two universities but will also help further raise the visibility of UDSM and OUT research outputs and the respective university's image.

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