

Using open access institutional repository policy to improve content in four Tanzanian public universities

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Abstract

Rationale of Study – This study investigated how OAIR policy can be used to improve OAIR contents. Specifically, the study sought to determine the level of awareness of the OAIR policy among academic staff members in the selected universities, examine the use of OAIR policy in the collection of OAIR contents in the selected universities, and find out how the OAIR policy can be used to improve the growth of OAIR content.

Methodology – Systematic random and purposive sampling procedures were used to obtain the study sample. The sample size included 413 academic staff and eight key informants. Quantitative and qualitative data were obtained from a structured questionnaire, interview and secondary data. Data were analysed by using SPSS version 22 and content analysis.

Findings – Key findings revealed that 46.2 per cent of the respondents were aware of the OAIR policy. The findings also revealed that 45.5 per cent indicated that OAIR policy directs them to submit their scholarly publications in OAIRs and also specify the types of content to be held in OAIRs.

Implications – Therefore, the study concluded that OAIRs policy forms the vital components that have a positive influence on the growth of content in OAIRs without a policy, OAIRs may remain virtually empty. Therefore, creating awareness of OAIR policy and emphasising more in the area of submission of content would enhance the growth of OAIR content.

Originality – This is an original study on how OAIR policy can be used to improve OAIR contents in four public universities in Tanzania.

Keywords

OAIR policy, mandate policy, submission policy, scholarly publications, universities, Tanzania

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1 Introduction

The introduction of the World Wide Web and the Internet has necessitated the introduction of Open Access Institutional Repositories (OAIRs). According to Kumah and Filson (2022), OAIRs are the institution's digital archive for scholarly publications. Scholarly publications archived in the OAIRs are theses, dissertations, book chapters, conference proceedings, journal articles, book chapters, manuals and course syllabi (Ibinaiye et al., 2015.) These scholarly publications are preserved in the OAIRs, disseminated and accessed online by institution communities and other intellectuals worldwide freely and without any limitations (Abrizah et al., 2017).

In the 2000s, the growth of OAIRs increased momentum and was adopted by different institutions worldwide. OAIRs are operated and encounter challenges, such as low submission of intellectual outputs, lack of enough content and lack of OAIR policy (Kari & Orji, 2022; Baro et al., 2022). The lack of an OAIR policy is a challenge that hinders the accumulation of OAIR contents (Ukwoma & Ngulube, 2019). The OAIR policy started in 2008 in the USA, which overwhelmed the challenges encountered by OAIRs. OAIR policy was therefore initiated to be used as a road map to direct who can use the services provided by OAIR, the type of content to be held, the terms and conditions of preservation, access, and withdrawal for the operation and sustainability of OAIRs (Koulouris et al., 2013; Mwalubanda, 2021; Ukwoma & Ngulube, 2019; Nunda & Elia, 2019; Chilimo, 2015).

Now, different institutions have formulated OAIR policies. According to Roy et al. (2018), institutions, funding agencies and academic programmes around the world formulated the OAIR policy, such as submission policy, preservation policy, metadata policy, full-text data policy and content policy, which were used to direct and fast-track the submission of content in the OAIRs (Njagi & Namande, 2018).

To enable OAIRs to have enough content, different libraries accepted and used the submission and metadata policies. For example, in Kenya, the submission policy was used to direct academic staff members to submit or self-archive their scholarly publications in the university OAIRs. According to Chilimo (2015), the submission policy helps accumulate content in OAIRs because it mandates academic staff members to submit their academic publications to the university's OAIRs. Therefore, the submission policy was valuable because it enhanced different institutions to meet their goals of collecting content for their OAIRs (Njagi & Namande, 2018).

In Tanzania as well, public universities such as Muhimbili University of Health and Allied Science (MUHAS) in 2012, Mzumbe University (MU) in 2013, Sokoine University of Agriculture (SUA) in 2014, and University of Dar Es Salaam (UDSM) that followed suit in 2015 initiated OAIR policy with the objectives of enabling the management, submission, accessibility, and dissemination of research outputs generated by staff, students and other researchers (SUAIR Policy, 2014). The submission policy directed academic staff members, students and other researchers to contribute their scholarly publications to OAIRs by submitting or self-archiving. Submission is made mandatory for academic staff members and students to submit their peer-reviewed research output in the OAIRs. The policy requires academic staff members to deposit their research outputs into the repository as soon as possible (MUHAS OAIRs policy, 2012; SUAIR Policy, 2014; and UDSM OAIRs policy, 2015).

However, Gul, Bashir and Ganaie (2019) and Sahu and Parabhoi (2019) revealed that most institutions have OAIRs policies, but policies such as submission and preservation policies found in these institutions are undefined. The absence of the OAIR policy was reported not to have clear reasons. However, some studies (Xia et al., 2012; Lynch, 2003) associated it with a lack of OAIR policy guidelines.

2 Research problem statement

Academic staff members and researchers are generating scholarly publications that can be self-archived or submitted to be deposited in OAIRs. However, many scholarly publications are unavailable in OAIRs and, therefore, cannot be read. OAIRs are established to make these publications available and accessed online. To speed up the collection of OAIRs and make them more digitally and openly available to the community, there was a need to develop and adopt an OAIR policy to enhance the depositing and accumulation of contents in OAIRs. Despite the availability of OAIRs policy still OAIRs in Tanzania are found to have low number of contents compared to scholarly publications produced by faculty members in the university (Mbughuni et al., 2022; Mwalubanda, 2021; Kayungi et al., 2021; Elia & Nunda, 2019; Malekani & Kavishe, 2018; Chirwa & Mnzava, 2017; Muneja & Sichalwe, 2016). Therefore, this study was set to investigate how OAIR policy can improve the collection of content in OAIRs.

The objective of this study was to investigate how OAIR policy can be used to improve content OAIRs. Specifically, the study sought to assess the level of awareness of the OAIR policy on the rules and regulations among academic staff members in the selected

universities, examine the use of OAIR policy in the collection of content in OAIRs in the selected universities, and determine how the OAIR policy can be used to improve the growth of OAIR contents.

The study has provided awareness of OAIR policy, especially on rules and regulations among academic staff members, giving them a chance to know their obligations when creating local content. Furthermore, faculty members can now know how OAIR policy is used, which motivates them to submit their academic publications to the OAIRs. Last but not least, the study provides an understanding of how the OAIR policy can be improved to enhance the growth of OAIR contents.

3 Literature review

The study reviewed different literature according to the specific objectives of the study, including the level of awareness of the OAIR policy among academic staff members, the usage of OAIR policy in the collection of OAIR contents and how the OAIR policy can be used to improve the growth of OAIR contents.

3.1 OAIR policy

The role of OAIR policy is to direct the operation of OAIRs (Nneji, 2018). OAIR policy should contain the objective of the OAIRs. According to Riddle (2015), the formulation of OAIR policy can focus on three aspects: content, access, and preservation. The content policy directs the material eligible to be included in OAIRs and who is supposed to submit the material. Access policy identifies the kind of users eligible to access content and preservation. OAIR policy assures the material in the OAIRs is well protected against copyright issues and unauthorised access, as well as what will happen to the material once the OAIRs are terminated.

OAIR policy was found beneficial in directing OAIRs, especially in submitting OAIR content, and thus was adopted and formulated by different institutions. European countries such as Austria, Germany, Switzerland, and some Asian countries were reported as the first to accept and use the OAIR policy. OAIR policy included metadata, data, content, submission and preservation policy. However, 40.89 per cent of OAIRs were identified as not having defined or framed their OAIR policy for their OAIRs (Sahu & Parabhoi, 2019).

In Africa, the growth of OAIRs is far behind compared to that of European countries, but recent trends indicate an increase in OAIRs in African countries (Ogunbeni, 2019). Despite the promising trend in Africa, most OAIRs lack OAIR policy (Mwalubanda,

2021; Gul, 2020; Sahu & Parabhoi, 2019). The absence of the OAIR policy led to the failure of OAIRs in many institutions, especially in the accumulation and submission of content. According to Mwalubanda (2021), OAIR policy is significant in developing OAIRs and should be formulated considering different stakeholders.

3.2 Level of awareness of the OAIR policy among faculty members

The awareness of OAIR policy has been acknowledged as a significant element in the growth of OAIRs. This means awareness about the contents included in OAIRs, who submits the material, who accesses the content, copyright assurance issues and guaranteeing future access, and what will happen if the OAIRs are terminated are highly important. However, most OAIR users are unaware of OAIRs policy (Abrizah et al., 2017; Dutta & Dibyendu, 2014). Lack of awareness of the OAIR policy leads to low submission of scholarly publications by academic staff members.

A study by Chilimo (2016), which investigated the growth of Institutional Repositories in selected public universities in Kenya, revealed that three of 317 academic researchers in five public universities adopted mandatory open-access policies. However, awareness of the availability of OA policy was low, so the usage of OAIRs, such as self-archiving, was not widely practised. In determining the level of awareness among academic staff members, Okoroma (2018) revealed that most of them lack awareness of their universities' OAIR and publishers' policies. The researcher continues to elaborate that awareness of OA policy is the major challenge that faces the usage of OAIRs in African academic institutions.

Another study by Wesolek (2015) noted that most OAIR policies formulated in different institutions are unfamiliar to the user communities and suggested that faculty members should be aware of OAIR policies and procedures, especially those involving their rights. Regardless of formulating the university OAIR policy, raising awareness among faculty members is still very important. Awareness of OAIR policy enhances content recruitment, self-archiving procedures, the services provided by OAIRs, and the usage of OAIRs.

3.3 The use of OAIR policy in the collection of OAIR contents

The essence of formulating OAIR policy is also to make clear how contents in OAIRs can be submitted or accumulated from university communities. Institutions can only achieve these goals by setting clear OAIRs policy that will act as a reference point and facilitate gathering OAIRs contents (Eromosele, 2022; Nneji, 2018). Usually, an

institution with OAIRs has three aspects: one of them is content, and another is a policy that defines the roles and responsibilities of who should be engaged with what in the OAIRs' services as among the librarians, technologists, contributors and editors. According to Riddle (2015), the content policy guides the eligible material to be included in the OAIRs, whom to submit, and whom to access. Also, the OAIR policy guides users in accessing the contents. In contrast, the preservation policy assures the protection of materials in the OAIRs for future access and provides information on the fate of the material when OAIRs are terminated.

As Koulouris (2013) elaborates, the submission policy should direct academics to contribute to academic publications in the OAIRs for proper collection of contents. The submission policy will result in increased OAIR contents in university repositories. As Saini (2018) observes, the absence of a well-defined submission policy for OAIRs discourages academic staff members from depositing their research output in the OAIRs.

According to Saini (2018), OAIR policy defines the author's rights, such as intellectual property rights, copyright rights, and legal concerns. This would motivate academic members to submit their research outputs in OAIRs. Despite using the OAIR policy, different institutions do not implement it regarding collecting OAIR contents (Mwalubanda, 2021; Gul, 2020; Sahu & Parabhoi, 2019). From those above, using the OAIR policy can potentially lead to increased local contents deposited in OAIRs.

3.4 How OAIR policy can be used to improve the growth of OAIR contents

As pinpointed by Eromosele (2022), OAIR policy is very significant in institutions because it contains objectives of the institution's OAIRs, which are crucial in enhancing the growth of contents. OAIR policy also enables the owner of the OAIRs to monitor the process and ensure that the contents in OAIRs are specified in the policy come to the OAIRs; the policy also specifies the users of the contents uploaded in OAIRs and ensures that the contents meet the broader information desires of the users.

According to Makori et al. (2015), the usage of OAIR policy can be improved by exhausting them daily in operations and functions of OAIRs and should not be left in paperwork. Most OAIR-adopted policies are believed to remain in paperwork and are not implemented as intended. As observed by Adeyemi et al. (2017), most of the adopted OAIR policies, to a great extent, are undefined and under-analysed. Thus, having clear strategies for using the OAIR policy can improve the growth of OAIR content. It is believed that most OAIR policies lack clear strategies. As a result, each institution is left

to decide how to handle OAIRs in their institutions. Thus, implementing the OAIR policy is below the targeted expectations in different continents, especially in Africa.

For OAIRs to be well-implemented and used, institutions and library management should be given a chance to formulate OAIR policy because they are the ones who deal with OAIRs. This will allow them to make follow-ups and use the rules and regulations stated in the OAIR policy. A similar observation is made by Dong and Besiki (2017) that library management should be permitted to cascade information on the OAIR policy and draw up implementation guidelines to inform all stakeholders. Also, Kakai (2018) suggests that for OAIRs to function well, the top-down development of OA policy should begin with government and funding agencies to allow the institutions to develop OAIR policy as stakeholders. This will provide prior knowledge of OA policy and allow for the easy implementation of OAIR policy. In this respect, Samzugi (2017) states that the formulation and use of OAIR policy will lead to the "best practices", enhancing the effective and widespread use of OAIRs in collection. If policies such as submission are well implemented, self-archiving will be done, and the number of contents will increase, leading to the growth of OAIRs. As confirmed by Mwalubanda (2021), formulating and implementing a good OAIR policy can positively impact the usage of OAIRs, especially in content submission. Without implementing the OAIR policy, the university OAIRs will not operate successfully. Therefore, implementing the OAIR policy will enable the operation ability and sustainability of OAIRs.

4 Theoretical and conceptual framework

Various researchers (Dulle & Majanja, 2010; Henok & Yule, 2019; Onaolapo & Oyewole, 2018; Venkatesh et al., 2003) used theories that explain the users' intentions for the adoption of technology in their studies. These theories include The Theory of Reasoned Action (TRA), the theory of Planned Behavior (TPB), the Theory of Diffusion of Innovation (DI), The Technology Acceptance Model (TAM), Technology Acceptance Model 2 (TAM2), the Unified Theory of Acceptance and the Use of Technology (UTAUT) Model and Technology Acceptance Model 3 (TAM3).

This study decided to use the Unified Theory of Acceptance and Use of Technology (UTAUT) because this theory explains individual behaviours using an information system, which in this study is OAIRs.

4.1 Unified Theory of Acceptance and Use of Technology (UTAUT)

UTAUT is a technology acceptance model developed by Venkatesh et al. in 2003. The model explains user behavioural intentions to use information technology. According to Venkatesh et al. (2003), the UTAUT model consists of four variables: Performance Expectancy: The individuals trust that using the technologies will result in performance gains. Effort Expectancy: The comfort of use of the technologies. Social Factors: Colleagues, peers and supervisors trust that one should use the technologies. Facilitating Conditions: Organisational and technical infrastructure is obligatory to support the technologies. The model also has four moderating variables: education, age, gender and voluntariness of use.

4.2 Conceptual framework

According to the nature of the study, the UTAUT model was adopted, and some of the constructs were replaced to formulate the conceptual framework used in this study. Therefore, the independent variables include the motivating factors, technical factors, supervisors, colleagues and supporting services, and the dependent variable was the usage of OAIRs to submit or self-archive scholarly publications. The moderators were age, sex, academic qualifications, awareness and working experience. The study replaced voluntariness with awareness because awareness is essential in using OAIRs.

In this study, motivating factors mean the degree to which academic staff members are motivated to use OAIRs to submit their research outputs in OAIRs to improve OAIR contents. Technical factors mean how academic staff members find it easy to use OAIRs to submit their research outputs in OAIRs to improve OAIR content. Supervisors and colleagues encourage academic staff members to use OAIRs to submit their research outputs to improve OAIR content. Supporting services means the technical infrastructure required to support the use of OAIRs for academic staff to submit their research outputs in OAIRs to improve OAIR contents, and OAIR policy means the way policy directs academic staff members to use OAIRs to submit their research outputs in OAIRs to improve OAIR contents.

Therefore, based on the research conceptual frame, motivating factors, technical factors, supervisors, colleagues, and support services significantly relate to using OAIRs policy and OAIRs to submit/self-archive scholarly publications. Also, gender, age, awareness and working experience are believed to have a significant relationship to the use of OAIR policy to submit/self-archive to improve the content in OAIRs (Figure 5.1).

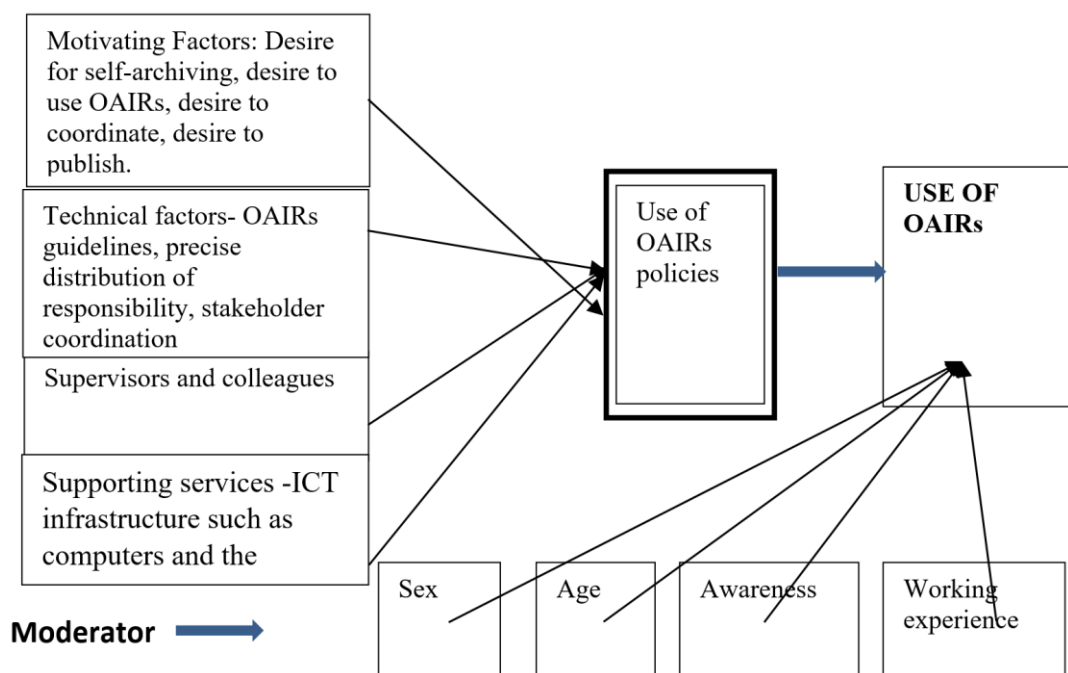


Figure 1: Modified Conceptual Framework for the study

5 Methodology

The methodology includes the study area, research design, population size, sample size, sampling techniques, and data collection and analysis methods.

5.1 Study area

Four public universities in Tanzania were selected as the study area. These included Mzumbe University (MU), Muhimbili University of Health and Allied Sciences (MUHAS), Sokoine University of Agriculture (SUA), and the University of Dar es Salaam (UDSM). These universities were selected because they have operational OAIR policies, which were important in providing the required data for the current study.

5.2 Research design

A cross-sectional research design was used in this study. The design was selected because the method of collecting data in this design allows data collection from a population at a specific point in time.

5.3 The population and sample size

The population included 2894 respondents who were academic staff members from four selected public universities.

The sample size was 413 academic staff members obtained using the formula Slovin's ($n = N / (1 + Ne^2)$). (See the sampling frame in Table 1).

Table 1: Sampling frame

	MUHAS	MU (Main campus)	SUA (Only Main campus SMC)	UDSM (Main campus)	Total
Academic staff population (N)	693	236	427	1538	2894
The proportion from the required 'n' (N/2894) * 413	99	34	61	219	413

The study used systematic random and purposive sampling techniques. In this sampling technique, every sixth academic staff member was picked from the list of academic staff members in the selected universities. The study randomly picked every sixth academic staff member from the sampling interval established during systematic random sampling interval calculation. Systematic sampling was used because it was easy to get a list of academic staff members from respective deans in the institutions. Purposive sampling was used to acquire eight key informants (Heads of Department, ICT, and Library Technicians) from the four universities. Key informants were selected to provide information concerning OAIR policy because they are the ones who are knowledgeable and formulate OAIR policy.

5.4 Data collection methods

A structured questionnaire was used to gather quantitative primary data, which were distributed to 413 academic members of staff, that is, MUHAS (77), MU (47), SUA (43) and UDSM (125). A total of 292 questionnaires were filled out and returned, making a return rate of 70.7 per cent. Interviews with key informants (four Heads of Department, two ICT technicians, and two Library Technicians) were used to gather qualitative primary data. Secondary data were composed of documentary sources, including universities' OAIR policy documents, to understand the concept of the study and existing literature on OAIR policy to get an overview of different OAIR policies.

5.5 Data Analysis

Quantitative data were analysed using SPSS software version 22. The specific objective of the study guided the data analysis process. As for objectives one to three, inferential statistics were calculated by cross-tabulating variables to obtain p-values to determine the relationships and the existence or absence of any statistically significant difference among the variables. Discrete statistical analysis was used to obtain frequencies and percentages of different data.

Quantitative data were analysed using SPSS software version 22. Data were analysed according to the specific objective of the study whereby objectives numbers one to three and inferential statistics were calculated by cross-tabulating data variables to generate p-values that were used to determine the relationships among variables and the presence or absence of any statistically significant difference among the variables. Discrete statistical analysis was used to obtain frequencies and percentages of different data.

The content analysis technique was used to analyse qualitative data. The data acquired were organised according to the specific objectives and research questions. Also, the verbatim quotations were recorded and placed under specific objectives. The results were presented with explanations.

6 Research and discussions

Figure 5.2 shows the number of academic staff in each university. The findings indicate that 42.85 per cent of the respondents were from UDSM, 26.4 per cent from MUHAS, 16.1 per cent from MU and 14.7 per cent from SUA.

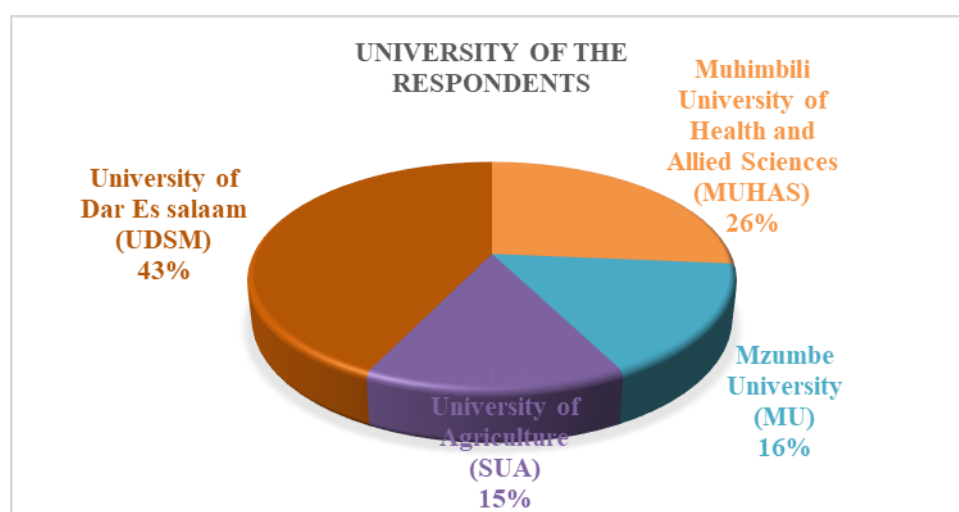


Figure 5.1: University of the respondents (n=292)

Figure 5.3 shows the sex of the academic staff members. Findings indicated that 60.3 per cent were males and 39.7 per cent were females. This implies that more male than female faculty members participated in this study.

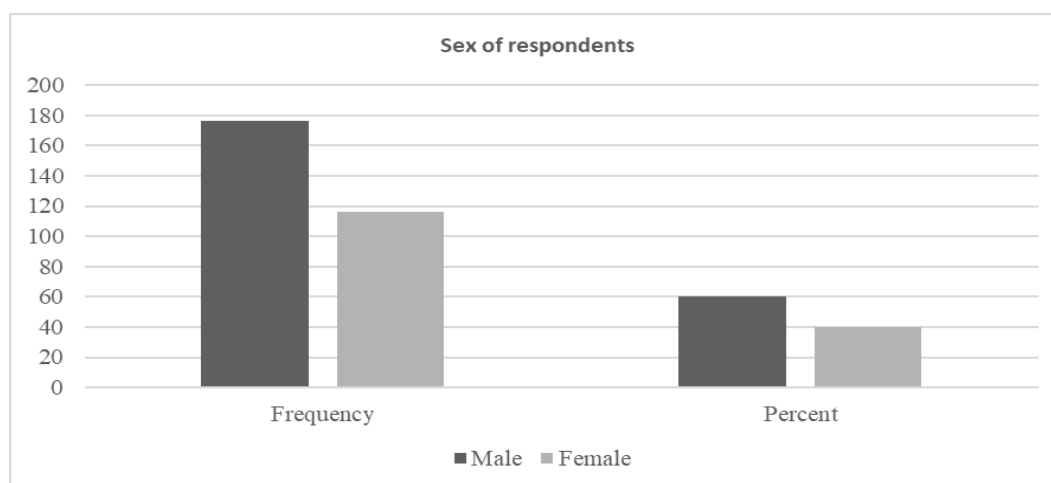


Figure 5.2: Sex of respondents (n=292)

Figure 5.4 shows the age of the respondents in years. Findings indicated that 37.7 per cent of the respondents were between 36 and 45 years, 28.1 per cent were between 20 and 35 years, and 18.2 per cent were between 46 and 50 years of age. This implies that the respondents were mature enough to be aware of the rules and regulations directed by the university's OAIR policy. This allows them to submit their research outputs to university OAIRs immediately. Therefore, the university and library management should continue to create more awareness and encourage academic staff to submit their scholarly publications in OAIRs by adhering to the OAIRs policy to understand their rights, especially in submitting and preserving their scholarly publications. Awareness can be raised through training, workshops, seminars and orientation. Creating awareness of the submission issue will improve the self-archiving of scholarly publications and, therefore, the number of OAIR content.

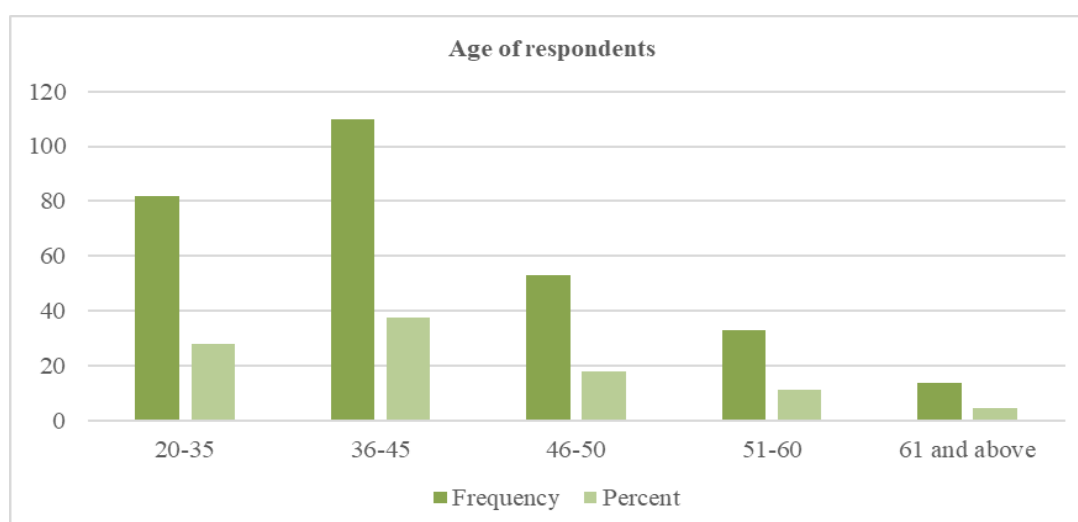


Figure 5.3: Age of respondents (yrs.) (n=292)

Figure 5.5 shows the academic qualifications of the respondents. The results indicate that 45.5% of the respondents have a Master's Degree, 33.6% have a PhD, 19.5% have a Bachelor's, and 1.45% have a Postgraduate diploma. This implies that the respondents were well-educated. This reality gives them a chance to have several articles to submit or self-archive in the OAIRs. Thus, the university management and the library should implement the OAIRs policy to inspire academic staff members to contribute their research outputs in OAIRs.

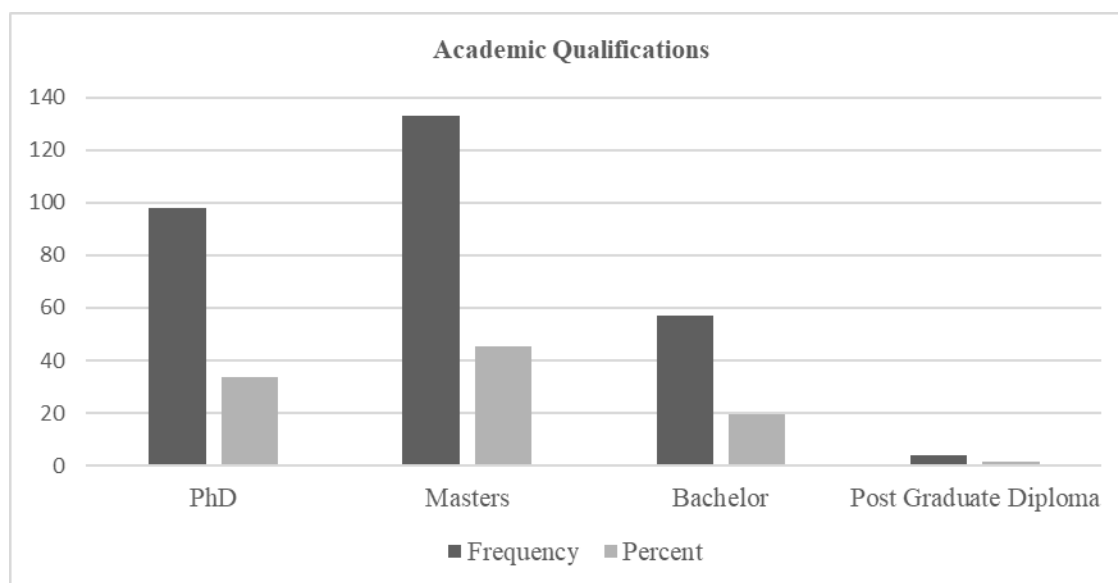


Figure 5.4: Academic Qualifications (n=292)

Figure 5.2 shows the working experience of the respondents. The results indicate that 26.6% of the respondents have working experiences of 1-5 years, 25.7% (11-15years), 23.3% (6-10 years), 12.3% (16-20years), 6.2% (26 and above years) and 5.8 (21-25 years). The implication is that respondents had enough years of experience. This reality gives them a chance to have several articles and to be aware of OAIR policies, which direct them to submit or self-archive their scholarly publications in the OAIRs. Therefore, the university management and the library should continue to create more awareness and advocacy on the rules and regulations for an academic staff member to contribute their research outputs in OAIRs.

Table 5.2: Working experience of the respondents (n=292)

Working experience of the respondents	Frequency	Per cent
1-5	78	26.7
6-10	68	23.3
11-15	75	25.7
16-20	36	12.3
21-25	17	5.8
26 and above	18	6.2
Total	292	100.0

6.1 Awareness of OAIR policies

Table 5.3 shows awareness of the OAIR policies among academic staff members. The respondents were asked to indicate whether they knew the OAIR policies. Findings indicated that 46.2 per cent of the respondents were aware of the OAIR policies in their universities. This indicates that not all academic staff members knew the OAIR policies. Awareness that the university has the OAIR policies is critical. This would give faculty members more chances to be in a position to be aware of their rights to contribute their scholarly publications to OAIRs. Therefore, the libraries should continue to raise awareness and advocacy on OAIR policies, especially on rights such as copyright issues and submission. Results of awareness of the OAIR policies were found to have statistical significance differences at a one per cent level of significance (p -values ≤ 0.000).

Similar findings were reported in a study by Sankar and Kavitha (2017) and Akparobore and Omoisekemi (2020), who exposed that most faculty members lack awareness of IR policies. However, the result is different from the results in a study by Koulouris *et al.* (2013), who found out that academic staff members are aware of the OAIR policies and willing to submit content and publish in OAIRs; they trust that OAIRs are a necessity for university and their research visibility.

On the contrary, one key informant narrated that:

“Most academic staff members are unaware of OAIR policies” (MU, 2019).

The qualitative findings implied that most academic staff were unaware of OAIR policy; hence, submitting or self-archiving their scholarly publications in OAIRS was impossible. Therefore, library management should create more awareness of the rules and regulations for academic staff to submit or self-archive their scholarly publications in OAIRs.

Table 5.3: Awareness of OAIR policy among academic staff members

Awareness of OAIR policy among academic staff members	Yes	No	Total	P value
	135(46.2%)	157(53.8%)	292(100%)	0.000

6.2 Use of OAIR policy in improving the collection of OAIR contents

Table 5.4 shows the implementation of the OAIR policy in improving the collection of OAIR contents. The respondents were asked to indicate if OAIR policies direct them to submit their scholarly publications in OAIRs and specify the type of content to be held

in OAIRs. The results show that 45.5 per cent indicated that OAIR policies direct them to submit their scholarly publications in OAIRs and specify the type of content to be held in OAIRs. This implies that policies such as the submission policy are present and direct academic staff members to deposit their scholarly publications immediately in university OAIRs. For example, in MUHAS, academic staff members and students must deposit peer-reviewed articles. Also, at SUA, academic staff must submit their peer-reviewed articles to the repository immediately. Moreover, SUA students must submit their theses/dissertations in hard and soft copies so that the soft copies can be archived in the SUAIR. UDSM does not have a policy on submitting scholarly literature to university OAIRs, but they encourage their faculty members to submit their scholarly publications to the university OAIRs. However, Mzumbe University has reviewed its IR policy but has not yet published it. The IR policy emphasises Open Access and encourages academic staff members to submit their scholarly publications for depositing in the university OAIRs. This allows universities to collect more content for their OAIRs.

Therefore, it is pertinent for the university to implement a submission policy to ensure that all academic staff members submit their scholarly publications to the university OAIRs. In addition, intellectual property rules for the scholarly publications deposited in OAIRs should be included in the OAIRs policy. It is also recommended by Ukwoma and Dike (2017) that the policy should state that OAIRs are for preservation and that academic staff members can archive their articles. One key informant had this to say:

“Submission policy should be well implemented for academic staff members to submit their scholarly publications in OAIRs” (MU, 2019).

The results from qualitative findings implied that the submission policy enhances self-archive and submission of scholarly publications in OAIRs. Therefore, the submission policy should be well implemented for academic staff members to submit their scholarly publications in OAIRs.

Table 5.4: Use of OAIR policies in the collection of content in OAIRs

Use of OAIR policies in the collection of content in OAIRs	Yes	No	Do not know	Total	P value
	133(45.5%)	188(40.4%)	41(14.0)	292(100%)	0.000

6.3 Support of the implementation of OAIR policies in the submission of scholarly publications

Table 5.5 shows the academic staff members who support implementing the OAIR policies in submitting scholarly publications. The study wanted to know whether academic staff members support the OAIR policies. Findings show that 46.2 per cent of the respondents indicated they had supported the OAIR policies. Among them, 85, which equals 29 per cent of the respondents, indicated that they supported the submission policy, 30 (6.8 %) supported the preservation policy, and 20(10.4%) supported the access policy. This implies that many academic staff members supported the submission policy that mandates them to deposit research publications in OAIRs. This reality allows academic staff members to do self-submission and the libraries to accumulate more content in the university OAIRs. Therefore, library management should continue emphasising the submission policy that mandates academic staff members deposit their scholarly publications in OAIRs. According to the findings, the support of academic staff members of the OAIRs policy that mandates self-archive was found to have a statistically significant difference at a 5 per cent level (p -values ≤ 0.05). This finding is similar to the findings reported in a study by Kakai (2018) and another by Chilimo (2015), who revealed that academic staff members in Kenya favour a university policy that requires staff to deposit their research output to the OAIRs.

One key informant reported the following,

“Most academic staff members support the OAIR policies that mandate them to submit their scholarly publication in OAIRs” (SUA, 2019).

The results from qualitative findings implied that most academic staff support the OAIR policies that mandate them to submit their scholarly publications in OAIRs.

Table 5.5: Support from academic staff members on OAIR policies (n=292)

	Yes	No	Total	P value
Support from academic staff members on OAIR policies	135(46.2%)	157(53.8%)	292(100%)	0.020
Access policy	20(6.8%)	272(93.25%)		
Submission policy	85(29%)	207(70.9%)		
Preservation policy	30(10.4%)	262(89.7%)		

6.4 Factors influencing the use of OAIR policies in improving content in OAIRs

The study used the UTAUT Model to investigate the factors influencing the use of OAIR policies in improving the content in OAIRs. Table 7 shows the factors that influence the use of OAIR policies to improve the contents of OAIR. The results indicate that factors such as motivation, technical aspects, supervisors, colleagues and the OAIRs policies impacted the use of OAIRs policy to improve the content in OAIRs (all the p-values are more significant than 0.05). This implies that all the factors mentioned above, including OAIR policies, have an equal contribution to the use of OAIR policies to improve the content in OAIRs. Elsewhere, it has been reported that motivating factors and OAIR policies are the factors that influence the use of OAIRs, especially in depositing content in OAIRs (Ukwoma & Dike, 2017). OAIR policies necessitated the submission of contents in OAIRs by academic staff members.

Similar findings are reported in a study by Bojelo (2020), who revealed that using the OAIR policy has necessitated using the Internet and ICT facilities to ease the use of OAIRs and the sharing of scholarly publications. Therefore, the university should ensure that there are facilitating factors that encourage academic staff members to use OAIRs to deposit or contribute more content, such as OAIR policies, in OAIRs. Also, technical factors such as procedure manuals and guidelines should be available to enable submission. Supervisors should encourage colleagues and students to submit their scholarly publications.

Six key informants from different universities had this to say,

“Most academic staff members have low levels of awareness of OAIR policies, which is why they do not submit their scholarly publications because they do not know their rights” (MU, 2019).

“My university lacks a self-archiving policy that specifies what should be included and what format is needed, which is why academic staff members failed to submit or self-archive their scholarly publications in university OAIRs” (UDSM, 2020).

“Most universities lack enough training on self-archive, which is why academic staff members failed to follow directions found in the university OAIRs policy” (MUHAS, 2020).

“The university OAIRs policy is not visible to the university community” (MU, 2020).

The results from qualitative findings implied a low level of awareness, lack of self-archiving policy, and lack of submission policy; thus, self-archiving and submission of scholarly publications in OAIRs are low. Therefore, the submission policy should be well implemented for academic staff members to submit their scholarly publications in OAIRs.

Table 5.6: Factors influencing the use of OAIRs policies to improve the content in OAIRs

Variables	Parameters					95.0% EXP(B)	C.I.for	
	B	SE.	Wald	df	Sig.		Lower	Upper
Motivating factors	-41.380	42281.473	.000	1	.999	.000	.000	
Technical factors	-2.409	23506.463	.000	1	1.000	.090	.000	
Supervisors and colleagues	38.367	17729.896	.000	1	.998	45990583907158384	.000	
ICT infrastructures	22.614	17971.604	.000	1	.999	6623201670	.779	
* OAIRs policy	22.614	17971.604	.000	1	.999	6623201670	.779	
Constant	-36.771	31900.362	.000	1	.999	.000	.000	

Note* OAIR policy influenced the usage of OAIRs and was statistically significant at a 5 per cent significance level ($p \geq 0.000$).

6.5 How to Implement the OAIR policies for the growth of OAIR contents

Table 5.7 shows how to implement the OAIR policies to grow OAIR contents. The results indicate that 24.5 per cent of the respondents indicated that advocacy on OAIR policies should be conducted from time to time, 18.5 per cent of the respondents indicated that OAIRs policies should mandate faculty members to submit their outputs in the university OAIRs, 16.3 per cent of the respondents said that OAIR policies should be uploaded in OAIRs home page and also made accessible through the university website, 14.8 per cent of the respondents opined that OAIR policies should be firm to encourage submission, 11.1 per cent suggested to raise awareness among academic staff members on the existence of OAIR policy, 7.4 per cent wanted an assurance that OAIR

policies are friendly to publishers and depositors. Finally, 7.4 per cent desired that librarians should formulate OAIR policies.

This implies that these universities have OAIR policies that are not implemented. This denies academic staff the opportunity to submit their scholarly publications. Therefore, library management should implement the strategies and should ensure that such strategies are enforced and used to improve the growth of content in OAIRs.

Similar findings are reported in a study by Kodua-Ntim and Fombad (2020), who revealed that university libraries should use a strict policy regarding copyright issues and the quality of content and should make policies for submitting all types of intellectual output, including research articles, mandatory. Similarly, Okorama (2018) recommends that there should be a workable policy guiding copyright matters and their implementations.

In addition, one key informant had this to say,

“Without a policy to direct users to submit or self-archive, OAIRs may remain virtually empty without content” (MU, 2020).

The results from qualitative findings implied that the submission policy is essential in enhancing self-archive and submission of scholarly publications in OAIRs. Therefore, the submission policy should direct academic staff members to submit their scholarly publications in OAIRs.

Table 5.7: OAIR policies and improvement of OAIR content

How OAIR policies can be improved to enhance the growth of content in OAIRs	Frequency	Percentage (%)
Policies should be firm to encourage the submission	20	14
The OAIR policy should be uploaded to the OAIRs home page and also made accessible through the university website	22	16.3
Advocacy on OAIR policy should be conducted from time to time	33	24.5
Raise awareness among academic staff members on the existence of the OAIR policy	15	11.1
Ensure OAIR policies are friendly to publishers and depositors	10	7.4
OAIR policy should mandate academic staff members to submit in the university OAIRs	25	18.5
Librarians should formulate an OAIR policy	10	7.4

6.6 Fitness of the model

The study used the UTAUT model and modified some variables to suit the study. The study modified voluntariness (moderator) with the use of the OAIRs' policies because the use of the OAIR policies was deemed necessary in the growth of OAIRs. The study results revealed that the use of the OAIRs policies influenced the usage of OAIRs and was statistically significant at a 1 per cent significance level ($p \geq 0.000$).

7 Conclusion

The main objective of this study was to investigate how the use of OAIR policies can improve OAIR's content in Tanzania. Key findings revealed that few respondents were aware of the OAIR policy. Furthermore, the study found that the OAIR policies direct academic staff members to submit their scholarly publications in OAIRs and specify the content type to be deposited to the OAIRs. Also, the study found that advocacy on OAIR policy from time to time, mandating academic staff members to submit their scholarly publications in the OAIRs, placing OAIRs policies on the OAIRs home page and making accessible through the university website can improve the growth of contents in OAIRs. Therefore, the study concluded that the OAIR policies are vital and positively influence the growth of content in OAIRs; without a policy, OAIRs may remain almost empty.

8 Recommendations

Based on the study results, the researcher recommends;

1. The universities and library management should ensure they have an OAIR policy that directs academic staff to submit or self-archive scholarly publications in OAIRs.
2. The universities and library management should ensure supervisors, departments, and faculties spearhead awareness of using the OAIR policy among academic staff members and students.
3. The universities and library management should emphasise OAIR policy in areas such as submission, where faculty members should be mandated to submit their scholarly publications in the university OAIRs to increase the number of contents in OAIRs.

9 Area for further research

The study suggested a need to conduct further in-depth study to find other factors that can enhance submission/self-archiving of scholarly produced content in OAIRs rather than OAIRs policy.

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