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Perceived benefits and barriers of using online journal systems

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Abstract

This study has established the perceived benefits and barriers of using online journal systems (OJS). A descriptive research design alongside a quantitative approach was used to establish perceived benefits and barriers of using online journal systems among University of Dar es Salaam faculty members. In the study data were gathered through survey questionnaires. The data were then organized and summarized through descriptive statistics in form of frequencies and percentages. The study reveals that a significant number of faculty members infrequently use the systems in their scholarly communication. Along this, the study reveals various benefits of using OJS as perceived by faculty members. The study also reveals diverse perceived barriers that undermine effective use of the systems. These include low internet bandwidth and technical difficulties. The study recommends that the UDSM has to take deliberate measures to enhance internet services through increasing bandwidth, alongside increasing training on the use of online journal systems.

Keywords: Use, benefits, barriers, online journal systems, faculty members.

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Introduction

Online Journal System (OJS) is one of the online journal publishing systems common among publishers and scholars. Such systems started to emerge over several decades ago to ease clerical burdens on publishers and authors. The systems are generally considered to have become more necessary as more publishers and authors moved from the traditional approach of publishing journal articles through print media to usage of electronic systems in an approach generally referred to as scholarly publishing (Manchu & Vasudevan, 2018; Luparenko, 2020). In addition to minimizing clerical burdens, the systems were meant to enable scholarly work to reach wider audiences across the globe. Such and many other challenges prompted publishers and authors to opt for online access mechanisms so as to reach wider audiences with low or no costs *(Laakso et al*., 1993; Elyzarov *et al.*, 2013).

Over the last decade, numerous attempts have been made by universities in both developed and developing countries to promote the use of OJS (Cysyk & Choudhury, 2008; Luparenko, 2011; Solovyanenko, 2010; Elyzarov *et al*., 2013). Publishing articles online in Tanzania started with initiatives like open access repositories whose aim have been to keep scholarly works of academicians and researchers in a respective institution for the purpose of making them available to wider communities. This saw the development of a number of repositories in academic and research institutions including University of Dar es Salaam, IHI-Ifakara Health Institute, MUHAS-Muhimbili University of Health and Allied Sciences, OUT-Open University of

Tanzania, SUA-Sokoine University of Agriculture and SAUT-Saint Augustine University of Tanzania (Mgonzo & Yonah, 2014). Further developments enabled many scholars to start using online journal publishing systems such as the OJS. Such efforts have been fruitful due to working relations between online publishers and organizations such as AJOL and INASP who have made initiatives to create awareness among academicians on the benefits of using online journal publishing systems to publish their academic work (Ndungu, 2020). In countries such as India, many researchers are reported to use these systems as ways of communicating their research findings (Manchu & Vasudevan, 2018). Similarly, studies carried out in other parts of the world, particularly North and South America, Europe and Asia, reveal high levels of online journal systems usage among academicians. Such usage levels are attributed to academicians' need to publish their work through ways that widen user communities (Schroter *et al*., 2020). Despite the adoption of OJS by a significant number of universities in Tanzania, studies that document the systems' use are not accessible. As such, the extent, perceived benefits, and barriers of their use are not well known hence this study that sought to establish details on the same.

Literature Review

Existing studies suggest that there are various online journal publishing systems. Popular proprietary ones include PeerTrack™, Bench Press™, EdiKitSM (bepress), ESPERE, Manuscript Central™, Rapid Review®, Editorial Manager, eJournalPress (EJPress), FontisWorks, XpressTrack. Despite their differences in interface, functionality and cost of licenses, these systems function in a similar way as virtual publishing offices with necessary mechanisms for receiving, processing, distributing and revising manuscripts (Wood, 2001; Ware, 2005; McKiernan, 2002). Apart from these, some scientific institutions and publishers have made experimental attempts to develop local (in-house) systems. This has been targeted at coming up with more customizable systems so as to enhance adaptability to future workflow changes and provide autonomy from third-party developers (see Constantinescu & Vladoiu, 2010; Diciunas *et al*., 2013; Bhattacharyya *et al*., 2012). The most popular examples of EOJS are EPublishing Toolkit, GAPworks, SOPS (SciX Open Publishing Services), Topaz, DiVA (Digitala Vetenskapliga Arkivet), Érudit, DPubS (Digital Publishing System), HyperJournal, E-Journal, Ambra, and Open Journal Systems (OJS). Along these systems has emerged a new way of supporting the publication of scientific periodicals called cloud journal systems such as Cloud Publications and Cloud Journals. These systems allow users to move all editorial processes to remote servers that deliver publishing environments to a large number of clients using a single platform (Luparenko, 2020; Chen *et al*., 2014; Lai *et al*., 2013).

However, despite the positives brought by these systems, literature (e.g., Luparenko, 2020) reveals that only a small percentage of scientists have experience in using EOJS to find scientific data, publish articles, review papers, and provide editorial services. In other words, most researchers seem to still prefer paper-based approach to scholarly publishing. The author further reveals that there is an insufficient level of interest in the use of scientific e-journals based on electronic open journal systems. Nevertheless, employing OJS in scholarly communication brings undeniable benefits. For instance, the system has greatly relieved academicians of the time consuming and daunting task of getting their academic work published in traditional print journal (Ndungu, 2020). As such, it not a surprise that the journal publishing industry has seen an increase in works published by faculty members and researchers. The lower cost of publishing online is

one of the factors that such an increase has been attributed to. Due to such a benefit, many academic institutions have been encouraging their researchers to adopt these publishing models. In addition, authors find it convenient to publish online where they are able to follow the entire article processing activities from submission to acceptance or rejection and the eventual publishing of the same. This is enabled by the system's provision of organizational and decentralized remote management of full cycles of electronic scientific journals' editorial and publishing processes: submission, review, copyediting, proofreading, layout and articles publication, as well as their preservation, dissemination, and indexing in the Internet (Luparento, 2020). Furthermore, online publishing promotes wider access of articles by readers regardless of their locations. This attribute has particularly been fundamental in libraries' subscription to such journals with the purposes of promoting scholarly publishing and wider access of electronic resources by their users (Grech, 2002).

On a similar note, literature shows that OJS encourage authorship by increasing the urge to publish since web-based resources are easy to access. With available ICT facilities, authors are able to access and publish through these systems much easily than they used to in traditional print publishing systems. The ease of access to online journal publishing systems motivates authors, including young researchers, to publish more articles (Rowley *et al*., 2017). By publishing their work online, academicians are sure about reusing their work due to its continued availability. Apart from that, publishing journals online brings financial gains for both publishers and authors while the later also benefit through job promotions (Schroter *et al*., 2020). In addition, research has also revealed the advantage of using such systems towards generating online citation indexes as well as making it easy for authors to cite works publised online with the help of various reference management systems (Tennant *et al*., 2016).

However, the benefits of using these systems are not served on a silver platter since according to literature, there are numerous barriers that one is likely to encounter in the process of publishing journal articles using the systems. To start with, computer illiterate authors are bound to find the process of accessing and using such systems overwhelming. Secondly, limited access to internet facilities and unreliable electricity supply is two prominent hurdles limiting authors in many African countries from using these systems. These challenges make it hard for authors to comply with journal publishing requirements such as setting layouts and formats for the articles they submit to journal systems. In addition, it has been noted that some authors find it difficult to understand journal interfaces and their controls, as well as article submission procedures (Chisita & Chiparausha, 2019). For some authors, following on what has already been published online becomes difficult because of their inability to use systems on regular basis (Johnson, 2018). According to literature (e.g., Lane & Tang, 2016) authors who speak English as a second language face challenges struggle to comply with specific academic genres and formatting requirements used by OJS to satisfy journal editors and peer reviewers. According to Luparenko (2020), lack of manuals, psychological and technological unpreparedness publish, edit, and review articles through OJS; limited educational and methodological materials (instructions, methodological recommendations, etc.) for developing researchers' ICT competences and the absence of training for scientists limit the use EOJS in Ukraine. These and other challenges are a handicap in promoting awareness and use of online journal publishing systems, particularly in developing countries. As such, determining academicians' perception of these systems, their benefits, and the barriers associated with their usage must be emphasized so as to pave way for informed mechanisms for awareness creation and promotion of their usage among researchers.

Study design and methods

A descriptive research design was used to establish the extent of use of online journal publishing systems by the UDSM faculty members and the perceived benefits and barriers of doing so. To achieve the study objectives, the quantitative approach was mainly used to establish the extent, importance, and barriers of using online journal publishing systems. The study was conducted at the University of Dar es Salaam (UDSM) main campus and its constituent colleges, schools, and institutes between March and September 2020. The UDSM was mainly chosen because it is one of the universities in Tanzania that introduced Online Journal Systems to enhance the visibility of its scholarly publications. In addition to this, the university was preferred because it is one the first institutions to embrace the application of the Open Journal System (OJS), which came through a project by African Journals Online and the International Network for the Availability of Scientific Publications (INASP). In this regard, UDSM and other selected institutions in Africa paved the way for promoting the use of online journal management systems to make local journals available to wider prospective user communities.

Regarding population, the study included the university's faculty members because of the key role they play in diverse research activities that include dissemination of research outputs through publishing their articles in print or online journals. A sample of 153 faculty members was generated from the university's colleges, schools, institutes and units and convenience sampling was used to pick 148 faculty members while 5 key informants (i.e., journal editors and journal managers) were purposively chosen. Convenience sampling was used to select faculty members who were available during the data collection period and willing to participate in the study. In contrast, purposive sampling was used to select journal editors and managers because they were considered well positioned to be more informed about the usage of OJS at the university. Table 1 summarises the sample drawn by the study:

Table 1: Sample size

College/School/Institute/Unit	Frequency	Percent
IMS	4	2.7
DUCE	14	9.5
IDS	5	3.4
SoED	5	3.4
CoAF	8	5.4
CoSS	23	15.5
CoICT	9	6.1
MUCE	19	12.8
SJMC	4	2.7
MCHAS	7	4.7
UDBS	18	12.2
CoET	13	8.8
CoNAS	15	10.1
Information Studies Unit	4	2.7
Total	**148**	**100**

Table 1 indicate that noticeable percentages (> 10%) of respondents were from CoSS, CoNAS, MUCE and UDBS while very few respondents were from Information Studies Unit, IMS, IDS,

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SoED, MCHAS and SJMC. Although the study used convenience sampling, this distribution closely reflects the number of staff members under the respective colleges, schools, institutes and units. The respondents summarized in Table 1 were also asked to indicate their sex, age, academic qualification, and professional rank and their responses have been computed into what Table 2 presents.

Table 2: Socio-demographic characteristics of the respondents

Characteristics (n = 148)	Frequency	Percent
Sex of respondents		
Female	35	23.6
Male	113	76.4
Age of respondents		
20-29	15	10.1
30-39	57	38.5
40-49	64	43.3
50-59	11	7.4
60+	1	0.7
Academic qualification		
PhD	96	64.9
Master's degree	42	28.4
Bachelor's degree	10	6.8
Professional rank		
Professor	2	2.4
Senior Lecturer	31	20.9
Lecturer	63	42.6
Assistant Lecturer	42	28.4
Tutorial Assistant	10	6.8

Regarding respondents' sex, Table 2 shows that majority of the respondents were males while females composed less than a quarter of the sample. This is attributed to the ratio of male to female staff members at UDSM. Age-wise, the table shows that more than a half of the faculty members that participated in this study were 30 to 49 years old while those whose ages fell under the 20 to 29 and 50 to 59 ranges were very few and only one was aged above 60 years. Regarding level of education, it was found that more than half of the respondents were PhD holders followed by those with master's degrees while those with bachelor's degrees were very few. In line with these education qualifications, the study has found that a moderate percentage of the respondents were lecturers followed by assistant lecturers and senior lecturers. In contrast, the sample size was made of very few tutorial assistants and professors.

The study collected both primary and secondary data through cross-sectional survey methods. Specifically, primary data were collected through questionnaires and semi-structured interviews. The questionnaire employed had two main sections. While Section A sought demographic information of respondents, Section B covered issues related to awareness about OJS and their importance, and the challenges of using them. These self-administered questionnaires comprised both open and close ended questions that used scales such as nominal and ordinal (Likert scale). Accordingly, a semi structured interview guide was prepared and used to collected data from key informants during interview sessions that lasted 30-45 minutes.

Upon completion of the data collection exercise, analysis began. Prior to this, quantitative data were organized, verified, compiled, and coded. This was followed by analysis which used Statistical Product for Service Solutions (SPSS) version 21 to produce descriptive statistics such as frequencies and percentages which have helped to organise and summarise the data.

Results

Use of OJS

Respondents were asked by the researchers to indicate their usage of online journal systems. This question was important in understanding the usage trend of the systems and the role played by each respondent in their usage. Table 3 summarizes the results:

Table 3: Use of OJS

Use and role in the system (n = 148)	Frequency	Percent
Use of OJS		
Use	96	64.9
Not use	52	35.1
Total	148	100
Role in the system		
Reader of articles posted to the system	95	64.2
Author who uploads articles to the system	82	55.4
Chief Editor who manages the editorial process	1	0.7
Reviewer of articles uploaded to the system	39	26.4
Journal manager who manages the setup of the system	1	0.7
Layout editor who typesets article layout	1	0.7
System administrator who manages the journal system	2	1.4

Generally, these results disclose that majority of the faculty members were users of online journal systems while moderate percentage was not. The results also show that a significant percentage of the surveyed faculty members were readers of articles posted to OJS, authors who upload articles to the systems, reviewers of articles uploaded to the systems, and system administrators who manage the journal systems. Accordingly, the results disclose that chief editors who manage the editorial process of journals, journal managers who manage the setup of the system and layout editor who typeset article layouts made a small percentage of the study's respondents.

Frequency of using the systems to publish journal articles

In order to understand the extent of usage of online systems at the University of Dar es Salaam, respondents were asked to indicate the frequencies of their usage of the systems to publish their journal articles. To gauge this, a Likert scale (i.e., 1 = Weekly, 2 = Monthly, 3 = Bimonthly, 4 = Every three months, 5 = Every six months, 6 = Every year, 7 = Occasionally, 8 = I am not sure, 9 = Never used). Table 4 summarizes the results:

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Table 4: Frequency of using the system

Frequency (n = 148)	Frequency	Percent
Weekly	2	1.4
Monthly	10	6.8
Bimonthly	1	.7
Every three months	4	2.7
Every six months	13	8.8
Every year	19	12.8
Occasionally	44	29.7
I am not sure	3	2.0
Never used	52	35.1
Total	**148**	**100**

The results in Table 4 show that a moderate percentage of the responding faculty members never used the online journal systems to publish journal articles while close to one third of the respondents reported to use the online systems occasionally. The study results also show that the least number of respondents indicated that they use the systems after every three months.

Frequency of use of specific online journal publishing systems

To understand the frequency of usage of individual online journal publishing systems, the respondents were asked by the researchers to indicate how frequently they used some of the most popular ones. Their responses are summarised in Table 5:

Table 5: Frequency use of the system

Frequency use of system (n= 96)	Very frequently	Frequently	Not frequently
African Journal Online (AJOL)	14 (14.6%)	39 (40.6%)	43 (44.8%)
Springer Publishing	2 (2.1%)	19 (19.7%)	75 (78.1%)
Sage Publishing	12 (12.5%)	24 (25%)	60 (62.5%)
Wiley Online	7 (7.3%)	26 (27.1%)	63 (65.6%)
Taylor and Francis	10 (10.4%)	29 (30.2%)	57 (59.3 %)
Emerald Publishing	2 (2.1%)	30 (31.2%)	64 (66.7%)
UDSM Open Journal System	8 (8.3%)	29 (30.2%)	59 (61.4%)

Generally, these study results suggest that majority of the faculty members did not frequently use online systems to publish with springer, Sage, Wiley, Taylor and Francis, Emeralds and UDSM Open journal system. In contrast, the results show that about two fifths of the faculty members confirmed that they frequently use the online systems to publish with African Journal Online while only close to one third indicated that they use Taylor and Francis system, Emeralds and UDSM OPEN Journal system. Besides that, the results suggest that an insignificant percentage of the responding faculty members indicated that they very frequently use online systems to publish with AJOL, Sage and Taylor and Francis.

Perceived benefits of using online OJS

Questions on how important faculty members perceived online journal publishing systems to be were also asked in this study. This was done in order to understand the importance of online journal publishing systems to the members. Three aspects: how online journal publishing systems facilitate journal management and publishing, how they help authors, and how they facilitate scholarly communication were considered. To do this, the responding faculty members were asked to rate their level of agreement with statements presented to them on five points Likert scales (i.e., 1 = Strongly Agree [SA], 2 = Agree [A], 3 = Neutral [N], 4 = Disagree [D], 5 = Strongly Disagree [SD]). Based on the results, faculty members that participated in this study agreed that as a tool, online journal publishing facilitates publishing process. Table 6 clearly summarises these results:

Table 6: Perceived benefits of using OJS to facilitate journal publishing process

Importance (n = 96)	**SA**	**A**	**N**	**D**	**SD**
It promotes academic development of individual authors	63(65.6%)	27(28.1%)	5(5.2%)	1(1.0%)	0(0.0%)
It promotes the institution's reputation	56(58.3%)	35(36.5%)	3(3.1%)	1(1.0%)	1(1.0%)
It promotes research process	41(42.7%)	52(54.2%)	2(2.1%)	0(0.0%)	1(1.0%)
It aids in building researchers' communities	38(39.6%)	49(51.0%)	6(6.3%)	1(1.0%)	2(2.1%)
It promotes the institution's research profile	51(53.1%)	43(44.8%)	1(1.0%)	0(0.0%)	1(1.0%)
It promotes scholarly publishing for countries and their respective institutions	69(71.9%)	21(21.9%)	4(4.2%)	2(2.1%)	0(0.0%)

On the whole, the study results suggest that majority of the respondents (>50%) agreed that online journal publishing systems are very important while few were neutral, disagreed or strongly disagreed. These results clearly inform that respondents were aware of the importance of online publishing systems. For example, a significant percentage of the respondents strongly agreed that online journal publishing systems are important because they promote scholarly publishing for countries and their respective institutions, promote academic development of individual authors, enhance the institution's reputation, and promote institutional research profile. Besides, the results show that respondents also agreed that the systems are important because they promote research process and facilitate the establishment of research communities. In order to gain more insight on the importance of the systems to journal management, this study asked respondents to indicate their level of agreement with the statements presented to them using a five points Likert scale. Table 7 summarizes the results generated:

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Table 7: Perceived benefits of OJS in facilitating online journal management

Importance (n= 96)	**5**	**4**	**3**	**2**	**1**
It brings together authors and reviewers working in the same fields	54(56.3%)	37(38.5%)	4(4.2)	1(1.04%)	0(0.0%)
It promotes cooperation among editors working in online systems	61(63.6%)	33(34.4%)	2(2.1%)	0(0.0%)	0(0.0%)
It minimizes journal management costs	49(51.04%)	44(45.8%)	2(2.1%)	0(0.0%)	1 (1.04 %)
It facilitates communication between authors, reviewers and editors	81(84.4%)	13(13.5%)	2(2.1%)	0(0.0%)	0(0.0%)
It reduces clerical activities common in print journal publishing process	65(67.7%)	27(28.1%)	3(3.1%)	0(0.0%)	1(1.04 %)
It facilitates the dissemination & sharing of journal articles worldwide	77(80.2%)	16(16.7%)	2(2.1%)	1(1.04 %)	0(0.0%)
It saves the time of processing and publishing journal articles	48(50%)	36(37.9%)	2(2.1%)	7(7.3%)	3(3.1%)
It assists in minimizing plagiarism	61(63.5%)	29(30.2%)	3(3.1%)	1 (1.04 %)	2(2.1%)
It aids journal indexing process	31(32.3%)	17(17.7%)	9(7.4%)	23(23.9%)	16(16.8%)

Based on the results presented in Table 7, it is clear that most of the respondents agreed that OJS are important in facilitating online journal management. For example, a large proportion of the faculty members reported that the systems: facilitate communication between authors, reviewers and editors; facilitate the dissemination and sharing of journal articles worldwide; reduce clerical activities that are common in print journal publishing process; and assist in minimizing plagiarism. The study's results further disclose that half of the respondents agreed that online publishing systems minimize the time used to process and publish journal articles while very few were either neutral or disagreed with the statements alluding to this. The study also sought to find out how online journal publishing systems were important to authors considering the important role the later play in online journal publishing systems and the publishing industry. Table 8 summarizes the results:

Table 8: Importance of online journal publishing systems to the authors

Importance (n = 96)	**5**	**4**	**3**	**2**	**1**
When published, my work will be more highly cited	72(75%)	19(19.8%)	3(3.1%)	2(2.1 %)	0(0.0%)
When published, my work will be read by more people	79(82.3%)	15(15.6%)	1(1 %)	1(1 %)	0(0.0%)
When published, my work will reach more people outside of my field	58(60.4%)	35(36.5%)	2(2.1%)	0(0.0%)	1(1%)
When published, my work will have a greater impact	65(67.7%)	22(22.9%)	1(1.0 %)	5(5.2%)	3(3.1%)
It will help me secure grant funding for my future research	16(16.7%)	20(20.8%)	18(18.8%)	27(28.1%)	15(15.6%)
It will help me to get promoted	85(88.5%)	11(11.5%)	0(0.0%)	0(0.0%)	0(0.0%)
It will promote my research profile	69(71.9%)	17(17.1%)	5(5.2%)	3(3.1%)	2(2.1%)

In all, the study results show that the majority (> 90%) of respondents agreed that online publishing systems are important to them as authors because they enable their work to be cited by other scholars, increase their readers across the globe, and enhance the cross-field reach of their published work. Besides, papers published online were reported to enable authors to secure grant funding for their future research as well as earn them job promotions. Overall, these results show that online publishing systems offer various advantages to authors. Apart from that, the researchers were eager to know if the online journal management and publishing systems also facilitated access to scholarly works and Table 9 summarizes the results obtained on this:

Table 9: Perceived benefits of OJS in facilitating publishing process

Importance (n = 96)	**5**	**4**	**3**	**2**	**1**
It is easier to access online journal systems for article publishing	54(58.3%)	31(32.3%)	8(8.3%)	1(1.0 %)	2(2.1%)
It is easy to use the systems to publish articles	62(64.6%)	27(28.1%)	1(1.04 %)	6(6.3%)	0(0.0%)
It is possible to follow on the entire process of publishing an article	49(51%)	43(44.8%)	4(4.2%)	0(0.0%)	0(0.0%)
It is possible to seek help in case of difficulties in using the systems	41(42.7%)	53(55.2%)	2(2.1%)	0(0.0%)	0(0.0%)
Communicating with journal editors through the system is easy	58(60.4%)	30(31.3%)	2(2.1%)	5(5.2%)	1(1.04 %)

It is easy to retrieve articles once published	74(77.1%)	19(19.8%)	2(2.1%)	1(1.0 %)	0(0.0%)
Authors' profiles can be linked with other online systems such as ORCID	33(34.4%)	51(53.1%)	7(7.3%)	4(4.2%)	1(1.0 %)
Articles can be indexed by journal indexing systems e.g. Google Scholar	55(57.3%)	29(30.2%)	4(4.2%)	6(6.3%)	2(2.1%)
The systems can notify authors on current and future issues	49(51.1%)	43(44.8%)	3(3.1%)	1(1.0 %)	0(0.0%)
It is possible to access and retrieve articles published in back issues	67(69.8%)	24(25%)	2(2.1%)	3(3.1%)	0(0.0%)

Basing on the results presented in Table 9, it is clear that majority (>50%) of respondents agreed that online journal systems are important in facilitating access to scholarly works. Specifically, the results disclose that the systems make the retrieval of articles once published easy and enhance access to and retrieval of articles published in back issues. Accordingly, the other majority of respondents affirmed that communicating with journal editors through the system is easy while half of them reported that through the systems, authors' profiles can be linked with other online systems such as ORCID. Apart from that, more than a half of them reported that it is possible to seek help in case of difficulties while using the systems. On the other hand, the results signify that less than a half (<50%) of the respondents agreed that the systems notify authors about current and future journal issues and ensure that articles are indexed by journal indexing systems.

Perceived barriers of using OJS

The responding faculty members in the surveyed colleges, schools, institutes, and units were also asked to indicate the barriers that undermined their efforts to effectively use online journal systems to publish their articles. The aim of this question was to explore factors that affect the faculty members' usage of online journal publishing systems. Table 10 presents outputs the analysis of the data gathered:

Table 10: Perceived barriers of using OJS

Barriers (n = 96)	**Frequency**	**Percent**
Low Internet bandwidth	69	71.9
Low usage skills	48	50.0
Online publishing process is difficult and time consuming	51	53.1
Lack of expertise in establishing and managing the systems	62	41.9
Difficult to sustain online systems due to insufficient resources	38	39.6
Electricity problems	15	15.6
Lack of awareness about the available systems	41	27.7
Unclear policies, procedures, and guidelines for online publishing	39	26.4

Reluctance by institutions to use the systems	17	17.7
Technophobia	19	17.3

The study results in Table 13 indicate that majority of the faculty members involved in this study mentioned low internet bandwidth as the main barrier to their usage of online systems publish their articles. These were followed in numbers by those that identified the difficulty and time consumption of the process of publishing online and inadequacy of online publishing skills and knowledge. Besides, the results further show that a moderate percentage of the academicians that took part in the study reported lack of expertise in establishing and managing the systems and how difficult it was to sustain online systems due to insufficient resources as challenges. Furthermore, the results inform that a few faculty members mention lack of awareness about the available systems; unclear policies, procedures, and guidelines for publishing online; reluctance by institutions to use the systems; technophobia and electricity problems as the factors that undermine effective usage of online journal publishing systems.

Discussion

This study aimed at measuring the use and perceived benefits and barriers of OJS among academicians at the University of Dar es Salaam. The study's findings reveal high usage of OJS by faculty members. The findings have shown that faculty members use OJS for various purposes. These include uploading articles for online publication, reading articles uploaded into the systems and reviewing articles submitted for publication. However, the frequency of use of individual online publishing systems have shown that systems used by Springer, Sage, Taylor and Francis, and Wiley and Emerald are not frequently used by UDSM academic staff. Instead, the findings have shown that these systems are only occasionally used by the staff members. In contrast, the African Journal Online (AJOL) management and publishing system has been found to experience moderate usage from the staff members. The main explanations for this state are twofold. Firstly, most Tanzanian journals are hosted by AJOL system. Secondly, most UDSM faculty members publish their articles in journals under the AJOL system which can be attributed to the awareness raised by AJOL and INASP making faculty members familiar with the system (see Ndungu, 2020). These findings vary from what has been revealed by other scholars. For instance, a study by Luparenko (2020) reveals that a small proportion of researchers in Ukraine had experience in using EOJS in scholarly communications.

In general, although the study has found infrequent use of OJS by faculty members at the UDSM, the systems are not negatively perceived at the university. In fact, the findings have disclosed that majority of the faculty members that participated in this study considered online journal management and publishing systems important to journal managers, reviewers, editors, and authors. For authors, the system has been noted to be useful through increasing citations of their works, enhancing the reach of their scholarly work, increasing publication impact, supporting their job promotions, and promoting their research profiles. Regarding journal management support, the systems appear to increase online collaboration among editors; bring together authors and reviewers; minimise journal management costs; facilitate communication between authors, reviewers, and editors; reduce clerical activities such as printing; and facilitate dissemination and sharing of journal articles globally. Along these, the systems have been found to minimise time usage when processing and publishing journal articles, assist to minimise plagiarism, and aid

journal indexing process. Other faculty members felt that the use of online journal systems promotes academic development of authors, and enhances institutional reputation, research process, institutional research profile, scholarly publishing for countries and their respective institutions and aids the building of research communities. These aside, a large proportion of faculty members agreed that online journal systems enhance access and, publication of journal articles, communication, linkage with other systems such as ORCID, and journal indexing. These findings tally with numerous prior studies (e.g., Rowley *et al*., 2017; Tennant *et al*., 2016).

Furthermore, the findings inform that the use of online journal management and publishing systems at the UDSM is not resistant to challenges. On this, the study has found that there are various factors limit the systems' usage. These include unreliable internet services, inadequate usage skills and knowledge, the complexity and time consumption of publishing processes and insufficiency of resources for sustaining online systems. Other, but less strong, factors are unreliable electricity, lack of awareness; unclear publication policies, procedures, and guidelines; reluctance of institutions to use the systems; and technophobia. These findings support those reported by Johnson (2018) who examined challenges of journal publishing in the Arab World. The researcher found that limited access to internet facilities and electricity power supply were considered as major barriers that held online publishing efforts back. However, in contrast to this study, Johnson (2018) also found computer illiteracy another strong challenge in the Arab World.

Study implications

It is worth noting that studies to examine the usage of OJS have not been conducted in Tanzania. As such, this study expands the existing knowledge on this subject. The findings of this study are expected to inform the university on the extent and trend of usage of online systems in managing and publishing university journals. Also, the study's findings will help the university to improve its publication policies, guidelines, and procedures so as to match the current publication industry.

Conclusion and recommendations

The study reveals that a significant number of academicians use OJS to publish their scholarly works. However, majority of them use the systems infrequently. The study further reveals diverse barriers that undermine effective use of these systems. In response, this makes a number of recommendations as follows:

- Regular training should be provided to staff of all levels to acquaint them with new developments in online systems. Regular training on writing, referencing and citation are important in enabling staff members to appraise their skills. For example, training on the usage of referencing and citation tools such as Mendeley, Zotero and EndNote are necessary.
- To sustain the systems, institutions should be encouraged to work in collaboration with other institutions to maximize the usage of available resources.
- Since access to internet services has been found as one of the factors that hamper the usage of online journal publishing systems, the UDSM has to take deliberate measures to change the situation. This should be done through increasing bandwidth, internet cables and network systems. In addition, other ways of maintaining resources such as internet bandwidth and electric power supply should be explored so as to optimize the usage of online systems.

- Acquisition and installation of automatic generators to enhance the reliability of electricity should be taken into consideration by the university management.
- Furthermore, other means of creating awareness of the available resources should be explored in order to capture the interest of more staff and direct it to usage of OJS.

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