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User preference on use of print and Electronic Resources in Selected Universities in

Tanzania: A survey Athumani.S. Samzugui, athumani.samzugui@out.ac.tz, The Open University
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ABSTRACT

This paper is based on a study that examined user preferences in the use of print and electronic resources in Selected Universities in Tanzania.

Design/methodology/approach: A descriptive survey method was used as the research design, which involved three sampled universities in Tanzania, namely the University of Dar es Salaam (UDSM), the Open University of Tanzania (OUT) and Tumaini University-Dar es Salaam College (TUDARco). Purposive sampling technique was used to select respondents, comprising undergraduate and post-graduate students, academic and research staff chosen due to their proximity and degree of involvement in the generation and usage of information in both print and electronic formats in their academic and research endeavours as well as consultancy.

Empirical data for the study was collected using the questionnaire survey and interview guide. Out of the 400 copies of questionnaire administered, 350 (87.5%) were successfully completed and used for the study. Data collected using questionnaires were coded, entered into a computer, analysed and interpreted with the help of the Statistical Package for Social Sciences (SPSS) version 20 whereas data obtained from interview was subjected to content analysis. The qualitative data analysis process entailed collecting, sorting and eventually organising the information according to emerging themes in line with the objectives of the study .

Findings: The study found out that a positive majority 163 (50.5%) of the respondents, prefer the use print over electronic resources. These findings are not in congruency with a popular assumption that the ready availability of online resources has supplanted print resources, which is not necessary the case. However, one significant finding in this study is that e-resources popularity has started to gain ground across the three universities under review.

Recommendation: Finally, (267 (52.5%) of the respondents) recommended fostering the use of both print and electronic resources in universities, for wider access of knowledge, particularly in the resource-limited contexts prevailing in Tanzania.

Conclusion: Based on the findings, the study concluded that a hybrid collection is the panacea to optimising resources as it provides users with more access choices between the two formats.

Key words: User studies, Universities-Tanzania, Print resources; electronic resources; digital resources; hybrid library.

Paper type. Research paper

1.Introduction

Historically, the introduction of printing was revolutionary in its impact (Stacy, 2008, p.1). According to Zha, Zhang, and Yan(2014,p.346). Print resources refer to traditional information such as printed books and print journals. Print is a pioneer of mass distribution of information and medium of communication like no other (Bastek, 2012,p.1). For centuries, printed resources have been a major carrier of information accessible and utilised for teaching, learning and research in universities (Okon, 2013,p.8). As such, print resources have served as a vital avenue for the dissemination of scholarly information to the global society. However, Rubin (2000,p.6) asserts the rapid development of ICT coupled with electronic publishing threatens the hitherto

unparalleled dominance of the printed format in terms of access as the electronic format is proving to be dynamic in enhancing easy access even from remote areas far removed from the physical library. According to Mizrachi, D *et al.* (2016,2018) and Mizrachi (2015), digital technology has penetrated the old age traditional book industry with success, with electronic format products proving more suited and convenient for some activities, and being popular with many educators, administrators and policy makers than traditional sources. In fact, the electronic ‘invasion’ has been so impactful that a common assumption now is that digital technology is poised to replace paper-based media in the foreseeable future.

Electronic resources refer to materials that require computer access. They include e-journals, e-books, full-text databases, reference databases, dictionaries, and encyclopaedia (IFLA,2012 p.3). They represent an increasingly important collection in libraries. In fact, the advent of the internet and its concomitant penetration in African institutions of higher learning libraries and information centres, including Tanzania’s universities, has ushered in prospects for a digital divide in a continent already marked by digital divides. In this respect, advances in technology and the transformation of the information landscape have changed the way users interact with information. On the one hand, the information technological development, has provided users with a wider opportunity for choosing between the two mediums; on the other, it poses challenges also sparked by intense debate and pressure on university managements during the making of acquisition and subscription choices between print and electronic resources amidst stringent library budgets.

Halloumeh *et al.* (2016,p.114) observe that the debate on the library’s patrons format preference has prevailed since the mid-1980s. Incidentally, the debate on these paradigms has also

indevertently widened the gap so much extent that the two paradigms appear polar opposites although they are not in essence. In reality, they are complementary.

In a study on why print and electronic resources are essential to the academic law library, WU (2005,p.235) raised a valid and fundamental question on whether “it is still logical for libraries to stock their shelves with printed texts and why should parent institutions provide funding for such acquisition”. Although the paper was based on different geographical context and level of development, the points raised augur well with the position of this paper. *As the Director of Library Services and Lecturer in Library and Information management programmes, the author of this paper often has had to contend with similar questions from the university management and academic staff. Probably, librarians and other information professionals elsewhere have faced a similar dilemma, when handling collection development matters for the acquisition of print and electronic resources .*At a university academic forum which debated the efficacy of the two information platforms-print and electronic resources-one senior academic staff contended:

*“My vision is that all the teaching and learning materials must be accessible online, and we need to provide students with e-books because many of them are free-of-charge and that printed materials will belong to the history. The future is electronic”
(Professor Marketing-The Open University of Tanzania, 03, March, 2018).*

Emphatic and contentious as the statement might appear, it also captures a popular belief among information users in an academic environment fraught with resource-poor contexts , and where acquisition of current and updated print resources is a nightmare. In fact, proponents of this stance envisage electronic resources to ultimately supersede printed ones. The illusion in this context is based on an assumption that all required resources in teaching are freely available through the internet, which is not often the case. According to Robinson (2010,p.37) cutting print

subscription appears to many to be an attractive and obvious solution to achieving immediate solutions, when this only addresses part of the problem.

It is against this rather too optimistic outlook about electronic resources *that a professor in charge of academic affairs, speaking at the forum alluded to above, cautioned that :*

“Printing hard copies will be a longstanding technology in education and I don’t see our university avoiding hard copies in the next twenty years all its doing” (1/3/2018).

Similarly, Schaffner (2001 p.243)) cautioned the academic world thusly:

“The trend toward the exclusive use of electronic resources should be cause for concern about the direction of scholarship, because a wealth of research materials is not now and may never be available in electronic formats.”

Evidence to buttress this caution is abound. For example, the University of Dar es Salaam library, Tanzania, is the single largest repository of the country’s national academic/research information heritage to-date. The library hosts a wealth of a wide range of research/archival information sources consisting of books, pamphlets, periodicals, newspapers, manuscripts, theses and reprints. The greater part of the collection consists of items on Tanzania, including those received on Legal Deposit. There is also a fair coverage of the other East African countries, particularly in statistical and periodical materials, published prior to the mid-1980s, including publications of the East African universities and official documents. Of the manuscripts, the Hans Cory, Kiswahili and Arabic, the Anglican Church Missionary Diary record of the Southern Diocese of Tanzania and the Fosbrooke collections, are the more significant ones. The Kiswahili manuscripts in Arabicscript and Arabic manuscripts which date back to before the 1930 and the

Fosbrooke collection, are available in printed or handwritten format only and may not be found elsewhere in the world.

As such, there is the need for stakeholders in Tanzania's institutions of higher learning, to discuss this emerging trend of thought cautiously with open minds, in order to avoid pre-determined decisions which may jeopardize university teaching, learning and research process. What is required is an inclusiveness that accommodates all key players and views to derive mutual benefits for all information users. In fact, Sharma&Kumar (2016,p.89) contends that where reading materials are available in divergent formats, users' preference is required to engender a need-based investment in the acquisition of such resources and in order to ensure a balanced library collection. WU (op.citp.235.) paralled this situation in more emphatic terms by asserting that a twenty-first century academic library requires both traditional print materials and electronic resources.

In order to provide a critical and fair assessment and understanding of the realities on the ground regarding library user preference of print and non print resources in the academic community, it was deemed imparative to solicit the views of library patrons on their preference, in order to realise the best value for expended institutional financial resources. As such, this survey was designed to assess user preference on the use of print and electronic resources in selected universities in Tanzania, and make recommendations to university managements based on the empirical findings

1.1 Objective of the study

The main objective of the study was to investigate information users' preferences on the use of print and electronic resources in selected Tanzania universities.

Specific objectives were to:

- a. Examine information users' preferences on the use of print and electronic resources
- b. Establish reasons behind such preferences
- c. Make recommendations to the university management based on the findings of the study, on the prevailing use and acquisition of print and electronic resources in selected universities in Tanzania.

1.2 Research Questions

- a. What type of materials do information users prefer most between print and electronic resources?
- b. Why do information users prefer print over e-resources and vice versa?
- c. What can be done to achieve a balanced /rational use of financial resources in the acquisition and use of print and e-resources in academic libraries in Tanzania.

2. Literature review

Library users' preferences for print and electronic formats is an area of interest to institutions of higher learning in Tanzania, which needs to be investigated in order to plan better for academic library collection development. This comes at a time when university libraries the world over, are focusing on improving the provision of electronic and printed resources to cater for diverse information needs of their patrons. In fact, the use of electronic resources is no longer an option

but a necessity, since e-resources are increasingly becoming a preferred and effective source of scholarly information in enhancing teaching and learning in the academe, as well as in the resource-poor contexts. The evolving debate on preference for print or e-information resources amongst university scholars is crucial and calls on libraries to evaluate users preferences amidst budget cuts and constraints.

In fact, literature on this subject is abound in the developed countries, although it is beginning to gain prominence in universities and research establishments in developing countries. For example, Melcher, A. (2017,p.62) conducted a library survey at Carmichael library, University of Montevallo, Alabama, US on e-Books and e-Book readers. Respondents comprised students and staff. The results showed a general preference of using print books, whereby 59.6 percent of the respondents read printed books, but also occasionally read e-books. Since the study was conducted in the US, a nation endowed with advanced socio-economic and cultural patterns of development, it is difficult to generalise the findings of this study to a localised and particularised context of Tanzania. Indeed, the current study was carried out in Tanzania' university settings.

Mizhirachi(2015,p.305), who examined the undergraduates' format preferences between electronic and print when searching for their academic readings at the University of California in the US, used online questionnaire administered to 400 students. The study found that 67.7 percent of the respondents preferred print over electronic format for all courses, when they want to achieve or deeper learning outcome, while 18 percent preferred electronic resources. The results indicate that printed resources were still the mainstay of academic research despite the emergence of e-resources. However, participants in this study were mainly undergraduates and,

therefore, the results may not necessarily be generalised to other categories of users. The current study involved all user groups with different academic backgrounds.

In another study, (Mizrachi *et al.* (2016,p.226), investigated the Academic Reading Format International Study (ARFIS) involving students around the world. The survey received responses from 9,279 undergraduate and graduate students, drawn from 19 countries spread out on four continents. The amalgamated results for both indicate a general preference for print, whereby about two-thirds of all the students reported strong preferences for print over electronic materials. In a similar study (Mizrach. *etl* 2018 p.10) which involved 10,293 college and university students in 21 countries revealed that the majority prefer to read their academic materials in print format. Although these were large-scale studies, the survey coverage did not include Africa, let alone Tanzania. As such, users' preferences for use of resources in Africa in general and Tanzania in particular, remains largely unexplored. This study, therefore, focused on the context of Tanzania's universities not covered by Mizrachi *et al.*'s (2016, 2018) study.

In the United Kingdom Amaya, R. and Secker J's (2016,p10) study titled "Choosing between print and electronic...or keeping both?", involved 655 students from different universities. Participants were drawn from undergraduates, postgraduates and students with visual impairments. The study found that 42 percent of the respondents indicated a high preference for reading materials in print format. The findings further revealed that the diffusion of e-resources remains rather low, even in the developed countries, although it has started to gain ground. Mizrachi's (2014) study also found similarities between the UK and US, where user preference for print over e-resources was more pronounced in both countries. The study recommended that attention should be paid to providing students with print format facilities instead of assuming that course material should always be converted into digital formats.

Pesut, D and Zivkovic,D (2016,p.402), who conducted a survey on students' academic reading format preferences in Croatia involving 232 students, found that 82 percent of the respondents did not prefer to read their courses electronically, compared to 81 percent of the respondents who preferred to do so in print format, although sometimes they preferred electronic format for organising large amounts of literature, which facilitated referencing.

Aharony, N. Bar-Ilans, J (2018,p.9) also observed that students in Israel preferred academic printed materials over electronic ones. However, deep and surface learners recognised the relative advantage of e-materials offered for a fuller understanding of the learning materials. Similarly, Mawindo and Hopkins(2008), who evaluated students' use of print and electronic resources at the University of Malawi's College of Medicine, found that students used both print and electronic resources, but print resources remained the more preferred choice. Also, Halloumeh, K. A. and Jirjees, J. M.'s (2016,p.119) investigation of the use of e-resources versus print journals in academic libraries in Abu Dhabi, found that the majority, 65 percent, of respondents preferred electronic journals to printed ones. Despite the high response rate, the respondents also suggested that libraries should not cancel print format. In fact, other studies by Kiondo (2004,p.21), Liu (2006,p.590), Zell (2013 as cited in WGBLM 2016,p.28) and Sharma and Kumar (2016, p.91) are in consensus that electronic and print format should go hand-in-hand and concurred that a hybrid collection is a fair route to take as it provides users with more access choices between the two formats.

In Tanzania, there has been an upsurge of research work on e-resources; however, little or no research has been conducted to assess intensively library users' preference on print and e-resources in the country's universities. Existing research to-date has largely focused on the general practices of e-resources usage rather than on issues of understanding the users'

preferences on print and electronic materials. In fact, there are still apparent disparities in ascertaining which type of resources are preferred by most by users, particularly in a print culture resource-limited context.

Studies on e-resources conducted in Tanzania have focused primarily on user patterns of e-resources in individual institutions and to-date no study has compared users' preferences either in individual or across universities in Tanzania. Amongst the research efforts directed towards e-resources usage include those by Katabalwa (2016,p.445) who studied the use of electronic journal resources by postgraduate students at the University of Dar es Salaam. The study found that the majority of students used electronic resources for various purposes to supplement printed resources. However, this research falls short of shedding light on the usage of other information carriers such as print resources.

Similarly, Nkebukwa, L. L (2016,p.10), examined the status of usage of electronic resources by students at the College of Business Education. The study found that, the majority of users were not aware of the e-resources available and, hence, did not utilise them as expected. Ideally, however, this raises more questions than answers, for example, if the use of e-resources is minimal what are their preferences?

Mwantimwa, K, Elia, E, and Ndenje-Sichwale, E (2017,p.120), investigated the utilisation of e-resources to support teaching, and research in Tanzania's institutions of higher learning. The study found that there was minimal use of most of e-resources the university had subscribed to; the use of open access resources, on the other hand, was found to be high. This disparity might have been attributable to inadequate information on e-resouces available in the library. However, this study did not provide usage statistics on other resources such as printed resources.

Mtega, W. P, Dulle, F, Malekani, A. W and Chailla, A (2014,p.61), studied the usage of e-resources among agricultural researchers and extension staff in Tanzania. This research established that usage of popular agricultural e-resources among users remains low, probably due to limited awareness. The study, however, made no recourse to the use of print resources as an alternative preference to e-resources in the institution studied.

Furthermore, a number of studies on e-resources conducted in Tanzania have focused on the availability and usage of e-resources. None has compared users' preference on the use of print and e-resources. This study, therefore, was designed to investigate users' preferences on the use of print and e-resources in selected universities, Tanzania, namely the Open University of Tanzania (OUT), Tumbaini University - Dar es Salaam College (TUDARco) and the University of Dar es Salaam (UDSM). The study findings can assist university managements, faculties, librarians, library users determine user preferences so that libraries can plan for better and effective allocation of resources for the acquisition of both print and e-resources. Similarly, these findings can assist players in the publishing industry to know the preferences of their users and accommodate them accordingly.

2.1 Theoretical Framework

This study examined the perception, usage and preferences of electronic and print resources among undergraduate students, academic staff, and researchers in three selected universities in Tanzania. Students, academic staff and researchers use of electronic resources or print sources, their purpose and satisfaction level of this category with such usage of either electronic or print resources or both, are critical issues in determining their needs and in linking them to the management ability to satisfy them amidst university dwindling budgets. To realise its objectives, this research was informed by theories that emphasise the use of electronic resources.

The theories that this study adopted include the Technology Acceptance Model (TAM) by Davis (1989), and Roger’s Diffusion of innovations (1995) model.

2.1.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) describes how users accept and use new technology. In particular, the model describes the factors that influence users’ decisions on how and when to apply new technology, notably, Perceived Usefulness (PU), which is “the degree to which v relationships between usefulness, ease-of-use, and system use. The two major upgrades are the TAM 2 (Venkatesh & Davis 2000) and the Unified Theory of Acceptance and Use of Technology or UTAUT (Venkatesh *et al.*, 2003). The basic tenets of this theory are that the invention of new technology can alter how society responds to events relative to what it used to do old fashionably. In this study, the theory helped to establish the level of e-resources acceptance among study users in this ICT era.

2.1.2 Diffusion of Innovation Theory

Rogers’s (1983) and (1995) works postulate the Diffusion of Innovation theory, which describes the patterns of innovation adoption. He explains the mechanism, and helps predict whether a new invention will be successful or not. The theory has subsequently been used as the theoretical basis for a number of information system research projects, this study is no exception.

3. Methodology

Descriptive survey research design was adopted to study the University of Dar es Salaam (UDSM), the Open University of Tanzania (OUT) and Tumaini University - Dar es Salaam College (TUDARco). According to Mugenda and Mugenda (2003), a survey attempts to collect data from members of a population to determine the current status of that population with respect

to one or more variables. The survey design was used in this study to facilitate the collection of information that paints a holistic picture of the existing situation.

3.2 Target Population

Data for the study was collected from November, 2017 to March, 2018. A total of 400 questionnaires with both close and open ended questions were administered to students, academic and research staff from the UDSM, the OUT and TUDARDco to determine users' preferences on print and e-resources. Out of 400 questionnaires administered, 350 were fully filled out and returned. Fifty questionnaires were discarded because of incomplete data, leading to a sample of 350, yielding 87.5 percent response rate.

3.3 Methods

Purposive sampling technique was used to select participants comprising undergraduate and post-graduate students, academic and research staff chosen due to their proximity and degree of involvement in the generation and usage of information in both print and electronic formats in their academic and research endeavours as well as consultancy. Furthermore, academic and research staff were included because of their involvement in the selection and acquisition of library materials. This group constituted the largest contingent that participated in the questionnaire survey, which constituted the principal data collection instrument. Three Directors of Library Services were purposively selected for taking part in interviews, due to the nature of their responsibilities in the academic libraries. Moreover, they are involved in the selection and acquisition of library resources in collaboration with academic staff. The interviews with directors helped to secure more and accurate information to supplement and validate information

collected through the use of questionnaires. The interview guide supplemented the questionnaire survey.

Data collected using questionnaires were coded, entered into a computer, analysed and interpreted with the help of the Statistical Package for Social Sciences (SPSS) version 20 whereas data obtained from interview was subjected to content analysis. The qualitative data analysis process entailed collecting, sorting and eventually organising the data according to emerging themes, in line with the objectives of the study. Verbatim statements from directors have been included in the explanations to support the findings of the study.

4. Discussion of Findings

4.1 Social-demographic characteristics

Biographical data of the respondents who participated in this study include gender, age, title, and academic qualifications. This information provided working knowledge on the characteristics of the population under review drawn from the three universities of OUT, TUDARco and UDSM.

Responses are summed up in Table 1 below:

Table 1: Institutional Affiliation of Respondents (N=327)

Category	Frequency	Percent
OUT	190	58.1
TUDARco	48	14.7
UDSM	89	27.2
Total	327	100

Source: Field Data (2017-2018)

As Table 1 illustrates, the study involved 350 respondents drawn from three universities under review. Out of 350 self-administered questionnaires distributed to the respondents and returned, thirteen questionnaires were discarded because of incompleteness of information provided, hence

leading to a sample of 327, a 93.4 percent return rate. This response rate was significant. Out of the 327 respondents, 205(62.7%) were males and 122 (37.3%) females. The academic and research staff constituted 141 (43.1%) whereas students accounted for 182 (55.7%). Of the respondents, 190 (58.1%) were drawn from the OUT, which offers its programmes in the Open and Distance Learning (ODL) mode, 48 (14.7%) from TUDARCo, a private university, and 89 (27.2%) from the UDSM, a public university. With regard to age, 53 (16.2%) were aged 18-25, 121(37.0%) were aged 26-35. 70 (21.4%) were 36-45, 54 (16.5%) were aged 46-55, 22 (6.7%) aged 56-65, and seven (2.1%) were aged over 66.

In term of academic qualifications, 131 (40%) were first degree holders, 116 (35.5%) had master's degree whereas 78 (24.5%) were PhD holders. More than 50 percent of the respondents were drawn from the OUT because of its nature and mode of delivery. Their students and academic staff are scattered all over the world.

It is evident from demographic characteristics that the respondents, who participated in this study represented categories of staff, students and researchers with varied academic qualifications and experiences. Thus, their varied views were vital in understanding their preferences on the use of print and e-resources. Besides, all the respondents were key players from the users' category, by virtue of their involvement in the selection and usage of print or e-resources. For details refer to Table 2 below:

Table 2: Respondent Characteristics

Variable	Variable category	Frequenc y	Percentag e
Sex	Male	205	62.7
	Female	122	37.3
	N=327		
Respondent Category			
	Student	182	55.7
	Academic staff	141	43.1
	Researcher	3	0.9
	Administrator	1	0.3
	N=327		
Age of Respondent			
	18 – 25	53	16.2
	26 – 35	121	37.0
	36 – 45	70	21.4
	46 – 55	54	16.5
	56 – 65	22	6.7
	Over 66	7	2.1
	N=327		
Academic Qualifications			
	First Degree/Equivalent	131	40.1
	Masters	116	35.5
	PhD	77	23.5
	Postgraduate Diploma	1	0.3
	Diploma	2	0.6

Source: Field Data (2017- 2018)

4.2 Users' Preferences on use of Print and Electronic Resources

Responses to questions on types of resources consulted, and types of materials preferred most were clustered because the information sought was related. Responses are as summed up in tables 2 and 3 below:

4.2.1 Types of Resources Consulted

Table 3:Types of Resources Consulted (N=293)

Category	Frequency	Percent
Print	114	38.9
Electronic	55	18.8
Both	124	42.3
Total	293	100

Source: Field Data (2017-2018)

As Table 3 illustrates, the majority, 124 (42.3%), of the respondents prefer to consult both printed and electronic resources followed by 114 (38.9%) who consulted printed resources whereas 55(18.8%) consulted electronic resources. Overall, the respondents treat both print and electronic as important sources of information. As such, libraries should consider maintaining subscriptions for both print and electronic resources to maintain a balanced collection that satisfies information user needs at their convenience.

The study findings collaborate with those by Kiondo (2004), Liu (2006), Yuan *et al.* (2018) Sharma (2016), and Wu (2005) who found that many academic libraries had a healthy collection of print resources, and as such there was a need to adopt hybrid collections. Until those values can be replicated in the other media, both formats must be collected, maintained and supported by libraries. Similarly, Zell (2013) contends that digital and print formats would continue being complimentary in the 'foreseeable future.

The results presented in Table 1.2 also indicate that the diffusion of e-resources is surprisingly low standing as it does at 18.8 percent for universities in Tanzania, despite heavy investment made in subscribing to these e-resources, coupled with the promotion strategies made through the Consortium of Tanzania University Libraries to subscribe and market electronic resources, vide their institutional websites, information literacy training and brochures.

4.2.2 Type of materials preferred the most in learning, teaching and research

Table 4: Type of Materials Preferred Most (N=276)

Category	Frequency	Percent
Print	153	55.4
Electronic resources	83	30.1
Both	40	14.5
Total	276	100

Source: Field Data (2017-2018)

Respondents from the three universities were asked to indicate the type of materials they preferred the most in their learning, teaching and research. As Table 4 demonstrates, overall, the majority of the respondents, 153 (55.4%), indicated their preferences for print resources, followed by 83 (30%) who preferred e-resources and 40 (14.5%) who preferred both. The reality on the ground also shows that the majority of the respondents for the time being prefer printed over electronic resources.

Based on these findings, the university managements need to be aware of the prevailing trends in user perceptions and needs for library resources when considering library budgets for the acquisition of learning resources. In addition, care must be taken not to rush into scrapping off printed resources, as this action might impair the teaching, learning and research process. These findings confirm previous studies by Mizrachi etl (2016), Aharony and Bar Ilan,J(2018) and Melcher(2015),which indicated preferences for printed materials.Although the adoption and use of e-resources is fairly a new phenomenon in Tanzania e-resources' popularity is gaining ground among information users. This trend might be attributable to the widening access to ICTs generally, internet connectivity, e-resources promotion strategies, and information literacy training sessions in particular, conducted regularly in Tanzania's universities. During an interview, a Head of Readers and Technical Services said: *"We normally conduct information*

literacy training for students and academic staff for the purpose of orienting them and raising awareness on the resources available in the library and the emphasis is on e-resources” (Head, Readers and Technical Services, OUT, 2018).

Besides, age profiles of respondents also play an important role in the use of e-resources. As Table 4 has illustrated, the majority of the respondents’ age profiles in this study ranged from 18-36.

4.3 Purpose of Using print and electronic resources

The second objective of this study sought to solicit responses on the purpose for using electronic and printed resources. In connection with that, the study also sought to establish the type of resources preferred the most, university’s subscription to e-resources, whether the users printed out the electronics resources for use/reference, whether they found the information they needed from online resources, and whether they still consulted printed resources in the traditional library. The responses have been clustered because the information generated is related. The resultant answers have been summed up in Tables 5

Table 5: Multiple Responses for Purpose of Using Print and Electronic Resources

Category	Frequency	Percent
Teaching and learning	185	44.6
Research	160	38.6
Preparation of exams	67	16.1
Recreational purposes	2	0.5
Consultancy	1	0.2
Total	415	100.0

Source: Field Data (2017-2018)

Note: Multiple Non-exclusive Responses

Table 5 illustrates, **185 (44.6%)** of the respondents use such resources for teaching and learning, followed by **160 (38.6%)** who use them for research, **67 (16.1%)** for examination preparations, two **(0.5%)** for recreation, and one (0.2%) for consultancy. The findings corroborate with those by Katabalwa (2016), who reported that electronic resources are important and useful, as they support academic purposes in institutions of higher learning, such as teaching, for the purpose of increasing knowledge, research for generating new information for solving society problems. Besides, e-resources also supplement other printed resources held by university libraries.

4.3.3 University Subscriptions to resources

With regard to the universities' subscription to resources, the respondents provided responses whose results have been presented in Table 6:

Table 6: University Subscription to Resources

Category	Frequency	Percent
Yes	240	86.3
No	8	2.9
I don't know	30	10.8
Total	278	100

Source: Field Data (2017- 2018)

In all, that 240 (86.3%) of the respondents answered were affirmative about their respective libraries subscribing to learning resources both print and electronic, followed by 30 (10.8%) who did not know and eight (2.9%) who indicated otherwise. Due to the intervention of Consortium of Tanzania University Libraries(COTUL), many academic and research libraries in Tanzania have bought the idea of subscribing to e-resources and the trend has been spreading like the proverbial wild fire. However, the consortium has concentrated much on e-journal subscription at the expense of other resources such as print. As academic libraries are integrating e-resources in their collections, it is pertinent to consider also subscription of printed resources. Indeed, print

resources also need prioritisation to have a balanced and diverse collection. With regard to the type of e-resources the university libraries subscribed to, the respondents' responses have been summarised in Table 7

Table 7: Types of University Subscribed for E-resources

Category	Frequency	Percent
E-journals	150	35.4
E-book	115	27.1
Lecture notes/study materials	97	22.9
Theses and dissertations	61	14.4
Databases	1	0.2
Total	424	100.0

Source,Field Data (2017- 2018)

4.3.4 Printing Electronic Resources for Use/Reference Purposes

The question was intended to establish whether users use soft copies of electronic resources available online or end up printing the electronic resources, inspite of their availability and accessibility on line. Responses are summed up in Table 8:

Table 8: Printing Out of E-resources (N=321)

Category	Frequency	Percent
Yes	214	66.7
No	92	28.7
I don't know	8	2.5
Sometimes	7	2.2
Total	321	100

Source: Field Data (2017- 2018)

According to Table 8 above, some 214(66.7%) respondents indicated that, they printed out the e-resources they accessed or downloaded, followed by 92(28.7%) who did not and, eight (2.5%) who did not know as well as seven (2.2%) who sometimes printed them out.

Asked to state why they print out e-resources, 69(36.6%) of the respondents said they did so for their reference in case there was no internet and computer access; 50 (26.3%) said it was easier to read in print than on the computer screen. Results also show that 33 (17.4%) of the respondents said they print e-resources out to have backup copies, just in case the document is removed from the hosting database.

Table 9: Reason for Printing E-resources Out

Category	Frequency	Percent
For further reference in case there no internet and computers	69	30.0
Ease of use/read the material/concentration/comfotability i.e. ready anytime, anywhere, and when Offline	50	21.7
Backup/permanent record in case it is removed in the database	33	14.3
Unreliable internet connectivity	15	6.5
Unreliable electric power	13	5.7
Easy accessibility of print resources	10	4.3
Internet costs	8	3.5
Credibility of Information because it has passed through peer review	8	3.5
Reading e-resources on the ICT gadgets screens strains the eyes and causes loss of concentration	7	3.0
For sharing with my students who cannot access them online or those without ICT facilities	5	2.2
E-resources are easy to keep	3	1.3
It saves time	3	1.3
Spending much time to read on ICT gadgets is unhealthy e.g. Eye problems	3	1.3
Lack of ICT facilities e.g. PCs for reading e-resources	2	0.9
Availability of printing devices e.g. Photocopy Machine	1	0.4
Total	230	100.0

Source:Field Data (2017- 2018)

Note: Multiple Non-Exclusive Responses

Table 10 shows that some of the respondents did not prefer to print documents available online out for reasons such as printing costs mentioned by 26 (34.7%) of the respondents; 'easily readable on the screen' mentioned by 16 (21.3%) and 'they use other devices to store information' mentioned by 14 (18.7%) of the respondents.

Table 10. Reason for not Printing E-resources Out

Category	Frequency	Percent
Printing cost is an obstacle	26	31.7
Easily readable on the ICT Screens e.g. PCs	16	19.5
They can be stored/saved/kept on ICT devices e.g. Google Drive, PCs, Flash drives for future use	14	17.1
I normally note down key points I need	7	8.5
They are easily accessible online	5	6.1
Lack of printing facilities	4	4.9
No need of doing so	4	4.9
Time factor	2	2.4
Internet resources are not sometimes satisfactory	2	2.4
Reduces the burden to carry	2	2.4
Total	84	100.0

Source: Field Data (2017- 2018)

Note: Multiple Non-Exclusive Responses

Overall, these findings show that the majority of the respondents end up printing the e-resources out. In other words, despite the availability of e-resources, users convert them into paper-based texts. This affirms the earlier findings by Liu and Stork (2000) and Marshall (1997) who contend that people are likely to continue printing e-documents out for in-depth reading of a document due to instability of online resources.

Table 11: Consulting traditional library after Accessing E-reources

Category	Frequency	Percent
Yes	211	65.7
No	97	30.2
I don't know	13	4.0
Total	321	100

Source: Field Data (2017- 2018)

With the development of ICT, coupled with the availability of online e-resources, there is a notion that the role of traditional physical library is becoming increasingly redundant in this ICT era. In response to the question on whether they would still consult the traditional library after finding the information they needed online, the majority (211; 65.7%) insisted they would where 97(30.2%) said they would not and 13(4.0%) were non-committal. Despite the availability of

information online, users still trust the traditional library and would continue using the sources. In other words, the traditional library would continue supporting academic endeavours, even in the ICT era, which suggest the value of having hybrid academic libraries.

Indeed, the availability of information online has not obliterated the culture of using the traditional library, which is entrenched in the culture of users for educational and research purposes. The findings of this study corroborate with those of Vernon (2006) and Clay (2012) who found that students go to university having already developed particular reading habits and thus are often reluctant to change those habits.

Table 12: Choice between Print and Eresources (N=322)

Category	Frequency	Percent
Print resources	163	50.6
Electronic resources	140	43.5
Both	19	5.9
Total	322	100

Source: Field Data (2017-2018)

Respondents across all age groups were asked to indicate their preferences between either print, electronic or both resources. Establishing their preferences can inform acquisition plans that accommodate the diverse research needs of users and realise value for money. The results in Table 12 show that 163 (50.6%) prefer printed resources, 140 (43.5%) prefer e-resources and 19(5.9%) opted for both resources. Overall, the findings show that the majority of the respondents were for print, although e-resources also had a sizeable patronage with their popularity soaring across the three university campuses under review. These findings suggest a shift in terms of the attitudes of users towards the use of e-resources after the stranglehold of the print resources which had been hitherto unprecedented in the corridors of academia. The trend appears to have been driven by the emerging new generations of library users who are

conversant and comfortable with accessing online. Moreover, in the resource-limited contexts, which updating of print materials does not necessary match with developments in the developed world from where these books are largely sourced, the e-resources tend to provide much more updated materials that students and faculty alike utilise.

4.4 Future of print and electronic resources in Tanzania’s academic libraries

To get a composite picture on the future of print and e-resources, the respondents were asked to indicate their perception on the future of the two information transmitters of knowledge-paper-based (print) or electronic-based sources. The responses have been presented in Table 13

Table 13: Future of Print and Electronic Resources in Tanzania University Libraries

Category	Frequency	Percent
Print resources will continue to co-exist with electronic resources	267	52.5
Electronic resources will supplement print resources	161	31.6
Electronic resources will eventually replace printed resources	81	15.9
Total	509	100.0

Source:Field Data(2017- 2018)

Note: Multiple Non-exclusive Responses

The total multiple responses questions was 509 on Future of Print and Electronic Resources in Tanzania University Libraries

The majority (267; 52.5%) of the respondents indicated that print resources would continue to co-exist with e-resources, 161(31.6%) opined that e-resources would supplement print resources and 81(15.9%) mentioned that e-resources would eventually replace printed resources.

Generally, these findings show that the majority of the respondents presently believe that print and e-formats would continue co-existing in library collections. These findings are consistent with those of Kiondo (2003), Zell (2013), Liu (2005) and Wu (2003) who agitate for a hybrid

information environment in which online information do not supplant information in print but adds new data access opportunities for information users. Besides, both formats should be collected, maintained, and supported by libraries.

4.5 Conclusion and recommendations

This study investigated the information users' preferences in the use of print and e-resources in Tanzania's universities. The overall picture and lessons emerging from this study indicate that the majority of the respondents still prefer printed resources over e-resources. This outcome goes against the widely assumed notion-particularly in the context of resource-limited Tanzania-that the availability of free online resources has replaced printed resources. The implication is for university managements to rethink carefully and take cautionary measures when deciding to reduce or scrap off subscriptions for printed resources to ensure they continue providing round information services that support teaching, learning and research agendas. In short, the present academic library climate in Tanzania support a hybrid environment in which both print and e-format are complementary to cater best for the interest of information users. However, this conclusion does not belie that in Tanzania e-resources are gaining steady ground among users, a culture that should be nurtured to flourish in the face of limited up-to-date print resources and editions in many of the current academic libraries. The findings of this study are also congruent with the Davis (1989) Technology Acceptance Model (TAM), due to the accelerating acceptance, adoption and utilisation of e-resources among university academic user communities in the selected institutions in Tanzania. Similarly, e-resources are now increasingly becoming a preferred and effective source of scholarly information and their usefulness in enhancing teaching and learning is systematically being acknowledged.

Overall, the basic tenets of this theory are that the invention of new technology can alter the way society responds to events or what they use to do in an old way. As way forward, the majority of the respondents embrace hybrid libraries that provide both print and e-resources.

Declaration

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