

ASSESSING OF INFORMATION- SEEKING BEHAVIOUR OF ACADEMIC STAFF IN THE EMERGING ELECTRONIC INFORMATION ERA: A CASE STUDY OF CBE AND IRDP IN TANZANIA

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ABSTRACT

The purpose of this paper was to assess the information-seeking behaviour of academic staff in the emerging electronic information era: Case of two selected institutions (CBE and IRDP). Previously, it was shown that academic staff relied on printed sources only. This has affected academic institutions' efforts aimed at development of such important electronic teaching and learning environment. A totals of 250 respondents were involved in the study, with 75(30%) females and 175 (70%) males. Data were collected using both print and online questionnaires. It was noted that 70% of academic staff in surveyed institutions relied on e-resources to support their teaching activities than it was before. Findings further revealed that, the emergence of ICT, particularly the internet has changed ways in which individuals seek information. Various factors affecting information seeking process and consequently hindering access to information were revealed in this study. These factors were insufficient computer labs, unstable power supply, outdated ICT infrastructure, unlimited funds to subscribe to e-databases, lack of information searching skills as well as technophobia. The study therefore, recommends the following; to equip computer labs, to stabilize power supply; to set aside budget for improving ICT infrastructures, timely subscription of e-databases as well as introduction of offline electronic resources and provision information searching skills among community members.

Keywords: *Information- Seeking Behaviour, Academic Staff, E-Information Era, CBE and IRDP, Information Seeking Process, Tanzania.*

1.0 INTRODUCTION AND BACKGROUND OF THE STUDY

Since the world entered in the digital era, attitudes of information seeking behaviour among academic staff changed. This means that, usage of information in academic institutions depends much on the availability of technology in seeking and sharing information. In this regards, such technology indorses new methods used to seek information. According to Luambano (2013) information and communication technology (ICT) facilities came to be a major tool of seeking information. In line with that, Kakai et al (2004) underscore that, information seekers in this digital era, are persuaded to shift from print to electronic information sources. In this situation, electronic information or internet sources have overlapped demands for print sources. However, this change raises two questions on; how librarians and information professionals are prepared to meet challenges in the emerging era as well as how the effective information systems support new seeking behaviours. In addressing these questions there is the misperception on the meaning and boundary of the information systems. According to Jessup & Joseph (2008), the concept of information systems makes a specific reference of information and its complementary networks, hardware and software in which people or organizations use to collect, filter, process, create and distribute data. In this regards, librarians took it as an opportunity and struggled to cultivate information services they are providing, as well as to maintain library collections to be more easily accessed. Information seeking behaviour refers the way people search and utilize information (Garcia-Cosavalente et al., 2010). It results from gratitude of existing information needs, which is perceived by information users who make demand of approaching formal systems to meet their information needs. Thus, in meeting such needs, they need to interact with information centres, libraries and documentations (Mammo & Ngulube 2014). In line with that, Wilson (2000) underscores that 'information needs' is not visible, since the 'need' itself cannot be directly observed. In an analysis of Information sharing in academic communities, Talja (2002) notes that, it is not easy to observe or investigate information seeking behaviour, instead we may only observe how and when individuals are seeking information to meet their needs. In that case, for academic staff to meet their needs, they must undergo information seeking process which positively increases their knowledge and reduces uncertainties. As Ray (2014) corresponds that, information obtained generates knowledge for better academic decisions. In the same vein, Sonnenwald, (1999) in evolving perspectives of human information behaviour study notes that,

information seeking behaviour motivates individuals to make best choices on information sources. A broader perspective has been adopted by Garcia-Cosvalente et al. (2010) who argues that known of information seeking behaviour of academic staff in the institution of higher learning, enables librarians to plan more on better provision of effective information services as well as ensuring the optimum users' satisfactions. In their study, Ani and Ahiauzu (2008) conclude that, the information seeking behaviour of academic staff are recognised from their academic requirements, which raises demand on using computer based systems (such as the World Wide Web), unlike previously where academic staff depended on interactions with print sources only. According to Luambano (2013) academicians prefer the use of search engines as their best tools of information seeking. This was also noted by Elia (2006) who asserts that, the information seekers are satisfied with internet rather than print sources. Basing on these two studies, technology has brought new opportunities to academic staff and rose their behaviour of seeking information electronically. Moreover, various studies revealed that the internet is a prominent tool that has been used to seek information in academic institutions (Devin, 1999; Ingwersen & Jarvelin, 2005; Luambano, 2013). Nonetheless, by the time this study was done there were no studies which have been conducted to assess information seeking behaviour among academic staff at CBE and IRDP in the process of supporting teaching and research. This study therefore, intends to fulfil the existing gap. The study therefore, establishes on how librarians and information professionals are prepared to meet challenges in the emerging electronic era in line with the effectiveness of information systems in this new technological era.

The origin of CBE is associated with the history of the nation itself. After Independence of 1961, Tanzania found the need to train personnel in commercial and industrial activities. At that time, there were few citizens in developing countries who possessed commercial education to become experts (Ani & Ahiauzu, 2008). The needs of Tanzania to train its citizens in the related commercial education contributed to the birth of College of Business Education. The college was given a legal status as an autonomous institution to be the hub of business education in the country. Consequently, the College came up with a vision of training highly and more practical oriented professionals in Accountancy, Business Administration, Marketing, Procurement and Supply Management, Information and Communication Technology (ICT), Entrepreneurship as well as Legal and Industrial Metrology. Also, the College undertakes relevant Basic and Applied Business Research, provides consultancy and business advisory services as a way of promoting Business development in Tanzania.

The Institute of Rural Development Planning (IRDP) is a corporate body established by the Parliamentary Act No. 8 of 1980. The Act provided a legal framework for the Institute to be established as an important national center providing training, research and consultancy in the field of Rural Development Planning and Management. The main objective of IRDP was to alleviate qualitative and quantitative shortage of skilled manpower, within the sustainable frameworks and build capacity towards reducing poverty to achieve sustainable development goals. IRDP is multi-disciplinary and multi-sectorial institute which oversees and coordinates the provision of expertise of in-service and pre-service personnel of rural development planners. Currently, the institute also has made progress of building new electronic infrastructure to effect teaching, learning and working environment. Despite the fact that these two Colleges (CBE and IRDP) have invested much on Information Communication Technological infrastructures, no study was yet conducted to establish how these institutions benefits from such infrastructures. This study therefore, intends to fulfill this knowledge gap.

Academic staff at the College of Business Education (CBE) and Institute of Rural Development Planning and Management (IRDP), previously had only one option used to seek information to meet their information needs. In order to meet their information needs they were physically needed to visit the library for consulting print information sources. In those days, library services were more traditional by nature. According to Nkebukwa (2016) most of these libraries depended much on printed sources, CD-ROM, Microfiche and Microfilms. Slowly, after the development of the electronic era, most of library services shifted from traditional to electronic information resources. Azubogu and Madu (2007) note that, such shift was accelerated by the use of internet sources. This transformation was known as the period of information in society. However, according to Luambano (2013) this transition resulted to some challenges which nasty the information seeking of academic staff. Thus, some of academic staff were unable to search information from the scholarly databases. This was associated with lack of searching skills and awareness on available sources (Ameen, 2009; Wema, 2003). In this regards, academic staff got new experiences on the usage ICT tools in accessing scholarly electronic resources (e.g. e-journals and scholarly databases). Such situation resulted in shortfalls on seeking and usage of information for academic purposes (Nkebukwa, 2016). As supported by Chifwepa (2003), academic institutions experienced low usage of e- resources. In which some academic staff were unable to

reach the wider range of information sources. A similar situation was also revealed by Verma and Rajeev (2015), that the increase of web based information resources affects information seeking behaviour. As Nagar (2008) proposes academic staff be assisted on searching information from the reputable scholarly databases. Despite this widespread of electronic sources and trainings held on information searching, many scholars especially in developing countries, do not exploit valuable informational sources available for free in their college libraries Adeniji (2007). This study therefore, intends to investigate information seeking behaviour of academic staff in the institutions of higher learning, specifically in this electronic era. The study also intends to assess how librarians and information professionals are prepared to meet challenges in the emerging era as well as how information systems supports new seeking behaviours. Moreover, exploring information seeking behaviour of academic staff at CBE and IRDP will help librarians to plan the best ways for providing information services in ensuring optimal user satisfaction. This study was guided by four specific objectives as follows;

- i. To examine factors fostering information-seeking behaviours of academic staff in the surveyed area.
- ii. To assess sources of information used by academic staff to meet their information needs in the surveyed area.
- iii. To explore challenges facing academic staff in the process of information seeking information in the surveyed area.
- iv. To assess on how librarians are prepared to meet users' needs in the emerging electronic era.

The study reviewed literature relating to the concepts of information-seeking behaviour in the emerging electronic era. The study focuses on academic staff as prominent users who plays important roles in teaching and research. The study also reviewed literature relating to the e- environment where information search is done. Therefore, both published and unpublished documents were reviewed. The reviewed literature was guided by themes in line to the four specific objectives. Based on nature of the study, Wilson's (1996) conceptual framework on "information-seeking behaviour" was adopted. This model was used to formulate research questions and guided to formulate instrument of data collection. This model provide a framework of thinking near the existing problem relatively to channels and information sources. The model allowed to examine three key elements of information tasks: a) when and how information needs emerge and understood (b) the process of interacting with information systems as means of seeking information (c) how information obtained meets the needs.

2.0 THEORETICAL FRAMEWORK

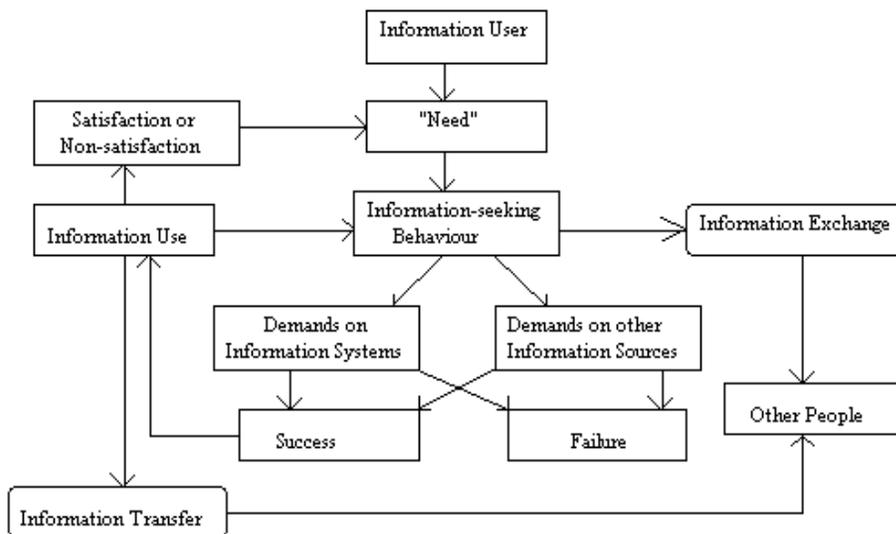


Figure 1: Modified from Wilson's (1996) Information-Seeking Model

The model outlines various issues enclosed in information-seeking behaviour and put clear on the scope of the study more explicitly. The model suggests that information-seeking behaviour arises from consequences on needs perceived by persons on meeting the needs. Needs makes a demand upon formal or informal information sources or

search services. The result is either success or failure to meet the needs. When the information is obtained successfully to meet the needs, it might be shared to others. But, when information obtained does not satisfy the need the search process has to be refined. The model extends further to involve information exchange which is important in academic grounds.

Ani and Ahiauzu (2008) studied researchers' viewpoints on using e- resources relatively to scholarly communication. The study showed that internet and emails were commonly used in teaching and research. Moreover, various studies (Kinengyere & Kiyingi, 2012; Ani & Ngulube, 2015; Manda, 2005) highlighted the importance of using electronic resources. Among them include that of the users being closer with the remote access. Above all these studies concluded that, most of academic staff are confident with Google search engine rather than other databases. Among other databases Chifwepa (2010) introduced Google scholar among the popular search engines suitable for seeking information in the higher learning. However, Lwoga and Sukums, (2018) noted that, the extent in which academic staff doing research search information, is the way that ropes academics' information searching behaviour. As the information seeking behaviour is concerned, librarian are responsible to provide information literacy (IL) skills through library formal courses. The IL skills cultivates information seeking behaviour as well as the choice to the relevant databases. This was also noted in the results of earlier studies from Verma and Rajeev (2015) who noted the importance of faculty members to gain IL skills on databases related to their specializations. In addition to that, Ani, Ngulube and Onyancha, (2015) concluded that seeking behaviour is dynamic since the acquisition of IL skills may differ depending on the context as well as the available support provided by librarians.

Feng and Qihao Miao (2005) conducted a study to make comparisons on the usage of social networks of faculty members at Yonsei University. The study showed that academic staff were less using social network compared to students. Tsakonas and Papatheodorou (2006) conducted a study to establish information-seeking behaviour of agricultural and biological sciences teachers at the University of Arkansas. The study revealed that, electronic resources are core resources needed by academic staff. However, various studies conducted in the institutions of higher learning showed some limitation such lack of awareness on search engines as well as lacking searching skills (Nkebukwa, 2016; Lwoga & Sukums, 2018; Luambano, 2013). Therefore, increasing awareness and searching skills among academic staff are expected to change their seeking behaviour and will lead them in improving research productivity. Another study on information seeking behaviour of distance learners at the Open University of Tanzania showed that, ease to retrieve information and awareness of available sources are factor that influence information seeking behaviour among of academic staff. Similarly, Gleeson (2011) conducted a study at the (NIEHS) in Britain to see how the availability and accessibility of e-journals affects information seeking behaviour of scientists. The main goal of the study was to inform librarians on preferences of patrons as well as to empower them on making better decisions on selecting appropriate resources to meet the needs. The study revealed that academic staff enjoyed e-journals than printed ones. Consequently, the interpretation of the finding is that, usage of e- journals get rid of the behaviour of having physical library visits. A similar study conducted in Nigeria by Wessel et al. (2006) on the patterns of information seeking behaviour of academic staff in three Colleges. It was revealed the most of academic staff relied on formal information systems such as libraries, information centres and archives. The use of informal system was also noted in Wilson's model (1996) where, information is exchange through informal channels as the result of information seeking behaviour.

Various studies reported a number of challenges of information seeking process for either individuals or collaborative group (Shahvar & Tang, 2013; Denning and Yaholkovsky, 2008; Das-Subarna, 2004). For example Wiberley (1989) revealed factors such as networks and unavailable sources of information. In this regards, lack of networks and unavailable sources of information reduce motivation of information seekers. Das-Subarna (2004) reported limited access to the internet which causes digital divide. As far as the digital divide is concerned, information infrastructures and information search skills are among limiting factors. Other challenges reported are lack of internet connectivity and limited computer laboratories. To institutions, such a challenge is caused by budgetary constraints. Budget constraints is a major factor behind the lack of investment on computers and internet infrastructure. Nkhoma-Wamunza (2003), in explaining other obstacles he mentioned of high costs of hardware, while Chivhanga (2000) and Ngini et al., (2002) mentioned extremely high telephone costs and low bandwidths respectively. Focusing on Tanzania, the National ICT Policy (2016) highlighted lack of appropriate frameworks for deployment and utilisation of ICT infrastructures including availability of electricity in most rural areas, non-recognition of the ICT professionals, inadequacy of skilled and competent human resources as well as illiteracy amongst citizens as major challenges impeding the development of ICT. Others include, limited support from librarians is among of factor

impeding information seeking behaviour (Verma and Rajeev (2015). In academic institutions, a library plays an important role in providing a wide range of learning resources to support teaching, learning and research. However, the presence of libraries in academic institutions could not only guarantee academic staff to have access to relevant and up-to-date information resources. This is due to a number of factors affect libraries and librarians as well; such as inadequate infrastructure (Nkebukwa, 2016); inadequate skilled personnel and materials (Luambano, 2013), lack of information literacy among librarians (Nawe, 2013), and poor information processing and stocking of library materials (Nyerembe, 2004). As concluded by Nyerembe (2004) poor library collection and lack search skills decreases the behaviour of individuals to visits the library (Mcharazo & Olden, 2000).

3.0 METHODS

3.1 Setting and sampling procedures

The study conducted questionnaire surveys to academic staff at CBE and IRDP between April to August, 2017. The study used the stratified random sampling procedure to select a sample. The sample size was determined using Kish's (1965) formula for cross-sectional studies. This sample was calculated at the 95 per cent confidence interval of estimate and margin of error in the estimate equal to 4. The total population of academic staff at CBE and IRDP as obtained from the human resources offices and the total sample calculated was 250.

3.2 Research instrument

The study developed questionnaire by adapting existing tools which were validated by other scholars (Smeda et al., 2014; Adeniji, 2014). Questionnaire comprised of both closed and open ended questions. Both printed and online questionnaire were distributed at t CBE and IRDP, and one librarian from the respective institution helped a researcher to collect questionnaire on time. The questionnaire had five themes:

- i. Demographic characteristics
- ii. Factors fostering information-seeking behaviours of academic staff in surveyed area.
- iii. Sources of information used by academic staff to meet their information needs in surveyed area.
- iv. Challenges facing academic staff in the process of information seeking information in the surveyed area.
- v. The effectiveness of information systems in this new technological era.
- vi. Extent to which librarians are prepared to meet users' needs challenges in the emerging electronic era

The survey, used statistical package and service solution (SPSS) version 22.0 to derive frequencies and percentages and probabilistic sampling, the sample size was determined as 250 respondents. The study used multiple regression analysis to determine the effects of demographic. The study further performed descriptive statistics to measure how effectiveness of information systems is in this new technological era; the extent to which librarians are prepared to meet users' needs and the study assessed whether (1) or not (0) respondents agree with the listed options. Factors fostering information-seeking behaviours of academic staff in the surveyed area, challenges facing academic staff in the process of information seeking in the surveyed area were self-reported by using a five-point Likert scale ranging, from (1) strongly disagree to (5) strongly agree. For independent variables, the study measured experience of using various types of information sources. This was coded from 1 to 5, including the duration of uses which ranged from 1 year or less, 2-5 years, 6-10 years and over 10 years. The professional rank variable was coded from 1 to 6, which included tutorial levels to academic staff. The study measured the effectiveness of information systems in the study area using a five-point Likert scale ranging from (1) very poor to (5) very well.

4.0 RESULTS

Age and working experience of respondents were not among the objectives of the study. However, the author found the importance of understanding age distributions because age and experience in academic environment influences individuals' information seeking behaviour. According to Ray et al (2015) age, working experience and gender have a great impact in the information seeking behaviour. As Nagar (2008) concluded that age and working experience of information seekers also influence choice of searching tools. This study therefore, corresponds with the previous studies since the findings reveals the variation on the usage of technology during information seeking. A study by Ray et al (2015) revealed that, ages in academic situation influence selection of searching tools. Contrary, basing on the finding of this study there were no relationship of ages and selection of searching tools.

4.1 Information needs and information sources

Information seeking behaviour result mainly from gratitude of existing information needs. The finding revealed that, the majority of academic staff in surveyed institutions needed e-resources for supporting teaching activities (70%),

followed by the needs for promoting academic researches (20%) and 10% of respondents revealed having the needs for their individual learning. The implication of the finding is that, the emerging information electronic era has changed the way in which academic staff used to teach. The major reason for this change is based on the fact that the internet has made life easier as it provides ready-made lessons that suggest activities on a broad range of topics. It means through the internet academic staff can simply find information on lesson plans, practical support as well as relevant teaching materials depending on the need. Similarly, the diversity of the information needs were noted by (Nkebukwa, 2018; Lwoga, 2016; Luambano, 2013).

However, according to Ani & Ahiauzu (2008); Adeniji (2007) efforts to meet those needs were limited by a number of factors, revolving around the lack of information systems to support information seeking and sharing. Establishment of effective systems, therefore, is a prerequisite in ensuring effectiveness in information seeking. Information may be obtained from either print or non-print sources. Thus in meeting academic information needs, 80% of the result showed that, academic staff in the studied areas are using various types of information sources available. These sources range from books; journals; databases containing abstracts or full-text articles and Webs for accessing information on the internet through different browsers.

The implication of the finding is that, the influx and explosion of electronic resources and digital libraries have a number of significant impacts on the use of print resources and traditional libraries. However, a study by Luambano (2013) revealed that, 60% of academic staff in Tanzania are preferred on using hybrid information sources (both print and electronic sources). In line with that, seeking preferences and use of resources vary from different teaching purposes.

4.2 Information tools used in seeking information N=250

Specifically, it was noted that access to computers with internet connectivity for accessing information to meet their needs was limited, this problem is common in most academic institutions. However, it was noted that, libraries in surveyed area had computer laboratories with the similar challenge of inadequate computers, as well as internet connectivity. Due to lack of access to internet in the surveyed area, 60% of academic staff relied mostly on personal initiatives, specifically using their smart phones or modems. In such situations, there is a need to facilitate connectivity through provision of wireless access so that academic staff at the studied area may have free access. In the similar situation these laboratories were found with insufficient numbers of connected computers, which was not a prerequisite for establishing effective information systems. It was also noted that, most of academic staff (60%) in the surveyed area who are connected to the internet mostly are using internet for searching information in Google. Only 40% were aware of various scholarly databases. This means that, they could not effectively meet their information needs. Therefore, there is a need for librarians to ensure that they disseminate information on all available online scholarly resources and information retrieval techniques through information literacy programmes. Lack of libraries or access to the internet in surveyed area meant that the major ways academic staff could meet their information needs were through informal sources (Nawe, 2003). There is a need therefore, to ensure establishment of well-equipped libraries with enough facilities, relevant and up-to-date reading materials, qualified librarian who will ensure that reading materials are well organised and that users are aware of both traditional and online search tools. Therefore, establishment of the libraries should go hand in hand with planning for their automation.

4.3 Internet usage by academic staff N=250

The use of Information and Communication Technologies (ICTs) has revealed a very rapid growth on the last decade all over the world. As explained early, information seeking behaviour of academic staff in the higher learning institutions have transformed. Therefore, most of academic staff use the internet as an important tool in teaching and learning as well as the channel for easy interaction with others to obtain necessary needed information. The behaviour or practice of using the internet sources thus becomes a normal routine. Moreover, application of new technology pushes academic staff to have more focus on the best ways and tools to be used in seeking electronic information. An experience of the internet usage in the surveyed institutions was reported to be higher compared to print sources by sixty percent (60%). Librarians noted this shift as the period in which academic staff were directly or indirectly affected by available library information environments as attested by one of them here under.

“...Librarians were not well prepared for managing new demands...as well, the institution was not well equipped with ICT tools that could meet expectations of seeking behaviour...”

Awareness is knowledge about particular information and is manifested through a particular behaviour. One of the librarians informed that;

“...awareness is paramount for academic staff’s level of effective and efficient access and use of electronic information resources...”

The findings also revealed that, in the most cases the availability and use of internet sources depends on the availability of internet capacity and connectivity. It means that, robust networks are mostly underpinning institutional initiatives and IT managers continue to enhance networks accordingly. At the institutional levels, institutions already started investing substantial funds and human resources as well as technical architectures to support evolving technologies and diverse campus needs. Campuses have made considerable progress in building their wireless network infrastructure. According to the findings, academic staff have unlimited utilization of electronic resources in the surveyed area 32%. Through internet they were enabled to access information 24/7 a week. The findings further revealed that the search engine mostly used is Google scholar at 62%. Google scholar is an open access site and a most widely resource used by academic staff in their projects. Google is an open access source on internet explorer programs, but some of them are customizable tools supplying multiple search engines. However, it was reported in some cases that, internet services are temporarily unavailable under certain circumstances. This was caused by human as well as technological problems. From such scenarios there is a need to include scheduled maintenance, upgrades or renovation, emergency repair, and injunction. The findings further revealed that, internet is used by academic staff for teaching purposes 53%. The internet is changing the manner in which academics teach, conduct research and disseminate research findings. However, it was noted that, academics used the World Wide Web as an information resources rather than a platform to publish their own material and share their knowledge using internet. During the interviews with librarians it was revealed that,

...“technologies influence academic staff and other scholars to change their seeking habits as well as motivating them with the usage of search engines or subject gateways....”

Findings further, revealed that academic staff employed various searching techniques, but mostly engaged on Phrase searching techniques 62%. Phrase Search is a type of search that allows users to search for documents containing an exact sentence or phrase rather than comparing a set of keywords. Keyword searching refers on what most people are familiar with when they search for something in Google or in the library catalogue. The findings further followed by Combine searches 16% and Boolean operator 13% as well as Word truncations. These search tools generates search string that an individual may paste into many databases for search. Basing on the findings academic staff are faced with the problem of selecting appropriate keywords or phrases to use in the searching exercise. Usually, these truncations (*) and wildcards (?) are used to find the alternative words or spellings. It was noted that, uses of phrase search techniques narrowed the possibilities for retrieving the most relevant items needed. Instead they could have used searches for similar items by using “subject searching” which is more precise and produces more relevant items.

Table 4: Internet usage by academic staff

Internet Usage experience	Less a year	2-5 years	6 to 10 Years	10 to above
	8%	26%	60%	6%
Internet Availability	Using own modem	College networks	Internet cafe	Mobile phones
	31%	61%	9%	5%
Time spent per day	The whole day	One hour	1-5 hours	No limits
	27%	14%	27%	32%
Purpose of its usage	Searching materials for teaching	Communication	Download for other purpose	Research
	53%	15%	8%	23%
Search engines used	Google scholar	MSN search	Ask.com	Others
	62%	15%	20%	3%
Searching Techniques	Combine searches	Phrase search	Boolean operator	Word truncation
	16%	62%	13%	9%

Sources: Field Data, 2016

Although several academic staff in academic institutions in Tanzania have the capacity to access electronic resources, but the level in which individuals adopt and use of these resources varies. This variation is intensified by technological challenges and cost. In reducing challenges of cost for access CBE and IRDP through the Consortium of Tanzania Research and University Libraries (COTUL) have subscribed to a number of online databases and resources. These databases provide readers with online access to valuable information including full text journal articles and abstracts. However, challenges remain on budgetary constraints facing these institutions; inadequacy of skilled and competent human resources; lack of appropriate frameworks for deployment and utilization of ICT infrastructures as well as the availability of stable electricity. It should be noted that, in this century the country has experienced the development of ICTs, specifically the internet that promotes uses of electronic resources. Therefore, much of the anticipated alternative way to sustain access to electronic resources took-off through the Consortium of Tanzania University Libraries (COTUL). Findings reveal that, academic staff at CBE and IRDP have not fully benefited from the subscribed resources. Findings revealed that, EMERALD is the most journal preferred in the surveyed institutions (51%). The reason provided by the librarians during interviews were as follows. “...Emerald databases has simple searching fields that allows users, to easily get their specialized information...”

4.4 Types of electronic resources used most at CBE and IRDP N=250

The finding revealed that the majority 60% of respondents used various types of resources. The implication of the finding is that, to the large extent, resources from PERI are multidisciplinary in context. However, the surveyed institutions lack guidelines for selection and subscription to electronic resources. The selection of library resources is a joint undertaking between the library and the faculty members. There was no evidence provided to show whether librarian are frequently provided with the information literacy training to create awareness of the available resources.

4.5 Use of Social Media in Teaching and Learning N=250

The finding revealed that the majority of respondents (55%) used WhatsApp and Facebook. According to Luambano (2013) Social media are computer-mediated tools that allow people to create, share and exchange information, ideas, and multimedia in virtual communities and networks. It can as well be described as "a group of Internet-based applications that builds on the ideological and technological foundations of Web 2.0 that allows the creation and exchange of user-generated content. Furthermore, social media depends mainly on mobile and web-based technologies to create highly-interactive platforms through which individuals and communities share, co-create, discuss, and modify user-generated contents. Social media involves but not limited to Facebook, Twitter, Google Plus as well as the open social practices such as blogging. Many social media, as commercial endeavours, are attractive in their features often surpass those of internal firewalled environments. The fact that these media are generally open to the world implies a need to carefully consider the risks of openness as well as need for on-going communication with academic staff in order to address their concerns. The finding revealed that WhatsApp is more prominently used by academician in the surveyed institutions. The implication of the findings is that WhatsApp is an application globally/universally available for people using smartphones, across all operating systems simplified the way information had been shared since they were able to send text messages, PDF files, documents, video, GIF

images, audio message and user location by using cellular mobile. Accessing internet through smart phones nowadays is becoming cheaper due the reduction in internet bundles charges by service providers in line with .to the technological developments and competition.

4.6 Challenges encountered when searching information in electronic environment N=250

Academics are facing many challenges in harnessing web-based resources. Many researchers reveal challenges associated with the information overload, misinformation, shortage of computers, fees, poorly designed navigation and loss of browser abilities, all hamper academics and searchers. However, the finding in the surveyed areas revealed poor searching skills 30%, slow of internet connectivity 30%, limited number on computers 30% as well as lack of information literacy training programs 27%. The implication of the finding is that, among other challenges academic institutions mostly face are; slow of internet connectivity, limited number on computers as well as inadequacy of users' searching skills.

5.0 CONCLUSION

The development of the Information Communication and Technology (ICT), particularly the internet has changed the patterns of information-seeking behaviour in the academic communities both nationally and internationally. Thus, academic staff and researcher in Tanzania are caught in this transformation. This is because academic staff in the world have the preference for the use of internet in meeting their information needs. This has changed their information seeking behaviour. The findings of the study have shown that academic staff in the institutions of higher learning have been using electronic information sources in teaching and research, since they are emerging in the information revolution. Furthermore, the low level on the usage of institutional libraries, poor connectivity as well as the shortage of computers in libraries force people to seek for internet access outside their institutional libraries. Despite its vast coverage of the scholarly literature, Google Scholar is not sufficient to be used on its own as a single database to support information seeking and retrieval. Google as a search tool provides the higher recall (probability of detection retrieved over the total amount of relevant instances) and low precision (indicating the accuracy from the total amount of relevant instances). In conclusion, academic institutions are the bedrock for national research and development in Tanzania. Thus, the imperative of providing the needed electronic information infrastructures in these institutions is paramount.

6.0 RECOMMENDATIONS

Based on the finding the following recommendations were made;

- Each academic institutions should have a good plan for well-equipped computer lab with a stable power supply, so that every academician with a connected computer in his or her office may not be limited to power supply.
- Qualified institutional ICT experts should be provided with relevant technical skill that enable them to solve problems related to the software and hardware. To come up with plans for increasing the institutional ICT infrastructures, internet availability and bandwidth depending on the users' demands.
- The library of the two institutions notably CBE and IRDP should ensure the effective provision for online journals and electronic resources. Thus library managements should set aside enough budgets for the subscriptions of e-resources and also purchasing offline electronic resources (CD-ROM, DVD and micro materials) which are also important sources in libraries. Also they are needed to have good plans for the effective provision of their library marketing strategies for the e-resources.
- Training courses should be organized for the awareness and use of electronic resources in the two institutions. Frequent, provision of information searching skills will enable academic staff and other scholars to acquire different searching techniques.
- There is a need for the information services providers (Librarians) to have positive minds on the acceptance of e-resources as the major means for using of educational resources in a given information society. For that reason there is the need for aptness on the best ways to provide the available resources in the diversity of users' information seeking behaviour.

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