



SCECSAL XXI

Proceedings of the 21st Standing Conference of
Eastern, Central and Southern Africa Library and
Information Associations and Institutions
(SCECSAL XXI)



LILONGWE, MALAWI JULY 28TH -1ST AUGUST, 2014

*"Information and Knowledge Management as a Driving Force for
Socio-Economic Development in Africa"*

CONFERENCE HOSTED

BY

MALAWI LIBRARY ASSOCIATION (MALA)



Proceedings of the 21st Standing Conference of Eastern, Central
and Southern Africa Library and Information Associations
(SCECSAL XXI)

Lilongwe, Malawi
July 28th —1st August, 2014

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***“Information and Knowledge Management as a Driving force for Socio -
Economic Development in Africa”***

Conference hosted by

Malawi Library Association (MALA)

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Preface

After a decade, the Malawi Library Association (MALA) was once again honoured to host the Twenty-First Standing Conference of Eastern, Central and Southern Africa Library and Information Association and Institutions (SCECSAL XXI) in the country's Capital City, Lilongwe, from 28th July to 1st August, 2014. Here, gathered, and deliberated a group of over 170 (One Hundred and Seventy Thousand) library and information science professionals, with varied and expertise from the SCECSAL Region.

The Theme for the 1994 Conference was "Libraries and Freedom of Information". That was quite fitting, considering that Malawi had just come out of a cocoon in as far as various types of freedoms were concerned. In short, it was a dawn of a new chapter *vis-à-vis* the development of the country. Indeed, Malawi was not alone to experience the political sweeping changes of the 1990s. In the contrary, other African countries were also affected.

This year, again the Theme, "Information and Knowledge Management as a Driving Force for Socio-Economic Development in Africa", was equally fitting. As individuals, organizations, and African countries grapple with problems of socio-economic development, it is only through accessing relevant and timely information and knowledge management that they will be able to sail through not only this century, but centuries to come. Hence, libraries, archives, documentation, and other related information service centres should take the helm if countries are to succeed.

Malawi's Rt. Hon. Minister of Education, Science and Technology, Dr Emanuel Fabiano, MP graced the occasion on 28th July, 2014. In his official opening speech, Hon. Fabiano noted that only those with sufficient information and knowledge will meet the challenges awaiting us ahead of this century. While this is so, he bemoaned that very little has been invested in information and knowledge management – the precursor for driving an economy. This calls for investments in all links of libraries and information services, including NGO resource centres.

Furthermore, the Rt. Hon. Minister stressed that all this presupposes the creation of a literature environment. To that extent, he lamented the lack of reading materials and reading culture in our institutions. Consequently, he urged the August gathering not only to play a leading role in promoting these activities, but also equally important entrusting it with proper documentation, preservation, and dissemination of information and knowledge, both in print and modern technologies.

The Guest of Honour observed that for Malawi, the Conference was very timely as the country is implementing the Malawi Growth and Development Strategy II. He registered the Malawi Government's confidence in and appreciation for MALA's activities since its launching in 1978, ranging, among other things, from training library personnel and the provision of library services, about to be mounted at the Mzuzu University. He assured MALA and the delegates of the Government's commitment to develop the various sectors, including library and information science, with the ultimate aim of achieving socio-economic development.

Finally, he congratulated the Conference organizers, and wished the delegates superb deliberations and enjoyable stay in the "Warm Heart of Africa".

Earlier on, MALA President, Mr Fiskani Ngwira, while welcoming the Guest of Honour and the delegates, noted that the Conference was to bridge the knowledge gaps and develop road. It was his hope that the Conference would provide direction on framing information and knowledge policies, legislation, and other related issues. He spelt out the role libraries and other information services play in supporting current knowledge – centred economic and education activities as well as facilitating the generation of new knowledge.

His speech was followed by remarks of the Chairman of the Main Organizing Committee of the Conference, Mr Gray L. Nyali, who is also the National Librarian for the Malawi National Library Service.

In his welcome remarks, Mr. Nyali, among other things, outlined the preparatory meetings of his committee as well as those of the sub-committees; challenges, including the devaluation of the kwacha; registered appreciation for the Malawi Government's support, including for hosting the Conference; called upon SCECSAL Governments to invest in information and knowledge management through libraries and other information services; highlighted functional literacy in socio-economic development; and spelt out strides made by the Malawi Library Service *vis-à-vis* promoting information and knowledge management in Malawi.

Furthermore, Mr. Nyali called upon individuals and Governments to ensure that they empower the youth with a reading culture and education which will in turn equip them with creative and innovative skills as demonstrated by Beyond Access. He called upon the newly ushered in Government of Malawi to accommodate construction of purpose-built libraries within various educational institutions; trained or professionally equipped library personnel; provision of the Internet in rural libraries; and increased budget/funding for both the Malawi National Library Service, and the University libraries, at 6% of the total institution's budget for the latter.

Finally, he thanked Sunbird Capital Hotel for accepting to host the Conference.

Under the Main Theme of the Conference, nine (9) Sub-Themes: ranging from Information, Communication Technology (ICT), through Impact of Global Credit Crunch on African Libraries and Archives, Knowledge and Information in Health Care Delivery Services, and Conflict Management, among others, to Knowledge and Information for Persons with Special Needs, Impact of Libraries and Information Services, and the Role of Agricultural Information Services in Socio-Economic Development were identified.

Furthermore, under these nine (9) Sub-Themes, a total of thirty-six (36) well-researched papers were presented, and discussed thoroughly. What was interesting was that the new comer on the library and information science scene, Information, Communication Technology (ICT) attracted the largest number of papers, nine (9), seconded by the old and popular or traditional one, Impact of Libraries and Information Services, with six (6) papers. On the other hand, and surprisingly, the Impact of Global Crunch Credit attracted only one (1) paper. Yet, libraries, especially those in universities, as we are aware, have been seriously affected by the global crash since the early 90s.

On behalf of the organizing committees, and the editors of these proceedings, and also on my own behalf, I wish to thank all those who particularly labored to write the papers and also those who participated in the discussions most sincerely for making the Conference possible.

Other Conference activities included the Meeting of the General Assembly which covered, *inter alia*, Confirmation of Minutes of SCECSAL XX, Country Reports, IFLA Trend Report Panel Discussion, SCECSAL Logo, SCECSAL XXII Host, and SCECSAL XXI Resolutions.

Swaziland Library Association beat its Uganda counterpart to host SCECSAL XX II in July, 2016. And to crown it all, three powerful and very appropriate resolutions were passed at the conclusion of the Conference and one of them is:

SCECSAL Member Associations should host national conversations on the provision of information services to people with special needs. This particular Resolution is both interesting and important. Lest we forget, disability is not inability. Granted good library and information services, this category of people can contribute equally, effectively and efficiently to the socio-economic-political development of a country, if not even more than those outside this category.

Finally, in order to break the monotony, of Conference deliberations, delegates were taken to Lake Malawi – Africa's third largest lake.

Augustine W.C. Msiska, PhD, FCILIP
LIVINGSTONIA, RUMPHI, MALAWI, NOVEMBER, 2014

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- The Guest of Honour, Minister of Education, Science and Technology, Rt. Hon. Dr. Emmanuel Fabiano, MP,
- The Chairman of SCECSAL XXI, 2014 Main Organising Committee, Mr. Gray Nyali,
- The Principal Secretary in the Ministry of Education, Science and Technology,
- The Board Chairman, Malawi National Library Service,
- All National and University Librarians from The SCECSAL Region,
- Member of Parliament for this Constituency, Lilongwe Central, Honourable Bisnowarty,
- The Division Education Managers,
- District Education Manager- Lilongwe Urban,
- Members of various media houses present,
- Distinguished Invited Guests, Ladies and Gentlemen,
- All Protocols observed.

On behalf of the Malawi Library Association and on my own behalf, I wish to thank you for accepting to come and grace the opening of the Standing Conference of the Eastern, Central and Southern Africa Libraries and Institutions (SCECSAL XXI). To all international and local delegates, I extend a hearty welcome.

I was going through the list of guests. The quality of this gathering of top library and information professionals from the SCECSAL region and beyond is worthy of note. We have representatives of library and Information associations from Kenya, Lesotho, Namibia, South Africa, Swaziland, Uganda, Zambia and Zimbabwe. We also have an impressive delegation from the publishing industry.

The Standing Conference for Eastern, Southern and Central Africa Library and Information Associations (SCECSAL) is expected to be a major forum, focusing on information and knowledge for sustainable development. It is my hope and prayer that by facilitating exchange of ideas among the participating information professionals, the Conference will bridge the knowledge gap in these areas and sustain the knowledge gained. Above all, presentations of renowned SCECSAL community and international experts, and subsequent discussions, will facilitate development of road maps on information sustainable development in an information and knowledge environment.

SCECSAL 2014 will also provide a direction towards framing information and knowledge policies, legislation, and other issues related to socio-economic development in Africa.

The advanced economies are considered knowledge-based societies. When and where knowledge is created and used in large quantities, enterprises may enjoy a competitive advantage. African countries must have access to global knowledge for its economic development.

Our Guest of Honour, Distinguished Delegates, Ladies and Gentlemen, it will be a futile exercise to engage into a discussion on this topic without tackling the key underlying concepts. Issues pertaining to the **knowledge economy** are relatively new, having come into intellectual discourse over the past decade or so. There is no standard definition of the term KNOWLEDGE ECONOMY. However, the term is commonly used to refer to increasingly greater reliance and application of knowledge to production systems and other aspects of economic activities.

The key components of a knowledge economy include **greater reliance on intellectual capabilities** than on **physical inputs or natural resources**, combined with efforts to integrate improvements in every stage of the **production process**, from the research and development laboratory to the factory floor, to the interface with customers (Roberts, 2009).

Knowledge economy is not only limited to production systems or factories that lead to production of goods. But, it also leads to other sectors of the economy .i.e. services sector, information sector, etc.

ROLE OF LIBRARIES IN THE KNOWLEDGE ECONOMY

Libraries have a crucial role to play in this era of the knowledge economy. The role of a library has largely been viewed as that of collecting, organising, storing and disseminating knowledge.

It is for this reason that libraries are normally recognised as repositories of knowledge (both tacit and explicit). A recent research study done in the UK covering television, radio, tabloid newspapers, libraries, museums and others by Usherwood et al (2005) indicated that public libraries were rated as the most trusted source of information and tabloid newspapers the least. These research findings strengthen the library's cause, and put it in a better position to play a leading role in this age of the knowledge economy. The role that libraries should play in this knowledge economy would centre around the following:

SUPPORTING CURRENT KNOWLEDGE – CENTRED ECONOMIC ACTIVITIES

As it has already been stated, the current economic system thrives on knowledge. Knowledge is taken as an important input into the economy to support production and other economic activities. Since libraries by their very nature keep recorded knowledge and also facilitate sharing of tacit knowledge through their socialising effect, it is envisaged that they will continue to play a crucial role in supporting the knowledge in based economy through these activities.

SUPPORT EDUCATION ACTIVITIES

Roberts (2009) posits that “the rise of the knowledge economy consequently produces a growing demand for highly educated workers necessitating an increasing investment in education, and, in particular, higher education” p. 295. Educational systems thrive with adequate supply of knowledge resources which are provided by libraries. The role of the library in this era will, therefore, be to provide adequate knowledge resources that will help produce graduates who will work in the knowledge-based economy.

FACILITATE GENERATION OF NEW KNOWLEDGE

The creation/generation of new knowledge is mainly facilitated by old knowledge. Research is one of the methods through which new knowledge is created. Sound research undertakings are supported by existing knowledge products held in libraries. Libraries are also tasked with capturing, recording, processing and storing indigenous knowledge (IK) which is prevalent in many African settings.

This process of making IK, which is basically tacit into recorded knowledge, could also be regarded as generation of new knowledge as it is made available in a form which can be kept for posterity and also disseminated to a wider community.

Distinguished Guests, Ladies and Gentlemen, investing in information and knowledge now will help to solve problems of tomorrow, not those of today. And because the problems of today are already so great (possibly because too little was invested in information and knowledge in the past) people tend to spend money on short term, not very sustainable improvement to the current situation rather than in information and knowledge.

Information and Knowledge are a pioneer for driving an economy. This can only happen if we in Africa can create a literate environment that comes with good investment in Information and knowledge infrastructure. We need to invest in library and information services in public and school libraries, in community learning centres or NGO resource centres that are dedicated to creating literate environments that support basic education for all.

This Conference promises to be a major step in addressing information and knowledge management and related technological issues. Those who are involved in the field like LIS scholars, researchers, practitioners and policy-makers would find this an extremely valuable event and tool for bringing change in Africa.

I am grateful to all paper contributors for their efforts, time and enthusiasm. I have no suitable words to express my gratitude to my colleagues of the Main Organising Committee, spearheaded by Mr. Gray Nyali, and their unwavering support right from the concept stage to the planning and organization of the Conference has been invaluable. I have no doubt, whatsoever, to say that without the kind of cooperation and support extended by them, this Conference would not have taken place. Similarly, I am grateful to my Malawian colleagues for all their support and co-operation.

Finally, Honourable Minister, Distinguished Delegates, and Participants, I am delighted to welcome you all and I wish you happy and fruitful deliberations, and let it be an intellectual feast!

Speech by Mr. Gray L. Nyali, Chairperson, SCECSAL XXI Main Organizing Committee

Our Guest of Honour, Rt Honourable Minister of Education, Science and Technology, Dr. Emmanuel Fabiano, MP, The Secretary for Education Science and Technology, Dr MacPhil Magwira, The President, Malawi Library Association (MALA), Mr. Fiskani Ngwira, All Presidents of Library Associations from the SCECSAL Member Countries, All Vice Chancellors from the Public and Private Universities present, All National and University Librarians from the SCECSAL Region, All Directors from the Ministry of Education Science and Technology, The Chairman, Board Members and Staff of Malawi National Library Service, Member of Parliament for this Constituency, Lilongwe Central, Honourable Bisnowarty, His Worship the Mayor of Lilongwe City Assembly, Councilor, The Division Education Managers, District Education Manager- Lilongwe Urban, Members of various media houses present , Distinguished Invited Guests, Ladies and Gentlemen, All Protocols observed.

My humble duty this morning is to ask our Guest of Honour to officially open the Conference. However, before I do so allow me to make a few remarks.

Let me welcome you Honourable Minister, Sir, to the Standing Conference of Eastern, Central and Southern African Librarians and Institutions (SCECSAL). We are glad and excited that you accepted to come and grace this great bi-annual event.

I would also like to welcome all delegates to this Conference. In a special way, let me welcome delegates that have come from the SCECSAL member countries of Botswana, Ethiopia, Kenya, Lesotho, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe, and host Malawi. I would also like to recognize our newest delegates from the Sudan. We also have some delegates from the United States, Canada and Europe. You are all welcome, and enjoy the warm heart of Africa.

The Malawi Library Association (MALA) was chosen to host the SCECSAL XXI Conference at the last Conference that took place in Nairobi Kenya, in June 2012. MALA has in the past hosted similar Conferences twice in 1982 and in 1994.

I was elected the Chairman of the Main SCECSAL XXI Organizing Committee at its first meeting that took place at the National Library Service Board room on Thursday 13th September 2012 where.

As the elected Chairman of the Main SCECSAL XXI Organizing Committee, let me now take this opportunity to introduce the rest of the committee members. May I request the members to stand up where you are for the Guest of Honor and the delegates to see you.

In the Committee I was deputized by Mr. Dickson Vuwa Phiri, and Mrs. Gift Kadzamira was the Secretary. The Director of Finance and Administration in the Ministry of Education Science and Technology, Mr. Kaludzu was also a member of the committee.

There were various sub-committees set up as follows:

- (1) Protocol, chaired by Mr. Felix Majawa from Mzuzu University
- (2) Catering and Entertainment, chaired by Mr. Stanley Gondwe from NAO Support Unit Project in the Ministry of Finance and Economic Development
- (3) Finance and Fundraising, chaired by Mr. Dickson Vuwa-Phiri from Chancellor College, University of Malawi
- (4) Travel and Accommodation, chaired by Mr. Vote Somba from National Library Service.
- (5) Publicity and Publication, chaired by Mr. Geoffrey Salanje, University Librarian, LUANAR

These sub committees have been meeting and reporting back to the Main Committee on various activities.

May I also introduce all the volunteers from the MALA Member Institutions to stand up where you are. These members of staff are from the University of Malawi Colleges, Domasi College of Education, Lilongwe University of Agriculture and Natural Resources, (LUANAR), National Audit Office (NAO) Project in the Ministry of Finance, National Commission of Science and Technology and the Malawi National Library Service.

Our Guest of Honour, allow me to introduce the Delegates that have gathered here this morning from Botswana, Ethiopia, Kenya, Lesotho, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe, and Host Malawi.

On behalf of the Main Organising Committee and on my own behalf, I would to thank the Malawi Government for the support rendered throughout the planning of this Conference. A letter was written to Chief Secretary in the Office of President and Cabinet on 12th March 2013 following a recommendation by the Main Organising Committee at its first meeting to inform the Government about the SCECSAL XXI that would take place from the 28th July to 2nd August 2014. The letter also sought guidance on which Ministry the Committee would liaise with during its preparatory meetings.

The Chief Secretary responded positively on 25th March 2013 and we were also advised that all protocol arrangements should be channeled through the Ministry of Foreign Affairs. Furthermore, we were advised that we should liaise with the Ministry of Education, Science and Technology on issues of the programme and content. The Director in the Ministry of Foreign Affairs was contacted on protocol issues and information on visas was available through the websites.

Challenges

As mentioned before, our Guest of Honour, all Delegates, Ladies and Gentlemen ranging from slow progress in Fund raising; the Malawi Kwacha was devalued during the preparation phase which made most of the goods and services very expensive for the organising committee. The corporate world was very reluctant to support the Malawi Library Association. Most of them could not see the connection between Malawi Library Association and their business.

The theme of this Conference is: ***Information and Knowledge as a Driving Force for the Achievement of Socio-Economic Development In Africa***

This Conference will examine the role of information and knowledge in the achievement of socio-economic development. Information and knowledge is a very crucial resource and we should all harness it if our countries are to see some light at the end of the tunnel. We call upon our Governments to invest in information and knowledge through the various types in libraries and information centres.

Librarians are very critical in knowledge management. In the digital and knowledge age they should be in charge of knowledge management in their respective organizations in order to leverage the intellectual assets and to facilitate knowledge society.

The value of knowledge management relates directly to the effectiveness with which the managed knowledge enables our citizens to deal with today's situations and effectively envision and create their future. Without on-demand access to managed knowledge, every situation is addressed based on what the individual or group brings to the situation with them. We need librarians to bring order in the management of information and knowledge. Needless to say, the creation of an information and knowledge society is determined by the levels of literacy in the communities.

Functional Literacy

UNESCO states that "the goal of Education for All also involves the development of literate societies in the developing world, and cannot be attained solely by providing quality learning materials to schools. If people are to stay literate, they must have access to a wide variety of written materials and continue the habit of reading in their adult lives".

If literacy is not placed within a functional framework of relevance and if newly acquired literacy skills are not constantly used and improved, there is a real danger that those who have acquired literacy skills will relapse into illiteracy and the huge investment in school education and adult literacy classes will be wasted. Unless the literate people are provided with effective support through reading and learning materials, they may again fall in the category of illiterates. Here libraries play a vital role by providing reading and learning materials to literate people. It then follows that the literate individuals are able to apply information and knowledge in society to improve their lives and economies.

It is high time we started looking at the whole information and knowledge industry in its totality. We should invest in our local publishing industry, the home environment and local school environment, including colleges and Universities.

The Department of Information Science and Communications at Mzuzu University has so far produced 51 Diploma graduates, 89 Degree graduates and 11 candidates have upgraded to Degree level. In September this year marks another milestone in the library profession in Malawi, as Mzuzu University will be launching the first Master's Degree Programme.

Strides made by the Malawi National Library Service in Promoting Information and Knowledge in Malawi

I am particularly pleased to report to this Conference that the Malawi National Library Service under your Ministry, Mr. Guest of Honour, is introducing new innovative ways of extending its service to the public. The National Library Service is mandated by an Act of Parliament no. 31 of 1967 to promote, establish, equip, manage, maintain and develop libraries in Malawi. Ministry is working closely with the Malawi National Library Service to ensure that our learning institutions have good libraries that are managed professionally. Resources are a major challenge but, various innovative ways of addressing the challenges of inadequate teaching and learning resources are being explored.

Honourable Minister, Distinguished Guests, Ladies and Gentlemen, I am also pleased to report that the National Library Service has developed its information and communications technology over the years. Users can now access records of all books held by the National Library Service through its website at (<http://www.nls.mw>), which is linked to facebook and Twitter. Furthermore, the National Library Service is hosting a National Digital Repository that contains electronic documents on a variety of research topics developed by the Malawi Library and Information Consortium (MALICO). Members of MALICO are benefitting from electronic journals and skills training programmes that are funded by various partner institutions, both local and international.

The National Digital Repository has increased the visibility of the work of our professors, lecturers and researchers worldwide. There is a twitter and facebook site where people are able to follow the activities of the National Library Service and give feedback electronically. These technologies have enabled the National Library Service to interact with members of the Consortium, its users and establish new information partnerships. Malawians are able to access job advertisements from various companies and institutions through the National Library Service website.

Empowering the Youths with Reading Information Services

Honourable Minister, Distinguish Guests, Ladies and Gentlemen, reading is a pleasurable activity and if used to disseminate information and knowledge, it will bring innovative approaches to development. Other organizations such as Beyond Access are promoting libraries as key institutions in development.

Beyond Access is a group of innovators that use libraries to propel development. The development battle has to be won at all cost if Africa is to remain as a developing continent. All of us should take it as our responsibility to educate the youth and ensure that they have developed their reading skills. It is, therefore, important that we employ all possible creative and innovative ways of developing a reading culture among our people in Africa. Beyond Access strategies will help us make our libraries key partners in development.

Our Guest of Honour, I would like to present the following issues that are affecting the growth and image of the library and information profession in Malawi. Since the new Government has embarked on a reform programme these issues are very critical.

- All architectural designs and construction of primary and secondary schools should include purpose built libraries.

- Libraries in primary and secondary schools should be managed by professionals

- A proper career structure for librarians should be addressed to iron out disparities in remuneration of salaries among different Institutions.

- Funding to the Malawi National Library Service should be increased. The National Library Service is a library for all people in Malawi. All the people that have graduated through all the universities rely on the National Library Service for their back up information. For some graduates, the last time they ever walked into a library was when they were students. Upon graduating, they have never read a book. Even those involved in the development of policies have never been to any library. Information and knowledge is power. Let us try investing in information and knowledge the next 50 years. This will be a long term investment for the country and the results will certainly change this country for the better.

- Let us increase development funds to the National Library Service to construct new bigger libraries. The National Libraries in many countries are very spacious with 4 floors and above. The New National Library Building in Kenya, for example, has ten floors. The District libraries in Kenya have four floors with some space reserved for other services such as restaurant, internet café, and exhibition rooms. They also have special rooms set aside as auditoriums.

- Opening internet rooms in our rural libraries. Use the libraries as a place where the public will be trained in computer information processing.

- Funding to our universities libraries should be increased. About 6% of the overall University Budget should be allocated to each University Library as was recommended by the British University Grants Committee Report on Libraries in 1967.

Distinguished Guests, Ladies and Gentlemen, I would like to thank key institutions that were instrumental in supporting the Committee from March 2013 to now. The President of the Malawi Library Association and the entire Executive for entrusting the Organizing Committee and providing resources. I would like to thank our parent Ministry of Education, Science and Technology for the support during the planning of this Conference. The National Library Service Board, the University of Malawi, Mzuzu University, Technical Vocational and Training, (TEVETA), National Commission of Science and Technology and the Lilongwe University of Agriculture and Natural Resources. The hosting of the planning meetings were done on rotational basis. Each meeting hosting institution provided a free venue, refreshments, and lunch to the committees.

The Malawi Library Association relied on the parent institutions for funding of all logistics. We also appealed to the Corporate World for funding. We wrote many letters of appeal and placed adverts in the media seeking financial support.

Distinguished Guests, Ladies and Gentlemen, I would like to quote Martin Luther King, Jr. who said "If you can't fly then *run*, if you can't *run*, then *walk*, if you can't *walk*, then crawl, but whatever you do you have to keep *moving forward*."

I would like to confess that this was a very tough assignment to undertake but we kept on moving. We struggled to access funds. At this point, on behalf of the Organizing Committee, let me thank all organisations and individuals who provided their resources towards the organization of this Conference.

The Committee will release a list of all individuals and institutions that contributed towards the fund raising of this event. Our Budget was in the range of Mk30, 000,000. Somehow, with God's support we are here today, which is an indication that we are on track.

I would like to assure all individuals and organizations that the resources that you contributed to the organization of this conference made a difference. It has enabled us to be here today.

I would like to thank the Management of Sunbird Capital Hotel for trusting the Organising Committee and accepting to host this Conference. I would like to give special mention to one individual who was maintaining the SCECSAL main Website. Dr. Justin Chisenga of Food and Agriculture Organization based in Accra, Ghana, has been very instrumental in ensuring that the page is well updated. The SCECSAL website was kept updated with the latest information from the Organizing Committee. We also wish to thank staff of the Malawi National Library Service and Mzuzu University for updating the MALA Website.

We managed to reach out to the SCECSAL member countries through these websites. So a call for abstracts was done and there was a good response from the region and beyond. By the deadline of submission of abstracts, there was still a demand for extension, but the Committee put its foot down. An Abstract Assessment Sub-Committee/Task Force was put together, headed by Dr. A.W.C. Msiska of University of Livingstonia.

Once again, let me thank all delegates for coming to be with us in Malawi. With these few remarks, let me ask you, the Honorable Minister, Sir, to make your opening remarks, and officially declare our Conference open. I thank you all for your patience and listening. Our Guest of Honour, Sir.

Speech by the Rt. Honorable Minister of Education, Science and Technology, Dr. Emmanuel Fabiano, MP at the Official Opening of SCECSAL XXI at Sunbird Capital Hotel, Lilongwe Malawi, 28th July 2014.

The Chairman of SCECSAL XXI Main Organizing Committee, Mr. Gray Nyali.
The Secretary for Education, Science and Technology in the Ministry of Education Science and Technology, Dr M. Magwira
The President of the Malawi Library Association, Mr. Fiskani Ngwira,
Principal Secretary Responsible for Basic and Secondary Education,
All Directors in the Ministry of Education Science and Technology,
The Chief Executive Officer, Lilongwe City Council,
All National Librarians and University Librarians from the SCECSAL Region,
All Vice Chancellors from Public and Private Universities,
Member of Parliament for this Constituency, Lilongwe Central, Honourable Bisnowarty,
Members of Various Media Houses present
Distinguished Invited Guests, Ladies and Gentlemen
All Protocols observed.

It is my great pleasure to be here to officially open the Standing Conference of Eastern, Central and Southern African Librarians and Institutions. Let me take this opportunity to welcome all delegates to this Conference that is taking place in Malawi the Warm Heart of Africa for the third time. I understand that participants to this Conference are from the Eastern, Central and Southern Africa region and overseas. We have in this Conference delegates from Botswana, Ethiopia, Kenya, Lesotho, Namibia, Republic of South Africa, Sudan, Tanzania, Uganda, Zambia, Zimbabwe and host Malawi.

I am also particularly pleased to learn that the Theme of this Conference is "Information and Knowledge as a Driving Force for Socio-Economic Development in Africa".

Distinguished Guests, Ladies and Gentlemen, it is not always easy to recognize the importance of preservation and dissemination of knowledge through the medium of written expression of the intellect and, therefore, we tend not to render importance to the library and information science profession.

We have the simplistic opinion that it is a matter of getting books, put them on the shelves and if a reader wants one of them, you pick it up and hand it over. But, let us closely examine the educated opinion about libraries and librarians so that we may appreciate the importance of the library and information science profession and its role in the management of education, research, and of social and economic activities, and to a large extent, political management of society.

In today's world, it is obvious that there can never be meaningful socio-economic development without a sound information base for planning. It is no secret in the 21st Century that only those with sufficient information and knowledge will be able to meet the challenges that await us all in the coming decades. That is precisely the problem. Investing in information and knowledge now will help to solve problems of tomorrow, not those of today. Because the problems of today are already so great (possibly because too little was invested in information and knowledge in the past), people tend to spend money on short term, not very sustainable improvement to the current situation rather than in information and knowledge.

Information and knowledge are a precursor for driving an economy. This can only happen if we in Africa can create a literate environment that comes with good investment in information and knowledge infrastructure. We need to invest in library and information services: in public and school libraries, in community learning centres or NGO resource centres that are dedicated to creating literate environments that support basic education for all, and so on.

Distinguished Guests, Ladies and Gentlemen, while in many countries, people cannot imagine daily life without written information, they start the day reading the newspaper, they read and write e-mails and reports at work, they look through the daily mail and enjoy an interesting magazine or a good book in the evening, where one can truly see information and knowledge driving the day to day lives of communities,

it is the opposite of what prevails in many countries of the developing world where there is a serious lack of reading materials, hence, a lack of reading culture. Without a reading culture it is almost impossible to create information and knowledge that can drive the economies.

This is where this gathering is very important to champion issues of information and knowledge management. Librarians and information workers are key to ensuring that our countries are not left behind in the development of information and knowledge that can drive the socio-economic development of our countries.

We can now appreciate the importance of the so many of you who are professionals because you acquired the librarianship discipline. We can entrust you with the custodianship of human experience and as may be documented and you have the responsibility of preserving such experience and its dissemination of the knowledge contained in the written word or materials presented in the modern technological forms. One important undertaking you must make is a wide publicity of your profession so that this very important discipline can be recognized by as many leaders as possible.

It is high time we started looking at the whole information and knowledge industry in its totality. We should invest in our local publishing industry, the home environment and local school environment, including colleges and Universities.

This Conference has come at the right time when the Government of Malawi is implementing the Malawi Growth and Development Strategy II. In this country, we have made progress from the last time we hosted SCECSAL Conference in 1994. Our professionals have worked so hard in ensuring that librarianship becomes a well-recognized profession. The first team of trained professional librarians working at the University of Malawi libraries and National Library Service were instrumental in setting up the Malawi Library Association.

The Malawi Library Association and its successive leadership have worked tirelessly to keep this profession on track. We still have the origins of library work training in Malawi which was the Library Certificate Course run by the Malawi Library Association. The Certificate Course offered by the Malawi Library Association has produced many para-professionals who are working in both public and private libraries. In 2003, the Government approved the initial Library Science Diploma Course at Mzuzu University. We now have our own Faculty of Information Science and Communications at the same University. We are producing a good number of professionals within our country. This year we will be launching our very first Master's Course in Library and Information Science. You may wish to know that the Masters programme is a joint effort between Mzuzu University and the Malawi Library Association. The National Librarian is an industrial representative on the Faculty of Information Science and Communication. His role is to provide feedback on the innovations and developments in the information industry for the improvement of the curriculum. Our ambition is to go all the way to producing PhDs within the next five years. This would not have been possible if the current crop of librarians had not shown their dedication to the profession.

I would like to call upon all delegates to this Conference to serious focus at all the key areas of information and knowledge that are affecting development in Africa. Isolate key challenges and repackage them for presentation at other regional foras where key decision makers such as SADC, African Union and the United Nations gather. It is high time librarians were given space to drive the information and knowledge agenda. Especially the youth to take this opportunity to read extensively by patronizing our libraries in Africa. As youth of this continent, they are also the future leaders of our countries. If we have a well informed youth with a focus on development we would be assured of a better tomorrow.

Distinguished Guests, Ladies and Gentlemen, as I have already stated, we are entrusting you with the reservoir of human experience which in many instances is required in the practical application of acquiring knowledge and perceiving the past experience so that we may move forward. In your work, you should endeavour to complete the exercise of technology transfer from the developed countries to our region.

You should have an important role to play as your knowledge and skill can assist identifying the reservoir of technology in various countries and advise us to bring such materials for our own use. I have confidence in your profession because I know you have the capacity:-

1. In your training you acquired scientific methods of preserving accurate records.
2. Integrity to undertake custodianship of knowledge.
3. You have the communication skills which are the media of utilization of preserved human experience. You have the capacity to maintain information in an intelligible form; and
4. Many other skills which I understand your profession has equipped you with.

It is with all that in mind that as Government, we have confidence in the librarianship profession and this is a good reason for my being here today. I wish you good and intelligent discussions of the problems you have identified and caused so many of you to come together and explore ways and means of solving them.

Once again, I would like to congratulate and thank the organizers of this Conference. I would also like to call upon all delegates to feel at home in Malawi and enjoy this Conference. If you have spare time, visit other tourist sites to appreciate the beauty of our country. We pride ourselves as the Warm Heart of Africa! While here, try to discover our warmth by learning more about our country apart from enjoying the Conference.

On my part as a Minister responsible for Education, Science and Technology in Malawi, I would like to assure you that this Government is very serious on development. His Excellency the State President, Professor Peter Mutharika, has made a commitment to developing this country in various sectors, including library and information science. We surely need information and knowledge to drive socio-economic development in the next fifty years and beyond.

It is now my singular honour and privilege to declare "the Standing Conference of Eastern, Central and Southern African Librarians and Institutions 2014", officially open. May God bless Malawi and Africa.

I thank you all for your attention.

SUB-THEME: 1

ICT for Knowledge Based Economies

Exploratory Study on the Adoption of an Integrated Library System in Kyambogo University Library Service: Initial Results

By

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Abstract

The adoption of an Integrated Library Systems (ILS) helps library staff to automate libraries' routine operations. While some libraries are coping well with automation, others face challenges and setbacks. The purpose of the study was to explore the adoption of an ILS, Koha, at Kyambogo University Library Service (KyULS). The study employed a qualitative approach where data was gathered using semi-structured interviews followed by a survey. This paper reports initial results from the semi-structured interviews. Collected data was analysed using content analysis. The study aims to provide recommendations to alleviate or resolve the difficulties that are hampering KyULS specifically and potentially other libraries when adopting an ILS. This study is of value to academic librarians, LIS schools and ILS vendors globally as it helps them better understand the unique challenges faced by libraries in sub-Saharan Africa.

Key words: *Adoption; Integrated Library Systems; Academic Libraries; Kyambogo University; Uganda; Qualitative; Semi-Structured Interviews*

1. Introduction and Problem Statement

Due to the rapid technological changes happening all over the world, libraries and information centers are trying to come to grips with what is happening so as to assess their past performance and thereafter make appropriate plans for the future (Sparks, et al., 2013). The introduction of various Information Communication Technology (ICT) trends has led to the reorganization, change in work patterns, and a demand for new skills, job retraining and reclassification of library positions (Kargbo, 2009). Adopting technological advances such as the electronic databases, online services, CD-ROMs and introduction of the internet has radically transformed access to information in academic libraries (Krubu & Osawaru, 2011). Libraries like Kyambogo University Library Service (KyULS) and several other academic libraries in Sub-Saharan Africa (SSA) need to understand the historical context within which they were created and developed so as to prevent repetition of past mistakes, but instead better plan their library automation initiatives (Rayward, 2002, p. 13).

Kyambogo University (KyU) is relatively a new university but at the same time an old one that evolved through many stages. It is Uganda's third public university established in 2003. It was creat-

ed as a result of merger of the former Uganda Polytechnic Kyambogo (UPK), the Institute of Teacher Education, Kyambogo (ITEK), and the Uganda National Institute of Special Education (UNISE). Following the merger of the three institutions, the three institutional libraries merged as well to become Kyambogo University Library Service (KyULS).

There is hardly anything reported about the automation initiatives of all these libraries before the merger. Mutula (2000) briefly indicates that UPK Library was accessing the African Virtual University Digital Library, which was searchable via internet. Meanwhile, UNISE was equipped with different audio and visual materials for persons with visual and hearing impairment (Ntege, 2008:3). A number of SSA academic libraries suffer from a low level of computer technology replacement. Computers and ICT equipment donated to support library automation initiatives in KyULS are now almost obsolete while study programs and student intakes are increasing annually (Mapulanga, 2013). Meanwhile, academic libraries are ideally supposed to support learning teaching and research in the university.

KyULS started nursing ideas of setting up and Integrated Library System in 2011. This was precipi-

tated by the Consortium of Uganda University Libraries (CUUL) that organized Koha training in 2012 for its member institutions, which includes KyU. The staff member who was identified from KyU for this training was then supposed to train others after this training. Subsequently, a one-week Koha training was organized at KyU for a few key staff in April, 2013. Koha software was later installed on the University server and customised in June, 2013. Another Koha orientation for a selected number of library staff was carried out in August, 2013 and thereafter Koha was launched. Currently, Koha is not yet fully functional; it is only the cataloging and Online Public Access Catalog (OPAC) modules that are being utilised. The circulation, acquisition and serials management modules are not yet entirely operational.

As suggested by different scholars, there are many benefits and motivations of automating academic libraries. But, at the same time, there are several barriers and problems frustrating these library automation projects (Krubu & Osawaru, 2011:3). The purpose of this study is to explore the acceptance and implementation of Koha as a reliable and efficient ILS for KyULS in order to increase the likelihood of a successful implementation. This study is, therefore, based on one major research question which is, *'How can the likelihood of the successful adoption of an ILS at KyULS be improved?'*

Farajpahlou (1999) designed a set of 26 criteria for successful adoption of an ILS that academic libraries like KyULS should evaluate any ILS before adopting it. To be able to answer the above research question, the following sub-questions have been derived from his model:

- How did the library management planning body reach the decision to adopt Koha as ILS?
- How easy to use, user-friendly and fast is Koha and the general management thereof?
- What is KyULS' capacity to develop and enhance Koha?
- What problems have been encountered in the process of adopting the Koha to date?
- What are the recommendations for future best practice at KyULS?

2. Literature Review

A number of scholars have come up with different definitions of an ILS. Reitz (2004) defines an ILS as an information retrieval system that allows users to search for books, periodical articles, elec-

tronic resources, computer files and websites. A good ILS can seamlessly search online catalogues and bibliographic databases all at a go, using a single user interface. Webber and Peters (2010) concur with Reitz that an ILS affect every aspect of the library's operation from circulation to cataloging to the library's ability to deliver information resources and services via the web and on the OPAC. From the above definitions, an ILS is an integrated information resource planning system that eases the routine library operations of acquiring, processing, storing, retrieving and disseminating the libraries' information resources.

All library routine activities would be impossible to be automated without the software that drives the computer to perform its operations (Ayankola and Ajala, 2012). Software comprises the programmes fed into the computer to control these library activities. The ILS is primarily made up of two types of software, the application and the network software. In SSA there are quite a number of applications and network software which were developed either indigenously or elsewhere. Vendors, most especially in the western world, are always inventing new and modernized software that attempts to ease librarians' work.

From a global perspective, academic libraries are now faced with the challenge of managing the potential impact of adapting to the ever-changing ILSs. This is like a race of coping with ICT changes and to some libraries, it is considered as an external driver of adopting ILSs. According to Sparks et al. (2013), the major external drivers of ILS adoption on the global scene are: global economic trends, better quality, cross-disciplinary and collaborative research, competitive advantage, data curation, faster access, mass storage, and information inclusion. Modern academic libraries no longer put a lot of emphasis on the physical place, but on the online resources that can be accessed by anyone, anytime and from anywhere.

Governments in SSA are also beginning to appreciate the role ICTs can play in providing competitive advantage of their economy through teaching, learning, and application of research outcomes from the library and information services industry (Baguma, 2013). Many academic libraries in the SSA region are exploring avenues where they can install viable and enduring ILSs. Ayankola and Ajala (2012), state that quite a number of different ILSs are making inroads into the African market. Koha, an open source ILS, is one of the most popular ILS being adopted by African university librar-

ies (Otunla & Akanmu-Adeyemo, 2010).

Assessing the effectiveness in an ILS is an issue that cannot be ignored when automating an academic library. After reviewing literature on ILSs, Farajpahlou (1999) raised a number of factors to use when assessing the successful adoption and effectiveness of an ILS. Five of the key factors are: (1) planning, (2) usage of the ILS, (3) management of the ILS, (4) technicalities encountered and (5) the cost of the ILS. Roh, Kunnathur, and Tarafdar (2009) partly agree with Farajpahlou (1999) that cost savings, usage and visibility, and new process of handling technicalities are the three key factors of assessing a successful adoption of a new technology. This study integrated the scope and scale of these factors to validate the adoption experience in KyULS.

Ngai, Law, and Wat (2008) carried out a review of the critical success factors (CSFs) in the implementation of new technologies across 10 different countries/regions. The review covered journals, conference proceedings, doctoral dissertations and textbooks. The review identified 18 CSFs as indicated in Table 1, with more than 80 sub-factors, for the successful implementation of new technologies.

This study compares these factors to determine whether there are critical success factors or barriers to adopting an ILS in KyULS.

3. Research Methodology

The study uses a positivist approach, which assumes that there are true answers and the job of the researcher remains to confirm or disconfirm them. A case study methodology was used to confirm or disconfirm the drivers and barriers of adopting ILS in KyULS. Adoption studies predominantly use mixed research designs, survey and case studies (Dwivedi et al, 2008; Manuelli et al., 2007; Mapulanga, 2013). Even this study used a mixed (quantitative and qualitative) case study research design.

The semi-structured interview is an established data collection method and a primary source of information in qualitative research (King & Horrocks, 2010; Kvale & Brinkmann, 2009) and since this study uses an in-depth case study of KyULS, the semi-structured interview was seen to be the most appropriate data collection method (Yin, 2009). Documentary review of any existing literature and available documentation related to the adoption of ILS at KyULS and observation methods were also used to triangulate the semi-structured interview method (Easterby-Smith et al., 2008).

The population of this study included KyULS top and middle management teams composed of both professional librarians and paraprofessionals, the KyU ICT Unit, KyU Library Committee members, some key KyU top management and the Students Guild. All these people compose a set from which evidence can be gathered and help in drawing a realistic conclusion on the drivers and barriers to the adoption of an ILS for KyULS. Stratified random and purposive sampling techniques were employed.

The face-to-face interviews were conducted over a three-week period in January and February 2014. Each interview lasted between thirty and forty minutes. Permission to audio-record the interviews was given by two thirds of the interviewees, the rest preferred to only use notes. Notwithstanding, notes were also used on the audio recordings just in case of equipment failure. Interviews were conducted face-to-face in order to establish rapport and to observe any non-verbal cues that warranted further questioning. All the interviews were conducted in English. Most of the participants were interviewed at their desks, at their places of work, save for a few who had to move to a quiet place to avoid noise and interruption during the interview session.

Most of the data generated was qualitative in nature and, therefore, was analysed using qualitative content analysis (Easterby-Smith et al., 2008). Farajpahlou's (1999) criteria of assessing ILSs were used to guide the data analysis. The re-

Table 1: Critical success factors for implementation of new technologies (Source: (Ngai et al., 2008, p. 548).

Appropriate business and IT legacy systems Business plan/vision/goals/ justification Business process reengineering Change management culture and programme Communication Teamwork and composition	Monitoring and evaluation of performance Project champion Project management Software/system development, testing and troubleshooting Top management support Data management	Strategy and implementation methodology Vendor Organizational characteristics Fit business/process National culture Country-related functional requirement
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searcher used some of Farajpahlou's key factors to organize, structure the data and identify patterns, themes and categories in the data. The dominant themes that emerged from the analysis are the ones that have been used to present and discuss the research findings.

4. Research Results and Discussion

The study sought to establish how KyULS came to decide to adopt an ILS. Before discussing the ILS adoption decision, it was imperative to study the structure of the respondents in terms of gender, the sections of the University they came from, their qualifications and experience in the library.

4.1 KyULS Management's Decision to Adopt the ILS

As shown in Figure 1, slightly more males were included in the sample: 57.7% of the sample where males compared to 42.3% who were females. The question that remains to be answered is whether gender of library staff members has any effect on adoption of an ILS.

As observed earlier, a total of 26 subjects was interviewed, spread across the different sections of the University that were either directly or indirectly involved in the process of adopting an ILS for KyUL (see Table 2). The majority comprised library staff who are directly involved in implementing the ILS.

From Table 3, it is clear that the library staff qualifications are fairly distributed across all levels, with the majority of the staff members 50%, with Diplomas in Library and Information Science. Incidentally, five respondents were upgrading while two were pursuing Master's degrees in Information Science and Information Technology. The other

Table 2: Sections of KyU from which respondents were drawn

S/No.	Library and KU sections of the respondents	Count	(%)
1	Kyambogo University Top Management	1	3.85
2	Kyambogo University Library Committee	2	7.69
3	KyU Library Management	3	11.54
4	Library ICT Unit	5	19.23
5	Library Staff	12	46.15
6	KyU ICT Directorate	1	3.85
7	Students Guild	2	7.69
Total		26	100

three were pursuing the Bachelor of Library and Information Science Degree Programme.

From Table 4, it can be seen that the majority of staff members sampled are still new as 38% of staff members experience ranges from 0 to 5 years. This may in one way reflect that there is a relatively high staff turnover rate. This can be compared to the 15.38 % who have stayed for over 16 years. This may affect adoption of ILS as staff members join the library, are trained and attain necessary library automation skills, after they

Table 3: Academic qualifications of respondents

S/No.	Academic qualifications of respondents	Count	Percentage
1	PhD	1	3.85
2	Masters	3	11.54
3	Bachelor's Degree	7	26.92
4	Diploma	13	50.00
5	Certificate	2	7.69
Total		26	100

Figure 1: Gender of the respondents

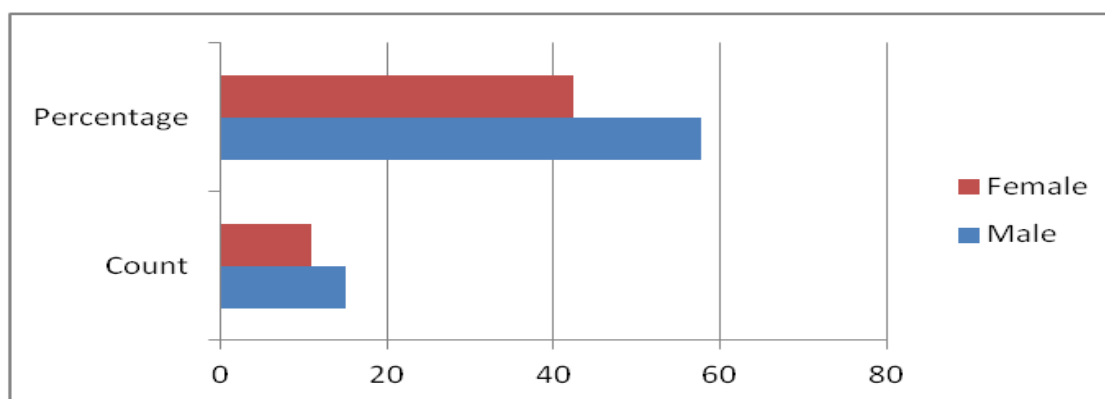


Table 4: Experience of respondents at KyULS and merged libraries

S/No.	Experience of respondents in years	Count	Percentage
1	0 – 5	10	38.46
2	6 – 10	4	15.38
3	11 – 15	8	30.77
4	16 +	4	15.38
Total		26	100

run off to greener pastures and fresh staff members are recruited and the cycle continues.

From the qualitative content analysis, the respondents raised several reasons that led to KyULS' adoption of an ILS in general, and Koha in particular as listed in Table 5.

4.2 The Ease, User Friendliness, Speed and General Management of the ILS

The study sought to establish the ease, user friendliness, speed and general management of Koha in KyUL. When respondents were asked whether they support Koha as the best ILS for KyUL, all of them were affirmative (100%). The reasons for supporting Koha in particular are listed in Table 6.

Respondents were not happy with Koha's speed as the internet network sometimes is down or weak. Other reasons they were not happy with are that the entry of data is so laborious and complicated. One respondent stated that:

Table 5: Reasons that led KyULS to adopt an ILS

S/No.	Reason for adopting an ILS for KyULS	Count	Percentage
1	Koha being open source software	24	18.32
2	Adapting to international library trends	21	16.03
3	Visits to modern automated libraries	20	15.27
4	A desire to move from manual to an automated system	18	13.74
5	Increased demand for library services	17	12.98
6	Increased number of users and library collection	14	10.69
7	Attempt to overcome past failures	10	7.63
8	Dictated by technological changes [The move from print to digital library technology]	7	5.34
Total		131	100

Table 6: Functionalities respondents liked about Koha

S/No.	Functions liked about Koha	Count	%
1	Integration of the five modules [Acquisition, Cataloging, Circulation, OPAC and Serial Management] of library operations	23	24.2
2	Remote access function	17	17.9
3	User friendly	22	23.2
4	Koha being open source software	22	23.2
5	Customisability	11	11.6
Total		95	100

'Koha is a good ILS, but it bores me when it comes to registration of periodicals. Their databases don't have East African universities from which to copy them and it, therefore, becomes laborious entering everything manually.' (*A female Library Assistant*).

From the statistics in Table 5, it is very clear that most respondents are happy with the general functionality of Koha. However, when the researchers delved further to enquire whether they have ever taken the trouble to compare Koha with any other ILS on the market, 99% of the respondents had never taken the trouble. It was only one respondent who stated that:

'During my BLIS course, I compared Koha with Virtual and for sure Virtual is far better than Koha. The only problem is that Virtual is a commercial ILS while KyUL may not be in a position to foot the costs of maintaining it.' (*A male Library Assis-*

tant).

Pertaining to maintenance of the ILS equipment, 7.69% were of the view that it was good; 15.38% considered it fair. However, the majority (69.23%) responded that it was poor. The rest of the 7.69% were non-committal. When asked further about the capacity of the library to customize Koha further and also the ability to troubleshoot in case of a problem, several answers were presented such as: the availability of a computer technician, consultation with the facilitators who installed Koha, and the presence of a Koha core team. Very few respondents (8%) had ever obtained technical assistance via social media or attended Koha webinars. Several authors have decried the tendency of librarians to act in isolation when adopting ILSs. There is need for greater engagement among computer scientists, librarians, library users, faculty members and administrators of higher education institutions when adopting Koha.

Odongo (2012) further cautions that academic libraries intending to adopt open source ILSs must consider the fact that customization is a critical challenge which if overcome by assigning a specific staff member, such staff become a critical asset to the library so much so that their exit can bring difficulties in sustaining the all ILS.

4.3 The Drivers to Adopting the ILS

The study sought to establish the drivers of adopting Koha in KyUL. The drivers listed by the respondents are provided in Table 7.

From Table 7, the leading drivers of Koha adoption in KyUL are suitably qualified staff, the positive attitude of library staff members towards Koha, the availability of training and again the issue of Koha being an open source ILS resurfaced again.

Adoption of open source software like Koha is a big driver in Sub-Saharan African academic libraries as it translates into a long term cost saving strategy (Ledwaba & Tsebe, 2010). KyUL can allocate the saved resources on purchasing of more infrastructure and other library automation capacity building initiatives.

User demand was also highlighted as a driver of adoption because according to Nkomo, Ocholla, & Jacobs (2010) computer-driven systems like ILSs are increasingly becoming popular as they allow multiple consultation of information sources. The only surprising bit is that during adoption process there seems to be no significant impact on the utilization of the traditional manual system; it takes long for patrons to completely abandon them. Nevertheless, it is now an undeniable fact that ICTs plays a key role in providing access to relevant and effective information and knowledge sharing mechanisms which have greatly increased the productivity of academic libraries (Lwoga, Stilwell, & Ngulube, 2010).

4.4 Barriers to Adopting Koha in KyUL

The study sought to establish the barriers that curtailed the successive adoption of an ILS in KyUL. Koha adoption barriers were raised as indicated in Table 8.

Table 7: Drivers for adoption of Koha in KyULS

S/No.	Koha adoption drivers in KyULS	Count	Percentage (%)
1	Qualified staff	24	20.7
2	Open source software	23	19.8
3	Training available (initially)	22	19.0
4	General positive attitude towards Koha	19	16.4
5	KyU top management support	12	10.3
6	Library automation trend in sister universities	11	9.5
7	Demand from students for automated services	5	4.3
Total		116	100

Table 8: Barriers to adoption of Koha in KyULS

S/ No	Koha adoption barriers in KyULS	Count	%
1	Shortage of Infrastructure	22	20.7
2	Shortage of funding	24	19.8
3	Internet Instability	17	19.0
4	Procurement bureaucracies	10	16.4
5	Insufficient Training	12	10.3
6	Unsuitable for Persons with visual Impairment	5	9.5
Total		90	100

The barriers at KyULS are not far different from the ones which are frequently highlighted in this regard, for example, by Hoba, Mba, and Alemneh (2013) who state that SSA universities have three major leadership and governance challenges, namely, shortage of funds, lack of infrastructure and inadequate qualified staff. Although the first two challenges may apply to KyULS, the third one may not as the research findings indicate that KyULS staff establishment has well qualified staff members. If there is any gap, it was just that they did not receive sufficient initial training in Koha.

KyUL by default has a passion to offer equal library services to both normal and persons with disabilities. The fact that Koha does not have functionality to support library users with visual impairment really leaves a lot to be desired. Technology is supposed to ease access to information for such groups, but still with the adoption of Koha makes them find difficulties of accessing information and indirectly makes them feel marginalized (Ratanya & Otenya, 2010).

Many academic libraries in SSA want to adopt to the most modern ILS, but lack of necessary resources like financial, physical and well trained personnel curtails the whole process (Kamusiime & Mukasa, 2012). Surprisingly, development partners step in to intervene, but are often scared away because of the enormous need. Poor Internet connections or low bandwidth is still a big challenge in Sub Saharan Africa and greatly contributes to ILS adoption failures. According to (Mosha, 2010) if an ILS user faces a bad experience because of poor or slow internet, then he or she will tend to shun the ILS or not use it effectively and creatively.

SSA governments have also not done much to address this problem. Yet, it keeps impeding many ILS adoption initiatives. It is as if access to infor-

mation through ICTs is not a priority to SSA governments (Gikenye & Ocholla, 2012). It should, however, be noted that the Government of Uganda, through the Ministry of Finance, Planning and Economic Development, intends to implement a program called Computerized Education Management and Accounting System (CEMAS). CEMAS aims to support automation of core business processes of all public universities and self-accounting tertiary institutions. KyU was chosen to be one of the institutions to pilot this system and according to the work plan, they hope to lay a campus-wide network by June 2014 (Accountant General, 2013).

When it comes to procurement bureaucracies, this is not only in KyUL, but also a big challenge in Nigeria (Kathryn, 2012). The researchers further observed that there was no systematic plan or methodology followed when implementing Koha in KyULS. Successful ILS adoption always follows a systematic plan of implementing the ILS (Scot, 2008).

Analyzing the drivers and barriers to adoption of an ILS in KyULS in respect to the CSFs as presented Ngai et al. (2008:548) clearly shows that some of these factors also emerge in KyULS, some as drivers while others as barriers. A closer scrutiny of the list in Table 1 above clearly shows that factors 4-6, 8-11, 14-15 and 18 played a pivotal role in the adoption process in KyULS case.

5. Recommendations

Based on the results and discussion of the study, the authors propose the following to KyULS in order to ensure successful adoption of Koha:

- Ensure a systematic plan for adoption of the ILS.
- Form strong linkages with ILS adoption champions. Fortunately, according to Hoba et al. (2013), the United States Agency for International Development (USAID) is currently supporting university partnerships geared towards ICT adoption.
- Substantial financial resources should be put aside for acquisition and installation of ILS adoption equipment. Sources of these funds should never be pegged on students tuition fees (Kinyanjui, 2010).
- Design ILS formats that meet the needs of Library users with disabilities.
- University administration should find a lasting solution to the procurement delays that hamper ILS adoption.

- Academic libraries should not just stop at training of key staff members to gain skills in customization and administering ILS but also devise means of retaining them through motivating them, as they become critical assets to whole ILS adoption process.

6. Conclusion

Kyambogo University, like other universities elsewhere, is developing strategies to deal with the need to respond to rapid changes in ICT so as to keep pace with the current demands in the knowledge economy (Gallimore, 1996). This is the very reason why this research on the adoption of ILS in KyULS is being championed. Through ILSs library users can have access to a variety of information available on computer networks, databases and online services across the globe. For any library to derive maximum benefit in this information age, it has to be through a versatile ILS (Siddike, Munshi, & Sayeed, 2011). It is hoped that this study will help in redesigning academic libraries to meet the users' needs and provide modern information services facilitated by ILSs. These initial results will be used in the next phase of the study to confirm the findings.

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ICTs for Capacity Building: ITOCA's Experiences Implementing Research4Life Courses Using Moodle

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Abstract

This paper details the experiences and challenges of ITOCA (Information Training and Outreach Centre for Africa) in rolling out distance learning courses from its e-Learning Moodle based platform. The paper takes results from an initial implementation in 2012 and compares them to results from a second roll-out in 2013 after making changes as a result of lessons learnt. The two online courses followed a similar design where course material was posted on the platform in PDF format. The first and second courses were designed to deliver training to researchers, scientists, information specialists and students on how to access scientific literature using the Research4Life portals. The courses were offered in three languages - English, French and Portuguese. Multilingual announcements of the course were made on various networks for example AHILA NET, Research4Life User Forum and HIFA2015.

This paper also shares the lessons learnt and attempts to outline best practice in rolling out online distance learning for building skills on e-resources. Experiences on communication strategies to improve enrolments and completion rates are highlighted. For instance communication- with a distance learning initiative there are a lot of stake-holders for example administrators, teachers and students that need to be constantly kept in the loop. Team collaboration is therefore very essential. Another lesson relates to completion rates, many register but a lesser number actually complete the required exercises. This rollout proved to be a faster, cheaper and more convenient mode of training, when compared to use of material like workbooks or face to face delivery. This mode of delivery however requires much time in planning and effective communication between the course coordinators. The paper concludes by making recommendations for further ITOCA online courses.

Keywords: *ICTs; Online Course; ITOCA; Databases; Health information*

1. Introduction

Increasingly capacity building and training institutions are facing a lot of challenges. One primary challenge is decreasing internal and external budgetary support due to the global economic recession as well as the rising cost of face-to-face training. For example, the costs of putting together and delivering a week long face-to-face workshop range from \$600-\$1000 per participant (unit cost) in the Sub-Saharan Africa region, taking into account travel for resource persons, participants' subsistence, venue, and associated material costs (Chimwaza, Chimalizeni, & Chataira, 2011).

The above scenario has been a major motivating factor for the Information Training & Outreach Centre for Africa (ITOCA), and its partners to deliver distance online courses to increase the reach of Research4Life programmes and complement the face-to-face trainings. Using comparative methods and descriptive data, this paper details the experience ITOCA has gained in implementing

two online distance learning course and shares some lessons learnt.

2. Background

2.1 Research4Life

Research4Life (R4L) is the collective name for a one-of-a-kind initiative which encompasses four public private partnerships seeking to help achieve the UN's Millennium Development Goals by providing the developing world with access to critical scientific research, empowering universities, colleges, research institutes, government ministries as well as non-governmental agencies, extension centres and hospitals (www.research4life.org).

Since 2004, Research4Life programmes-Health Internetwork Access to Research Initiative (HINARI), Access to Global Online Research in Agriculture (AGORA), Online Access to Research in the Environment (OARE) and Access to Research for Development and Innovation (ARDI)-have giv-

en researchers at more than 7,700 institutions in over 100 countries in the developing world, free or low cost access to more than 44,000 peer-reviewed international scientific journals, e-books and databases provided by over 150 of the world's leading science publishers. Due to the fact that these programmes are electronic and based online, they need a basic level of ICT and information literacy skills among the intended beneficiaries. The partners realised early on the need to integrate training and outreach interventions as part of the total roll-out package in-order to create awareness and contribute to the building of the capacity of users to fully make use of these gateways.

2.2 ITOCA

ITOCA (Information Training & Outreach Centre for Africa) is a capacity building organization aimed at enhancing information and communications technology (ICT) skills for African librarians, information specialists, scientists, researchers and students in Sub-Saharan Africa.

In Sub-Saharan Africa, ITOCA has been the lead organisation in facilitating face-to-face training workshops for HINARI and other Research4Life programmes targeting universities, ministries, and research institutions. With specialist trainers among its staff, the organisation has successfully organised over 100 workshops reaching over 5500 professional librarians, researchers, lecturers, and ICT personnel in the last 10 years.

Recent years have, however, seen a reduction in the number of face-to-face workshops organised, from the average of a dozen workshops per year to half of that. This has mainly been due to dwindling funding sources and increasing delivering costs.

In addition to funding challenges, studies have shown that despite considerable investment in training and outreach activities, awareness of the existence of HINARI and other Research4Life programmes among faculty members in academic and research institutions remains low (FAO, 2009; Harle, 2010).

3. Objectives

Specific objectives of the review were:

- To review and identify important lessons from the delivery of two online courses

- To implement lessons learnt and recommendations from the roll out of the online courses
- To respond to the combined challenges of limited funding and low awareness and usage.
- To document and disseminate findings on lessons learnt

4. Method

An initial pilot course was developed and run in June, 2011, targeting 20 English-speaking HINARI users. Using results from the pilot survey, a more comprehensive course in English, Portuguese and French was developed a year later.

To start off enrolment for the first course, an announcement was sent out via various online platforms. The idea was to advertise it as widely as possible to primarily health related discussion platforms and e-mail groups. The announcement with instructions on how to enrol was translated into French and Portuguese and was sent to the Research4Life User Forum (research4life@dgroups.org) and HIFA2015 network (www.hifa2015.org). A total of 266 people registered, mostly from Sub-Saharan Africa (SSA) region and also from other eligible regions of the world. Initially, a target of 60 participants was set, 20 from each of the 3 languages.

After the registration process, the course was opened and ran for thirty days from 1-30 June, 2012 with a week's extension given to allow for late submissions. The course modules were delivered via a basic PDF document downloadable from the Moodle platform as well as a sharable Dropbox folder. The document contained exercises that the participant was expected to go through at their own pace. Participants were expected to be from HINARI registered institutions and were required to use their institution's username and password to complete the practical exercises. The HINARI course covered a streamed down version of the standard modules delivered during the face-to-face courses, that is the Web interface; Research4Life programmes Do's and Don'ts; Programmes sign-in procedures; Search tools and strategies; Partner publishers website features; PubMed searching; HINARI access problems and solutions and Training materials overview.

Upon completion of the exercises, two options for submission were available. One could either upload a completed set of exercises directly onto the

Moodle platform in a Word document or submit the word document by e-mail.

At the end of the course, grading of exercises was shared between Librarians Without Borders (LWB) and ITOCA for English, WHO-Mozambique for Portuguese and WHO-Rwanda for French. Feedback was given to participants and certificates were issued to successful participants electronically.

The second course followed the same procedure, but implemented the following changes based on recommendations from the first course:

Designated one central coordinator

Clearly instructed participants to have their usernames and passwords before enrolling for the course

There was a more streamlined administrative process

5. Results

As shown in Table 1 below, for the first course in 2012, of the 266 registrations, a total of 69 complete exercises were submitted by the end of the course. There were no provisions made to breakdown participants by gender and profession. By language, there were 30 English submissions, 34 French and 5 Portuguese submissions, giving a completion rate of 26%. This surpassed the initial target of 60 participants.

The second course held in October, 2013 had a total of 111 registrants of which 63 completed the online course. There were 50 completions in English, 10 in French and 3 in Portuguese. This gave a completion rate of 57%.

6. Discussion

Although the first course had a higher number of registrations, 266, the completion rate (26%), was low compared to the completion rate of the second course (57%). The difference can be attributed to the changes that were implemented as a result of lessons learnt in the first implementation. The literature does not give an indicator of average completion rates as these vary between online courses. Generally, it is argued that completion of a course is a function of factors to do with course design. Alastair Creelman and Reneland-Forsman (2003) reported that Courses with the highest completion rates had three things in common; active discussion forums, complementing media and collaborative activities. In these courses, however, adhering to this model was difficult due to the nature of the target audience which is set up in mostly low-bandwidth territories. A conscious decision was made from the outset to make the mode of delivery as basic as possible.

The differences in completion rates by language could be attributed to the demography of the target audience, the majority users of these programmes were in English speaking countries. The course seemed to also appeal to English-speaking users because the majority of the content available through the Research4Life programmes, was in English.

The results also mean that certain outcomes of the course were attained, namely, equipping the participants with the basic skills to use HINARI as well as creating awareness even among those that did not finish the course. The outcomes as they relate to the ability to apply and practice a certain skill fulfils basic cognitive competences as espoused by Bloom (Mayes & Freitas, 2003).

Table 1: Number of Registrations and Completions for the Two Online Courses

Number of Registrants	June 2012	October 2013
English	104	75
French	90	21
Portuguese	72	15
Number of Completions	June 2012	October 2013
English	30	50
French	34	10
Portuguese	5	3

7. Lessons Learnt

The HINARI online distance learning course gave ITOCA experience in an area that it had not explored hitherto. Several lessons learnt coming primarily from feedback gathered from the various role players can be summed up as follows:

7.1 It is comparatively cheaper to run an online distance course: A crude cost estimate put the cost of course per student at \$43.50 taking into account the time spent by the resource persons organising and grading the participants' submissions. This is a fraction of the cost of face-to-face training which ranged from \$600-\$1000 per student at the time.

7.2 What worked well: The use of already established partnerships to design and implement the course was effective. When it came to actually implementing the course, the use of multiple platforms for accessing training materials also worked well. If one had challenges accessing Moodle, the Drop-box service was a good alternative thus combining server-based and cloud computing to anticipate possible access issues.

Publicity and promotion platforms chosen worked well, leading to over 300 enquiries, a combined 377 registrations, and 132 successful candidates receiving certificates. This led to exposure and outreach to people who had not been able to attend face-to-face training and attests to the demand that exists for more technology enhanced learning. For grading purposes, the use of a standard template made work easier for the tutors.

There were generally high quality answers to the exercises. For those reviewed, almost all the participants had a grade of 85% or higher. This reflects that the Power Point slides and step-by-step exercises were well organized and, via this distance learning mode, the students have sufficient time to properly complete the required work. It also reflects that the Moodle platform is user-friendly and easy to use.

Translating the course into three international languages enabled the participation of a wider audience. Traditionally, non-English-speaking participants had been left out in the face-to-face workshops. The course was therefore a great opportunity for increased outreach.

8. Recommendations

From the experience gained and the lessons learnt from implementing the two courses, the following recommendations can be made:

Course quality and design can still be improved, taking into account new platforms and technologies for delivering distance learning courses.

To enhance participants' completion rates, use of multiple communication mediums should be made, that is, a combination of email, online discussion groups and individual courseware.

In order to improve course design and delivery, follow-up surveys and/or interviews for participants should be made with the cohorts of both those that completed and those that dropped out of the course.

To replicate the course design for the other Research4Life programmes (i.e. AGORA, OARE and ARDI) adequate funding for the projects is required thereby ensuring effective implementation of the courses.

9. Conclusion

The second implementation of the course was more successful than the first one. This could be attributed to mainly the experience and lessons learnt from the first course and implemented in the second. This paper has shared some of the lessons learnt from the two online courses. With the rising costs of face-to-face training and global economic challenges, ITOCA and its partners continue to explore implementation of online learning for the Research4Life programmes audience as a way to contribute to the building of information skills for the users.

Notwithstanding the challenges that may be faced by learners, for example limited access to computers and internet, the benefits of this method of training are encouraging. With continued investments by research and academic institutions in SSA on ICT and Internet infrastructure – the use of online courses is set to widen in the sector. As with any training workshop, careful planning and coordination of resources and time are important in the virtual learning environment. This ensures an effective learning process for the learner and a productive experience for the course administrators and facilitators.

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Digitisation of Indigenous Knowledge in Cultural Heritage Institutions in South Africa: Examining the Policy and Cultural Interface

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Abstract

This paper investigates the digitisation of indigenous knowledge in South Africa, exploring if and how the rights of indigenous peoples are being protected by the existing policy and protocol guidelines in cultural heritage institutions.

Using the Digital Innovation South Africa (DISA) as a case, the paper explores digitisation policies at local and national levels, socio-cultural realities and legislative bottlenecks. The study uses the Delphi method for the collection and analysis of data. The major finding of this study is that, in dealing with the digitisation conundrum, many cultural heritage institutions seek to bridge the gap between Western legal requirements and indigenous intellectual rights by the inclusion of specific policy measures. The major themes that emerge from this study are that of cultural, legislative and structural influences. These themes broadly outline the fundamental characteristics of the policies and protocols of many digitisation initiatives on the continent.

Keywords: *Digital Innovation South Africa (DISA); Delphi Method; Digitisation; Indigenous Knowledge; Intellectual Property Rights*

1.0 Introduction

An increasing number of cultural heritage institutions are exploring digitisation as a means of preservation and improving access to their collections (Nakata, 2002). As some of these institutions hold substantial collections of indigenous material, it is essential that they build digital collections in consultation with indigenous communities, putting in place internationally acceptable guidelines, policies and practices (Nakata, 2002). In this way, cultural heritage organisations can be seen as a social reflection of the “de-colonising methodologies” which are becoming prevalent in recent literature on indigenous issues (Nakata, 2002; Smith, 1999; Wareham, 2001).

By using the Digital Innovation South Africa (DISA) as a case, this paper explores the socio-cultural influences and issues involved with the digitisation of indigenous knowledge in Africa as portrayed through DISA’s policy documents, information around intellectual property rights (IPRs), and/or protocols made available on the web by the institution.

2.0 Statement of the Problem

The digitisation of IK on the continent presents an interesting dichotomy of cross-cultural relationships between an ideology from a liberal western point of view which developed from the 19th century (Joyce, 1999), and an indigenous worldview (Hammersmith, 2008; Nakata, 2002).

Significantly, the history of how items came to be held in cultural heritage institutions in Africa can

itself be contentious, as the material was often appropriated in the colonisation or apartheid period when indigenous people may have had limited control over what was collected (Sullivan, 2002).

While in many western eyes, an indigenous item can be legally owned by the digitising institution, there is research which suggests that some cultural heritage institutions are in the process of “decolonising” the indigenous material and are increasingly integrating indigenous concerns into their operational procedures (Sullivan, 2002; Szeley & Weatherall, 1997; Wareham, 2001).

Although there are a number of studies of particular digitisation projects and also a number of international indigenous forums which highlight these positive trends, the literature shows a growing need for robust standards and protocols around the digitisation of indigenous collections (Kawooya, 2006; Nakata, 2002; Nakata *et al.*, 2008; Sullivan, 2002; Szeley & Weatherall, 1997; Wareham, 2001).

This paper, therefore, explores the digitisation landscape in South Africa and the larger African continent pertaining to indigenous objects, specifically by investigating the legal and socio-cultural influences in the development of policy, accessibility of policies on the Web, and finally through analysis of the data collected, to draw some conclusions on the current practices of cultural heritage organisations.

3.0 Research Questions

The paper hinges on the following question: What

are the basic characteristics of policies and protocols of cultural heritage organisations in Africa in relation to the digitisation of IK? Using the case under review, the paper seeks to provide some response to this question through the following sub-questions:

- Does DISA structure digitisation policies include direct reference to IK? If so, how are these framed?
- What are the socio-cultural issues that are considered in digitising IK within DISA?
- How accessible to the public are DISA's digitisation policies on the Web?

What protection exists for the cultural and intellectual property rights of indigenous communities and is this clearly reflected in DISA's policy protocols?

4.0 The DISA Initiative

DISA is a networked archival institution that holds a huge collection of indigenous material relating to the liberation struggle in South Africa. It makes use of digital technologies to promote the efficient and economical delivery of information to students, scholars, researchers and the wider community, locally and internationally. Thus, it plays a significant role in the development of a digital learning environment, in meeting the needs of an increasingly mature student profile, in the growing needs of distance education, and for lifelong learning (DISA, 2009). Although developed in two distinct phases, DISA is now available as one seamless digital resource (DISA, 2009).

DISA plays a leading national role in ensuring that internationally acceptable standards are used for systems, architecture, metadata, indexing and retrieval, and in developing expertise in digital technology through the training of librarians and archivists. DISA's involvement with partner institutions enables this transfer of digital imaging skills to several remote capture sites in South Africa (DISA, 2009).

Significantly, DISA has made available a comprehensive set of guidelines and standards that assist smaller institutions in the process of building an online resource. It has also provided technological expertise, training and hosting of content for several networked projects in South Africa and the wider southern Africa region (DISA, 2009).

5.0 Theoretical Framework

A significant influence on this study was the literature of what is broadly termed as "de-colonising methodologies" which appears in a wide range of different academic disciplines: cultural studies, historical studies, anthropology, archaeology, ethnography, theology and increasingly in the field of LIS (Nakata, 2002).

This methodology was developed by predominantly indigenous scholars who have contributed greatly to this field of study (Nakata, 2002; Smith, 1999; Wareham, 2001).

The theory echoes Ngugi Wa Thiong'o's (1986) work entitled *Decolonising the mind: the politics of language in African literature*. It builds on the Kenyan writer's thesis that colonialism did more than impose control over peoples' lands and resources through military conquest and political dictatorship. Imperialism also dominated the mental universe of the colonised and has continued to do so long after independence was gained.

In that sense, colonialism is far from being a "finished business" (Wa Thiong'o, 1986). According to this theory, "decolonisation" is a euphemism that only describes the formal handing over of the instruments of government, when in reality it must be a long-term process involving the cultural, linguistic and psychological divesting of colonial parameters (Nakata, 2002; Smith, 1999).

By investigating the issues these indigenous scholars raise, this study hoped to provide insight on the cross-cultural issues which bear on the digitisation of IK in Africa and see if they are adequately addressed in the policy documents of heritage organisations such as DISA.

6.0 Literature Review

The literature review highlights many critical issues pertaining to the digitisation of IK in heritage institutions. The broad themes in question are: documentation of IK in Africa and the digitisation landscape in South Africa.

6.1 Documentation of IK in Africa

For the purposes of this paper, indigenous knowledge (IK) will be understood as the "knowledge acquired over generations by communities as they interact with their environment" (Deloria, 1995: 156). In Africa, IK is part and parcel of the culture and history of the local community. It can range from "soil and plant tax-

onomy, cultural and genetic information, animal husbandry, medicine and pharmacology, ecology, zoology, music, arts, architecture to social welfare, governance, conflict management, and many others" (Deloria, 1995: 156).

Since IK is mostly stored in people's minds and passed on through generations by word of mouth rather than in written form, it is vulnerable to rapid change (Sithole, 2006). Development processes like rural/urban migration and changes to population structure as a result of famine, epidemics, displacement or war may all contribute to loss of IK. Even in remote areas, the powers which push global or non-local content (such as formal education, electronic media and advertising to mention but a few) are much stronger than those pushing local content (Greyling, 2007; World Bank, 1998). This means that IK on the continent faces imminent extinction unless it is properly documented, preserved and disseminated (Nyumba, 2006). One way to achieve this is through the process of digitisation (Burtis, 2010).

According to Smith (1999), digitisation can broadly be defined as the conversion of analogue media to digital form. The original media or source material might be printed text or images and could also be audio-visual. From a Library and Information Science (LIS) perspective, digitisation often increases demand for access to the original item, as awareness of what is held in a collection increases (Smith, 1999).

However, while digital technologies may present many opportunities to increase access to documentary heritage, they also present many challenges in relation to digital preservation and IPRs which few institutions in Africa are able to deal with (Fells, Donachy & Owen, 1988; Kawooya 2006). Moreover, "digitisation often raises expectations of benefits, cost reductions and efficiencies that can be illusory" and, without a firm policy framework, these expectations have the potential to put at risk the collections and services which libraries and archives have provided for decades (Smith, 1999: 111).

6.2 The Digitisation Landscape in South Africa

Research in the field of digitisation in South Africa can be broadly divided into two main areas: law and policy, and the societal influences such as the historical, political and philosophical contexts in which the digitising institution is located (Nakata,

2002; Sullivan, 2002).

6.2.1 Law and Policy

The present study examined not only the western ideas of what is "legal" in terms of IPRs, but also the cultural expectations of the creators and users of IK (Seadle, 2002). A fundamental issue in copyright law is that western law advocates protection for the individual owner, and not for community owned information. However, research in this area has raised concerns about this ideological tension, and many indigenous communities are pushing for a change of laws, guidelines and policy at national and international levels, so as to address these concerns (Nakata, 2002; Sullivan, 2002).

In South Africa, as in most African countries, knowledge and creative ideas which are not "protected" by the IPRs system fall under the rubric of the public domain (Kawooya, 2006; Yunkaparta, 2006). This means that they are readily accessible by the public. Yet, historically, indigenous communities in Africa have not used IPRs to protect their knowledge. Thus, despite the presence of customary law, which for time immemorial has been used to govern the use of IK indigenous material is often treated as if it is perpetually in the public domain.

Secondly, what is legally in the "public domain" for one culture may be sacred for another (Castells, 2007). How do cultural heritage institutions in South Africa then synergise what is "legal" to be digitised, with what is culturally sacred or ethical? This is currently a grey area and future research can contribute to literature regarding the importance of the correct use of indigenous information held within institutions such as DISA, as well as the consequences of it being extrapolated to the digital context (Janke, 1997).

There are many organisations, at an international level, which have put forward policies to protect indigenous intellectual rights. These include the World Intellectual Property Organisation (WIPO), the International Labour Organisation (ILO) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO). Two key reports which were instigated by the WIPO have explored IPRs in relation to cultural materials in the South Pacific (Talakai, 2007) and North America (Skrydstrup, 2006). These two reports are important in the context of this research as they are the first examples of the growing cross-institutional surveys which are taking place.

6.2.2 Societal Influences

The relationships between indigenous communities and western groups of society vary country by country. However, the colonial nature of cultural heritage institutions in South Africa provides an interesting synergy of experience and development in the evolution and ideology of these institutions. It is worth noting that IK has only recently received formal recognition within the western science realm especially in the field of medical knowledge (Nakata, 2002; Reddy, 2006). In the human sciences, IK has also been elevated by the increasing valuation of social and cultural diversity (Agrawal, 1995). This evolution of ideology is termed by some to be a process of “decolonisation” and relies on indigenous people themselves retaking control of misappropriated items from the past. As such, some scholars see digitisation as positive trend since it has the potential to link indigenous cultural information with indigenous communities (Smith, 1999).

Secondly, there is a noticeable contrast in the nature and tone of IK research conducted by western scholars on the one hand and that conducted by other researchers especially from Australia, New Zealand and Africa on the other. These differences seem to arise because of the latter countries’ experience and evolution as “colonies”. Also a large portion of IK research in these countries is written by indigenous scholars (Hanlon, 1999; Nakata, 2002; Reddy, 2006).

An example of this contrast in styles is the article titled “*Sacred*” or “*sensitive*” objects by Derlon & Mauzé, ([n.d]: 2). Derlon & Mauzé ([n.d]: 2) charge that indigenous people are attempting to “re-appropriate this notion of the sacred anthropological item”. This argument is quite Eurocentric in nature and purports to elevate the evolution of western anthropological terminology above an indigenous notion of what is “sacred” (Nakata, 2002; Reddy, 2006). This can be contrasted with local scholars’ views in New Zealand, Australia and Africa who see indigenous ideas about sacred items as quite separate from anthropological theory (Anderson, 2005; Szekely & Weatherall, 1997). Hence, there are differing viewpoints regarding the appropriation of IK based on geographical locations around the world which need further investigation. Much of the scholarship around this issue is based on case studies such as Faulkner and Lewincamp (2003); and Nakata, Byrne and

Nakata (2005). There is an obvious need to link, collate and consider the findings of these studies in a global context.

6.2.2.1 Political and Historical Influences

There is substantial literature in the area of the political and historical development of western heritage institutions. The work of Joyce (1999) has been particularly important to this study as it helps in clarifying the understanding of this political and historical development. Joyce (1999) suggests that the idea of the “public space” which was constituted by the 1850 Library Act in Britain created a political technology which was passed onto colonial archives and libraries in various progressions. For example, local colonial libraries in Africa had a large amount of literature on “anthropologisation” of indigenous communities which in-turn, helped colonial cultures identify and create their own unique self identity (Joyce, 1999).

However, this colonisation and appropriation of IK is not without its conflict and it is this conflict which is at the centre of this study. That is, the liberal democratic ideal that information is for all and access should be open, versus the ideology from an indigenous perspective that some knowledge should be treated more protectively as suggested by Sullivan (2007). Other indigenous scholars such as Nakata (2005) have investigated this ideological tension between western and indigenous viewpoints on this matter. This is an immensely interesting and thought provoking area within the broader field of LIS.

6.2.2.2 Philosophical Influences

The digitisation process raises issues about the nature of the digital product itself (Hoffman, 2006; Russell, 2005). Does it have the same properties as the original object? In several recent scholarly works, this issue is investigated, and important questions are raised such as: “How do we digitise material taking into account its metaphysical as well as its digital life?” (Sullivan, 2002: 3).

However, Brown (2007) suggests that technological advancement is quite separate from cultural values claiming that indigenous cultures have always been evolving and appropriating different technologies. Other than this example, philosophical debates around the nature of a digitised object are otherwise surprisingly sparse and would benefit from further investigation.

7.0 Research Methodology

The focus of this study was to obtain information around the digitisation of indigenous objects in South Africa and the larger African continent by investigating the legal and socio-cultural influences in the development of policy. The DISA initiative was used as a case to gather more detailed information. The population of the research was selected purposively because of its expertise and ability to answer research questions. The Delphi technique was used to determine if there were any emerging patterns or consensus around these issues.

The Delphi technique is an exercise in group communication among a panel of geographically dispersed experts (Adams, 2001; Bowles, 1999; Gordon, 1994; Hanafin & Brooks, 2005; Hsu & Sandford, 2007). The technique allows experts to carefully analyse a complex problem or task.

In this study, a series of questionnaires, consisting of a number of items regarding the research problem, were circulated to a pre-selected group of experts. Statements regarding the topic were generated, based on the literature and on the initial opinions of experts in the field.

The questionnaires were designed to elicit and develop individual responses to the questions posed and to enable the experts to refine their views as the group's work progressed (Hasson, Keeney & McKenna, 2000). The process was repeated in three iterations in order to gradually produce consensus amongst the group or, at least, to establish responses with a degree of stability.

The basic premise of the Delphi technique is that experts have the best idea of what the future may bring. Thus, unlike a typical user survey, the validity of a Delphi study does not depend on the number of participants polled, but rather on the expertise of the panel who participate (Bowles, 1999; Dalkey, 1969; Hanafin & Brooks, 2005). Linstone & Turoff, 1975; Lindeman, 1981; Martino, 1983; Young & Jamieson, 2001).

The experts in this study were IPRs experts, indigenous scholars and digital archivists. Initially, twelve potential panelists were identified. Four declined to participate due to personal reasons but eight agreed to take part. However, four panelists did not return their first round questionnaires, de-

spite follow-up, and in the end only four of the anticipated eight panelists completed all the questionnaires.

The collected data was then analysed by open coding. In order to identify major themes, the labelling and categorising of phenomena was done as indicated by data. The major categories, broadly identified as: "cultural influences" "legislative influences" and "structural influences" were further broken down into smaller themes.

8.0 Research Findings and Discussion

The Delphi panel's value judgements regarding the case study highlighted key themes arising from the research question, in addition to the many critical issues highlighted in the literature review, pertaining to the digitisation of IK. The broad categories and themes in question are as follows:

A. Cultural influences

- Consultation
- Organisational culture
- Perception of the organisation as a socio-cultural agent for change
- Perceptions of use of digitised items

B. Structural influences

- Accessibility of policy

C. Legislative influences

- Indigenous intellectual property rights

What follows is a discussion of each of the above issues as they pertain to the Delphi panel's comments, with regard to the DISA digitisation initiative.

8.1 Cultural Influences

This category relates to the sub-question: What are the socio-cultural issues involved in digitising IK in South Africa? The question is the basis for attempting to investigate the relationship between policy makers within the digitising institution and indigenous communities. During the coding of the data, four main themes emerged.

8.1.1 Consultation

A common recurring theme across the policy and protocol documents examined was that of consultation. Consultation may occur not only between the institution and indigenous groups, but also with other stakeholder groups such as indigenous scholars, non-governmental organisations and civil liberty groups who may aid in the heritage organisation's understanding and treatment of digitised

objects (Nakata, 2002; Reddy, 2006).

Panelists in this study noted that these stakeholders can play an important role in articulating the indigenous point of view for policy creation and other indigenous issues at the institution. This can guide not only users of the collection, but the management of indigenous records as an evolving and continuing process (Nakata, 2002; Reddy, 2006). Nakata (2002) also notes that the creation of collaborative programmes might result in digitising projects that communities can use as tools of social development rather than projects serving only the elite.

In this way, consultation reflects the varying relationships between cultural heritage organisations and indigenous communities. This relationship is based on a shared history of change; from a time of colonialism and appropriation to a “decolonisation” process where control over indigenous heritage items has to shift (Nakata, 2002; Smith, 1999; Wareham, 2001).

Thus, while there may be no “best practice” of consulting with indigenous stakeholders either in South Africa or the larger African continent across organisational boundaries, some broad themes which institutions can adapt in their policy documents may include:

- statement of importance of involvement with indigenous groups or expert individuals; and provision of contact details for concerned indigenous communities to discuss issues, and provision of a network/knowledge of support for smaller organisations (Nakata, 2002).

At DISA, consultation seemed to have been undertaken by varying degrees of importance. The issue was implied in policy documents on the Web and as noted earlier, the organisation has compiled a set of guidelines and standards that assist smaller institutions in the process of building online resources (DISA, 2009). However, the study identified no clear reference to “consultation” with indigenous groups or indigenous scholars in the organisation’s policy guidelines.

8.1.2 Organisational Culture

Policy and protocol documents can prove to be an interesting window into the organisational culture of an institution. Indeed, as noted above, the bigger and more financially viable institutions can be resources in themselves by advising smaller organ-

isations which would not be able to invest the time or resources into constructing a model for policy development in relation to their indigenous artefacts (Nakata, 2002).

DISA is an example of this model given the amount of guidelines it produces and its community work to promote best practice. DISA’s policy and protocol framework is comprehensive and the archive is a leading advocate in South Africa for the digitisation and care of IK (DISA, 2009). DISA also provides technological expertise, training and hosting of content for several smaller projects in South Africa and the wider Southern African region (DISA, 2009).

8.1.3 Perceptions of the Organisation as a Socio-Cultural Agent for Change

An interesting theme which emerged in the literature was the self-realisation of being socio-cultural agents for change by some organisations (Nakata, 2002; Smith 1999; Wareham, 2001). Interestingly, DISA would like to position itself in that role. On its Web page, one of DISA’s policy document reads in part (DISA, 2009: Home Page):

content decisions are ... affected by ownership and intellectual property rights issues, *with care and effort expended in obtaining permission to use [indigenous] material* for the DISA archive (emphasis is the researchers’).

This shows that cultural heritage organisations in Africa are increasingly aware of their own influence on the historic development of colonial and indigenous relationships. This idea of DISA viewing itself as a socio-cultural agent for change is significant especially with regard to intellectual property rights of indigenous people, where its policy can be seen to bridge the legislative gap in the use of digitised knowledge.

8.1.4 Perceptions about Use of Digitised indigenous Knowledge

While the perceptions of use that emerged in this study were varied, a recurring theme in DISA’s policies was that of viewing *certain* images as having “special significance” for indigenous communities. This was reflected by the protocol advice for the users of the indigenous material in question to treat such objects with respect (DISA, 2009). The term “respect” was also very prevalent in the data collected from the expert panel and can be seen as setting the tone for the appropriate use of digitised material.

In some cases, however, there was no mention about the sensitive use of items. This inconsistency in policy protocols was baffling. The expert panel urged DISA to properly guide users on this matter in order to avoid confusion.

8.2 Structural Influences

Structural influences in the context of this study entail the practical limitations that the format of displaying policy information on the Web means. This includes how the policy is accessed, framed and characterised (Sullivan, 2002). This is captured in the following sub-question: Do heritage organisations in Africa structure digitisation policies that include direct reference to IK? If so, how are these termed?

8.2.1 Accessibility of Policy

The accessibility of DISA policies on the Web was explored during the point of harvesting of the data, for example whether the policy was available from the DISA's home page, if it was negotiated by a number of mouse clicks, if it was hosted on a "sister site" or if it had to be requested directly from the organisation. The description of restrictions placed through the actual design of the organisations website was also investigated. Access to DISA's policies was relatively easy. The conditions of use read in part:

"The rights of all copyright holders must be respected, and any restrictions on the use of the archive content established by DISA as a consequence of the wishes of copyright holders and/or the law, subject to "fair use" principles allowing limited academic or educational uses, must be complied with. Failure to comply with the above is considered infringement of the intellectual property rights of identified copyright owners and may result in legal action against such person or persons, organisations or institutions. You may not modify any content or copyright or other notices contained in the archive" (DISA, 2009: home page).

Visitors of the site then have to click on a link which means they have accepted these conditions of use. Another statement in the policy on DISA's website is particularly interesting:

DISA has physical, electronic and management measures in place to prevent unauthorised access to user information, but cannot be responsible for information collected from

websites linking from or to DISA. Please read the privacy policies of these other sites before providing them with personal information (DISA 2009: home page).

The suggestion that DISA has no ultimate policy control over the security of material which it has sub-contracted to its own surrogates is significant. This could be an interesting avenue for further research.

8.3 Legislative Influences

The issue for protecting IK is multilayered and complex, especially in relation to exploring the legislation at national, regional and at an international level. In investigating the different perceptions that emerged from the panel of experts regarding legislation, it was important to relate the findings to the existing legislative provisions in South Africa.

The panelists in this study agreed that indigenous knowledge in South Africa is insufficiently protected from misappropriation (Sithole, 2006; Sunder, 2006; Department of Arts, Culture, Science & Technology, 2001). This is because existing IPRs legislation is unable to accommodate complex indigenous ownership of knowledge, which is often cross-generational and communal. The Copyright Act in South Africa only addresses copyright in terms of the individual rights and as such does not address communal indigenous ownership (Burrell, 1999).

Thus, while DISA policies clearly stated that its copyright and policy information will be interpreted in accordance with the laws of South Africa (DISA, 2009), no reference to the legislative challenges highlighted above was noted by the researchers, nor was any policy on the recognition of indigenous people as "primary guardians" encountered (Sunder, 2006). This may be seen in this specific case as simply an example of an organisation that is unable to clearly express its obligations on the Web.

8.3.1 Indigenous Intellectual Property Rights

This next theme relates to the sub-question: What protection exists for the cultural and intellectual property rights of indigenous people in South Africa and is this reflected in organisational policy? The theme that indigenous intellectual property rights are insufficiently protected in the South Afri-

can legislation was echoed by the experts as noted above.

Much of the material in cultural heritage institutions in South Africa, with the exception of material which is now in the public domain, remains subject to relevant copyright laws. In many cases, the institution is the owner of copyright, in others copyright is owned by the individuals or entities which created the particular work or material (Andrzejewski, 2010; Burrell, 1999). However, the cultural and intellectual ownership rights of indigenous people in South Africa are not enshrined in legislation, whereas copyright is well covered.

At the time of this study, DISA's policies seemed to recognise this lack of legal underpinning for indigenous cultural and intellectual rights but acknowledged the importance of these rights for indigenous communities in the country. This could be interpreted to mean that cultural heritage organisations on the continent are willing to play an active role of being intermediaries between the law and indigenous concerns which are not recognised in the existing legislation. In this way, cultural heritage organisations such as DISA can bridge the gap between the western oriented development of legislation and indigenous intellectual property rights.

9.0 Conclusions and Recommendations

This study set out to investigate the current climate of policy and protocol development of cultural heritage institutions on the continent. Using DISA as a case, it has discussed findings about the socio-cultural influences and the degree to which the organisational culture of the institution played a role in the creation of policy and protocol information.

The many complex issues that relate to integrating an institution which is heavily embedded in western ideology, law and history with one of social inclusion and collaboration with indigenous communities appears to be one which cultural heritage institutions in Africa seem open to. This study surveyed the "virtual face" of the case under review which was important, as increasingly with the Web, researchers can experience digitised collections without necessarily visiting or touching the physical artefact.

It is recommended that digitising institutions on the continent make sure that their policy and protocol information is easily located and that they

sanction their web sites to appropriately adhere to both organisational and national policy. The study also recommends that institutions recognise their influence as socio-cultural agents and actively submit recommendations for statutory development when an opportunity arises, and continue building consultation networks with various indigenous stakeholders.

The changes in the last ten years and rapid increase in research and literature on this subject, indicate not only the growing indigenous literary movement, but also recognition from non-indigenous scholars and professionals in this area that this is an important issue.

The main themes that emerged from this study are that of cultural, legislative and structural influences. They, ultimately, inform the fundamental characteristics of the policies and protocols of cultural heritage organisations on the continent. The cultural heritage organisations also appear to play an active role of being intermediaries between the law and indigenous concerns which are not recognised in the current legislation. Future research could include cross-national studies and investigation of policy in the digitisation of IK by indigenous people on the continent.

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Measuring the Open Access Usage Behaviour of African Health Sciences Faculty-Based on the Information Systems Success Model

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Abstract

Purpose: The paper synthesized a model based on the information system (IS) success model to explain and predict the success of open access (OA) usage among faculty members in health sciences universities in the African context and Tanzania in particular.

Methodology: The study adopts the IS success model as developed by Delone and Mclean (2004), and the re-specified and validated IS success model (Floropoulos et al., 2010; Landrum and Prybutok, 2004; Seddon, 1997). The study used the following constructs of IS success model: information, system and service quality, perceived usefulness and user satisfaction. Based on a cross-sectional questionnaire survey, 415 faculty members were selected through a stratified random sampling from a population of 679 in all eight health sciences universities in Tanzania. The response rate was 71.1% and the structural equation modelling was used for data analysis.

Findings: The results indicate that both system quality and service quality were determinants of perceived usefulness, while system quality predicted user satisfaction. Perceived usefulness also had the strongest direct effects on user satisfaction than the other determinants within the model. It is thus important for librarians open access administrators to consider all these factors for effective adoption of open access projects in research and academic institutions.

Originality: The paper is one of the few that examines constructs of IS success model in the open access usage behaviour of health sciences faculty members, and presents OA success factors that would be of value to librarians, researchers, or OA practitioners when planning and implementing open access projects in Tanzania and beyond.

Keywords: *Open Access; Health Information; Access to Information; Faculty Members; Health Sciences; Tanzania; Africa*

Introduction

Equitable and universal access to scientific information is important for health care research, academic and practice, and several studies have demonstrated the positive link between improved quality of health care and access to scientific health literature (McGowan et al., 2008; Shojania and Jennings, 2009). Health sciences faculty, researchers, and practitioners in developing countries have a critical role to play in disseminating their research outputs and optimizing access and use of such scholarly information for improved health care education, practice, research and to inform policy on health issues. Open access scholarly communication is known to promote research, increase access to scientific literature, and enhancing return made on investments in research across high and low income countries (reference). Open access allows literature to be made freely available online through two approaches: OA journals ("gold OA") or self-archiving ("green OA"). The gold route allows researchers to publish their peer-reviewed articles in journals that allow free access to the articles upon publication, usually in return for the payment of an article processing charge by the author (Syka et al., 2012). OA journals recover their publishing costs in a different way from traditional journals. Usually the costs are covered by research grants or authors' institutions (Harnad,

2007). On the other hand, the green OA approach enables researchers to self-archive copies of their peer-reviewed articles in an institutional or discipline based repository with free access.

OA articles receive more visibility, readership, and OA articles are cited significantly more than articles in the same journal and year that have not been made OA (Gargouri et al., 2010). Research shows that open access articles in general receive more citations by 25%–250% or higher and thus it increases research impact over the impact already gained through the subscription access system (Swan, 2010). The research impact of OA journal articles is also growing and it exceeds the impact factor of the non-OA journal articles. A longitudinal bibliometric analysis of a cohort of OA and non-OA articles published between June 8, 2004, and December 20, 2004, in the same journal (PNAS: Proceedings of the National Academy of Sciences) revealed that the average number of citations of OA articles was higher compared to non-OA articles (Eysenbach, 2006). Open access is thus an important means of enhancing visibility and access to research outputs from developing countries.

Various scholars however report a low level of adoption of open access publishing and self-archiving practices among scientists in Africa (De

Beer, 2006; Dulle and Minishi-Majanja, 2010; Lwoga et al., 2006; Southern African Regional Universities Association, 2008). One of the prominent reasons for slow adoption of OA among scientists is the fact that few institutions in Africa have established OA repositories or journals. Statistics show that Africa has 60 registered open access repositories out of 2251 repositories across the world by January 2013 (Directory of Open Access Repositories, 2013). The Directory of Open Access Journals (DOAJ) also indicate that among 8537 registered journals in DOAJ, only 475 journals were identified as being published or hosted in African countries (Directory of Open Access Journals, 2013). Among the open access repositories and OA journals, two repositories and three journals were from Tanzania. It is therefore important to conduct a study to investigate success factors for enhancing adoption and usage of open access among faculty members in the African context, with a specific focus on Tanzania.

Priori research in Tanzania has investigated similar topics, although most have focused on the attitudes of faculty in a single university (Lwoga et al., 2006), or from six public Tanzanian universities (Dulle and Minishi-Majanja, 2010), or from eight universities in seven countries in the southern African region including one university from Tanzania (Southern African Regional Universities Association, 2008). Therefore, the subject on faculty open access usage behaviour is inadequately investigated, especially in the health sciences universities including public and private health sciences universities in Tanzania. This study assessed success factors that can enhance faculty open access usage behaviour in Tanzanian health sciences universities. The information systems success model that measures both the technological and human dimensions use of information systems/services (Delone and Mclean, 2004; Floropoulos et al., 2010; Landrum and Prybutok, 2004; Petter and McLean, 2009; Seddon, 1997), provides a theoretical foundation for assessing the usage behaviour of open access among health sciences faculty members in African context, and Tanzania in particular.

Conceptual model and research hypotheses development

The information systems (IS) success model has been widely used to study various aspects of information system as summarized by Petter, DeLone and McLean (2008), where 180 examples have

been described. Another meta-analysis study of 52 empirical studies indicate that relationships within the IS success model at the individual level of analysis found support for the relationships that encompass the IS success model (Petter and McLean, 2009). The empirical studies indicate that IS success models (DeLone and McLean (1992, 2002, 2004) are appropriate to examine information system usage and continuance.

DeLone and McLean (1992) proposed IS success model which comprises of six major dimensions, namely (1) system quality, (2) information quality, (3) use, (4) user satisfaction, (5) individual impacts, and (6) organizational impacts (DeLone and McLean, 1992). Ten years later, DeLone & McLean extended the model to incorporate service quality as the third quality dimension and intention to use and net benefits as the other new dimensions (Delone and McLean, 2002; Delone and Mclean, 2004). Delone and Mclean (2004) proposed that a high-quality system will be associated with more use, more user satisfaction, and positive net benefits. In other words, system, service and information quality positively influence intention to use, actual system usage and user satisfaction, while intention to use, actual use and user satisfaction influence net benefit (Delone and Mclean, 2004).

Several authors (Floropoulos et al., 2010; Landrum and Prybutok, 2004; Seddon, 1997) further re-specified and validated IS success model (Delone and Mclean, 2004). Seddon (1997) proposed another adaptation of the model to clarify the combined process and causal explanations of the IS success model of Delone and Mclean (1992). Seddon (1997) re-specified IS success model and proposed the relationship between the process and variance models in the original IS success model, while still reflecting the essential values of the original model by DeLone and McLean (1992). Seddon (1997) clarified the meaning of IS use by introducing four new variables which include: expectations, consequences, perceived usefulness, and net benefits to society. Seddon (1997) asserted that higher level of expectations about the net benefits of future IS use, (henceforth expectations) will lead to higher levels of IS use. The system use construct was placed outside a revised model of system success because it was deemed more a characteristic of user behavior than a measure of system success. The construct of perceived usefulness reflects users' perceived value of information system, and it indicates the possibility of other constructs to improve the use of the system through perceived usefulness and user satis-

faction (Seddon, 1997).

Other scholars (Floropoulos et al., 2010; Landrum and Prybutok, 2004) further re-specified and validated IS success model (Delone and Mclean, 2004; Seddon, 1997), to consists of five dimensions: information quality, system quality, perceived usefulness, and user satisfaction. The model hypothesize that quality factors (i.e. information, system and service), singularly and jointly, affect both perceived usefulness and user satisfaction. Additionally, the amount of perceived usefulness influences the degree of user satisfaction (Floropoulos et al., 2010; Landrum and Prybutok, 2004).

It has been suggested that, "despite the multidimensional and contingent nature of IS success, an attempt should be made to reduce significantly the number of measures used to measure IS success, so that research results can be compared and findings validated" (DeLone & McLean, 2004). The systematic review of IS studies published between 2003 and 2007 revealed that "some studies test the IS success model in its original version, while the majority of the studies use the D&M IS success model – often in combination with other theoretical models – as a basis for deriving new research models that are applicable to the specific requirements of the corresponding problem domains" (Urbach et al., 2009). This study therefore used the re-specified IS success model as developed by several scholars (Floropoulos et al., 2010; Landrum and Prybutok, 2004) for empirical clarification of the usage behaviour of open access among health sciences faculty members in Tanzania. This study conceptualized a model based on the IS success model to consist of five dimensions: system quality, service quality and information quality, perceived usefulness and user satisfaction. The quality factors (i.e. information, system and service) influence the perceived usefulness and user satisfaction, while perceived usefulness is antecedent of user satisfaction, and the user satisfaction is a surrogate measure of IS success.

Information quality

According to Delone and Mclean (2004), information quality is concerned with quality of open access content. Information quality measures the following aspects: relevance, timeliness, completeness, relevancy, easy to understand, security, personalization, and accuracy of information generated by an information system (Delone and Mclean, 2004; Seddon, 1997). Previous IS studies reported that information quality is significantly and posi-

tively related to perceived usefulness and user satisfaction, such as a study of success of e-learning systems (Chen and Kao, 2012), and a study of Greek taxation information system (Floropoulos et al., 2010). Likewise, several prior studies on IS success found that higher levels of information quality result in increased user satisfaction (Masrek et al., 2010; Petter and McLean, 2009; Petter et al., 2008; Seddon, 1997; Urbach and Müller, 2012). Information quality is therefore a significant factor in assessing the users' perceived usefulness and satisfaction with open access systems. This study therefore proposed the following hypotheses:

H1: Faculty's perception of information quality is positively associated with their user satisfaction with open access systems

H2: Faculty's perception of information quality is positively associated with their perceived usefulness of open access systems

System quality

System quality refers to users' perception regarding the characteristics of open access system (Delone and Mclean, 2004; Seddon, 1997). Usability, availability, reliability, adaptability, and response time (e.g., download time) are examples of qualities that are valued by users of an information system (Delone and Mclean, 2004). Previous studies explicitly model system quality as a direct antecedent of user satisfaction in the context of IS (Chen and Kao, 2012; Petter and McLean, 2009; Raeth et al., 2009; Urbach and Müller, 2012; Wu and Y. Wang, 2006). Similarly, system quality exhibited a strong positive effect on perceived usefulness in a study of Greek Taxation information system (Floropoulos et al., 2010), and e-learning systems (Chen, 2010). Thus, health sciences faculty are more likely to use open access publishing systems once they perceive that the system is available, reliable, and easier to use. Therefore, this study tested the following hypotheses:

H3: Faculty's perception of system quality is positively associated with their user satisfaction with open access systems

H4: Faculty's perception of system quality is positively associated with their perceived usefulness of open access systems

Service quality

Service quality indicates the users' perception of the overall support delivered by the service provider, including the support provided by the IT department at the institution, outsourced internet

service provider, open access journal publishers, repositories administrators, and other web services that provide free services to host personal websites. Service quality measures the following attributes: assurance, empathy and responsiveness (Delone and Mclean, 2004) and reliability (Chua and Goh, 2010). These attributes have been broadly studied in the IS research domain. Service quality was found as a significant determinant of user satisfaction with academic library portal (Masrek et al., 2010). The literature review of IS success studies revealed that service quality had a moderate effect on user satisfaction (Urbach and Müller, 2012). Likewise, service quality had significant positive effects on perceived usefulness in other IS studies (Floropoulos et al., 2010). Although a number of factors, such as information quality, system quality, and usefulness, contribute to success in information service environments, service quality is an important factor to success when assessing how effective information organizations meet user needs (Landrum and Prybutok, 2004). Literature shows that the higher the service quality, the higher the level of usefulness and satisfaction as perceived by health sciences faculty when using open access. Improved and efficient institutional technical support and service quality of publicly accessible websites such as open access journals and repositories are important factors to drive faculty to use open access systems. Hence, the following hypotheses were posed:

H5: Faculty's perception of service quality is significantly associated with their user satisfaction with open access systems

H6: Faculty's perception of service quality is significantly associated with their perceived usefulness of open access systems

Perceived usefulness and user satisfaction

Seddon (1997) replaced the use construct with the perceived usefulness factor by stating that use only affects user satisfaction when use is voluntary. Seddon (1997) maintained that if a system is used, it must be useful, and therefore successful. However, non-use does not necessarily mean a system is not useful, it may simply mean that the potential user has other work responsibilities to do (Seddon and Kiew, 1996; Seddon, 1997). When usage is mandatory, the system usage such as, number of hours a system is used conveys little information about system usefulness, and so success. Use is a good proxy for usefulness in situations where a tool is used, and use is not mandatory (Seddon, 1997). Seddon and Kiew (1996) further added that, in situations where a system is

not used during the period of study, then the perceived usefulness construct continues to be a meaningful measure of success, even though use does not. Given the prevalence that OA usage among faculty members is still low in Africa including Tanzania (De Beer, 2006; Dulle and Minishi-Majanja, 2010; Lwoga et al., 2006; Southern African Regional Universities Association, 2008), it was therefore appropriate to measure perceived usefulness as the most significant usage-related measure of IS success in this study.

In this study, perceived usefulness relates to the degree to which the faculty members believe that using the open access system will enhance their job performance (Seddon, 1997). Costs factors are less significant as other benefits in the perceived usefulness construct, and thus "perceived usefulness is not the same as the net benefits" (Seddon, 1997). Prior studies have shown that perceived usefulness is an important predictor of user satisfaction, and consequently use of an information system (Chen and Kao, 2012; Chen, 2010; Floropoulos et al., 2010; Seddon, 1997). According to Calisir and Calisir, "a user who perceives an IS as providing value, is more likely to be satisfied with the IS than one who does not" (Fethi Calisir and Ferah Calisir, 2004). Therefore, health sciences faculty can publish and self-archive their research materials in open access web avenues once they believe that using such system can enhance their research and academic performance. Perceived usefulness is therefore a significant determinant of faculty's satisfaction when posting their research materials on open access web avenues.

User satisfaction is the level of satisfaction a user has with a system relative to what the user expected upon first use of the system (Seddon, 1997). User satisfaction can be measured by using items such as adequacy, effectiveness, efficiency, enjoyment, information satisfaction, and system satisfaction (Urbach and Müller, 2012). User satisfaction measures a wide range of needs, costs and benefits of an information system, than the perceived usefulness construct (Seddon, 1997). Therefore, perceived usefulness can be included along with other three quality factors (information, system and service), in a variance model of user satisfaction. Thus, the following hypothesis was posed:

H7: Faculty's perceived usefulness is significantly associated with their user satisfaction of open access systems

All these five constructs were therefore adapted to particularly fit the context of this study that focused on assessing the open access usage behaviour of health sciences faculty in Tanzania.

Methodology

The study was conducted in all eight health sciences universities in Tanzania, which included Muhimbili University of Health and Allied Sciences (MUHAS), International Medical and Technological University (IMTU), St. Francis University College for Health and Allied Sciences – St Augustine University (SFUCHAS), Kilimanjaro Christian Medical University College (KCMUC), Dodoma University, Aga Khan University, Catholic University of Health & Allied Sciences - Bugando (CUHAS), and Hubert Kairuki Memorial University (HKMU). Stratified random sampling procedure was used to select a sample of faculty (n=415) from a total population of 679, with a response rate of 71.1. The total population was determined from the institution's prospectus and staff lists requested from the human resource offices in the surveyed universities.

The survey items were developed by using research instruments as proposed by various scholars. The indicators to measure the five research constructs are listed in Table 5. A five-point Likert scale, ranging from "1 = strongly disagree" to "5 = strongly agree", was used for all the items in the survey questionnaire, where each construct measured between five and seven items. Information quality was measured by assessing four indicators (information timeliness, relevancy, availability and accuracy) (Delone and Mclean, 2004; Masrek et al., 2010; S. Wang and Lin, 2011). Three items (system reliability, availability, and usability) were used to represent system quality (Delone and Mclean, 2004; S. Wang and Lin, 2011). Three items (service responsiveness, empathy, and reliability) were used to operationalize service quality (Delone and Mclean, 2004; Kim, 2011; Masrek et al., 2010; Y. Wang, 2008). Enhanced job performance (i.e. research and academic performance) was employed to measure perceived usefulness (Chen, 2010; Floropoulos et al., 2010). Two indicators (satisfaction in content distribution, and satisfaction with using open access systems) were used to measure user satisfaction (Delone and Mclean, 2004; S. Wang and Lin, 2011).

The questionnaire was first pre-tested with a small pilot group of 30 academics from the University of

Dar es salaam and 6 librarians from the University of Dar es salaam and Sokoine University of Agriculture. The questionnaire was refined and corrected according to the data that emerged from the pilot study. The researcher personally administered the questionnaires, which were physically distributed to respondents. About 312 questionnaires were collected, but only 295 were found usable. The researcher ensured that relevant research permits were obtained before the commencement of data collection. Approval to conduct this study was sought from and granted by the Muhimbili University of Health and Allied Sciences (MUHAS) Ethical Review Board in Tanzania. An informed consent form was also used to facilitate voluntary participation in the study.

The structural equation modelling (SEM) approach was used to validate the research model. AMOS version 21.0 was used to analyze the hypotheses generated. The study used the two-step analytical procedure as recommended by Hair et al. (2010) whereby, the Confirmatory Factor Analysis (CFA) was conducted to examine the reliability and validity of the measurement model, and the structural model was analysed to test the associations conceptualized in the research model. Structural modelling is the most dominant research data analysis used by most IS studies. The systematic review of IS studies revealed that the most empirical IS studies examine the impact a particular type of information system has by means of user surveys and structural equation modelling (Urbach et al., 2009).

Findings

The demographical information including gender, age, academic qualification, rank, discipline, and technical skills of study participants is presented in Table 1 and 2. A total of 295 respondents participated in the study, where 64.1% (n=189) were male, and 35.9% (n=106) were female. The average age was 43 years, with most respondents aged between 41 and 50 years (38%; n=112). Slightly less than half of the respondents had Masters Degrees (47.8%; n=141), while 31.5% (n=93) had PhDs. Most faculty members were Senior lecturers (28.1%; n=83) and Lecturers (23.1%; n=68). Further, the disciplines from which respondents were drawn comprised a reasonable cross-section of health sciences, whereby the largest group came from the medical and nursing sub-fields.

Faculty awareness and utilization of open access

Table 1: Demographic details (N=295)

		Frequencies	Percentages
Gender	Male	189	64.1
	Female	106	35.9
Age	30 years and below	21	7.1
	31-40	101	34.2
	41-50	112	38.0
	51-60	54	18.3
	61 and above	7	2.4
Academic	PhD	93	31.5
Qualification	Masters	141	47.8
	Postgraduate Diploma	18	6.1
	Bachelor/Doctor of Medicine/Dentistry	43	14.6
Professional Rank	Professor	15	5.1
	Associate Professor	26	8.8
	Senior Lecturer	83	28.1
	Lecturer	68	23.1
	Assistant Lecturer	60	20.3
	Tutorial Assistant	43	14.6
Discipline	Medicine	137	46.4
	Nursing	40	13.6
	Biological sciences	36	12.2
	Pharmacy	30	10.2
	Public Health and Allied Sciences	33	11.2
	Allied health sciences	9	3.1
	Dentistry	10	3.4

scholarly communication

It deemed necessary to find out the level of awareness and usage of open access, before determining factors affecting the adoption and usage of open access. The study results demonstrated that the majority of respondents (93.5%; n=276) in this study were aware of open access issues. Two thirds (64.4%; n=190) of respondents reported to have used OA outlets to disseminate their research materials. Faculty had disseminated not more than 38.9% (n=74) of their journal articles, and they had disseminated not more than 26.8% (n=51) of their book chapters in the last five years (see Table 3). Thus, only a small proportion of faculty's research materials was made available in open access avenues. The results corroborate with the earlier findings that OA uptake among faculty members is low in Africa including Tanzania (De Beer, 2006; Dulle and Minishi-Majanja, 2010; Lwoga et al., 2006; Southern African Regional Universities Association, 2008)

Measurement model

The first-order confirmatory factor analysis (CFA) was conducted using AMOS 21 to test the meas-

urement model. Common six model-fit indices were used to evaluate the overall goodness-of-fit, which included the following: (1) the chi-squared normalization by degrees of freedom (X^2/df); (2) the adjusted goodness-of-fit index (AGFI); (3) the non-normalized fit index (NNFI); (4) the comparative fit index (CFI); (5) the incremental fit index (IFI); and (5) the root-mean-square error of approximation (RMSEA). Table 4 presents the results of CFA for measurement model. The ratio of the chi-squared value to the degrees of freedom X^2/df for measurement model was 1.950 ($X^2 = 725.432$ with df 372), which is smaller than 3 as recommended by Hair et al. (2010), and it indicated a good fit for measurement model. All other model-fit indices showed good fit for the measurement model. The thresholds below were adopted as suggested by Hair *et al.* (2010).

Convergent validity was evaluated by examining the factor loadings from the confirmatory factor analysis. It is recommended that factor loadings greater than 0.50 are considered to be very significant (Hair et al., 1992). Table 4 indicates that all factor loadings of the items in the confirmatory factor analysis of the measurement model were

Table 3: Percentage of faculty work produced in the last five years that have been made publicly accessible on the internet (N=190)

	None		1-25%		26-50%		51-75%		76-10%	
	No	%	No	%	No	%	No	%	No	%
Journal articles	57	30.00%	25	13.20%	34	17.90%	50	26.30%	24	12.60%
Book chapters	77	40.50%	22	11.60%	40	21.10%	34	17.90%	17	8.90%
Publishers PDF versions of refereed articles	76	40.00%	30	15.80%	37	19.50%	31	16.30%	16	8.40%
Post-print	96	50.50%	28	14.70%	31	16.30%	20	10.50%	15	7.90%
Data sets	114	60.00%	19	10.00%	17	8.90%	25	13.20%	15	7.90%
Un-refereed articles	87	45.80%	32	16.80%	31	16.30%	28	14.70%	12	6.30%
Books	100	52.60%	22	11.60%	27	14.20%	29	15.30%	12	6.30%
Pre-print, pre-refereed	100	52.60%	20	10.50%	36	18.90%	23	12.10%	11	5.80%

greater than 0.6 and were significant at $p=0.001$, demonstrating adequate convergent validity. Thus, all factors in the measurement model had adequate reliability and convergent validity.

The reliability of the five constructs of the research model was examined by using Cronbach's alpha. Cronbach's alpha coefficient exceeding the 0.7 threshold indicates a high level of consistency among the aspects, while Cronbach's alpha coefficient exceeding 0.9 indicates a much higher level of consistency among the constructs (Cronbach, 1951). The Cronbach's alpha coefficients of the two constructs exceeded 0.8, and three aspects had Cronbach's alpha coefficients higher than 0.9, which indicates the instrument used for the study was highly reliable.

Convergent validity was also evaluated by using composite reliability and average variance extracted. Composite reliability assessed the internal consistency of the measurement model. The recommended thresholds for composite reliability (CR) is 0.70 or above, and an average variance extracted of more than 0.50, then construct internal consistency is evidenced (Hair 2010). The results of the convergent validity using CFA are shown in Table 6, which indicates that all the composite reliability values are above 0.90 and the average

variance extracted is all above 0.60. Thus, the research model can be considered to have acceptable convergent validity.

Discriminant validity assesses the extent to which a concept and its indicators differ from another concept and its indicators (Bagozzi et al., 1991). According to Fornell and Larcker, when the square root of the average variance extracted (AVE) is greater than its correlations with all other constructs then discriminant validity has been established (Fornell and Larcker, 1981). Table 5 indicates that the the square root of the AVE is much larger than all other cross-correlations for the sample (satisfying Fornell and Larcker's (1981) criteria for discriminant validity). Thus, the results confirm that the research instrument had satisfactory construct validity. Therefore, the CFA measurement model had adequate reliability, convergent validity and discriminant validity.

The same set of goodness-of-fit indices was used to evaluate the structural model. Table 3 indicates that the observed normed χ^2 for structural equation model was 1.921 ($\chi^2 = 710.848$ with df 370), which is smaller than 3 as recommended by Hair et al. (2010), and this indicated a good fit for SEM model. The results also indicate that all indices surpassed the recommended values, and thus the

Table 3: Fit indices for measurement and structural models

Fit measures	Recommended values	Measurement model	Structural model
χ^2/df	≤ 3.00	1.950	1.921
AGFI	≥ 0.80	0.814	0.816
CFI	≥ 0.90	0.949	0.951
IFI	≥ 0.90	0.949	0.951
RMSEA	≤ 0.08	0.059	0.058
NNFI (TLI)	≥ 0.90	0.940	0.942

Table 4: Result of confirmatory factor analysis for measurement model

	Internal reliability Cronbach alpha	Factor loadings
Information quality	0.92	
Open access publications are original and represent high quality research (relevance)		0.718
Open access publications are made freely available on the web (availability)		0.69
Open access publications are current		0.86
Open access publications are well presented and organized		0.911
Open access publications are timely (timeliness)		0.873
Publications on the publicly accessible are understandable, and relevant to my local context (relevance)		0.753
Open access outlets provide publications that meet my information needs (relevance)		0.73
System quality	0.881	
The interaction with publicly accessible website is clear and understandable (usability)		0.622
It (is) easy to browse, search, navigate and download open access system (usability)		0.805
I find it easy to publish in publicly accessible website (usability)		0.836
Open access systems operate reliably (reliability)		0.801
Open access systems are user friendly (usability)		0.743
I have the necessary resources to publish my work in open access outlets (e.g. IT infrastructure, Internet access (availability)		0.693
Services	0.897	
Technical support is available to use the Internet effectively for information access (reliability)		0.834
Technical support is available to use the Internet for publishing in open access (reliability)		0.897
Open access web avenues can be dependent upon to provide what is promised (reliability)		0.842
Open access web avenues have users' best interests at heart" (empathy)		0.788
The publicly accessible website respond quickly to users requests (responsiveness)		0.715
Perceived usefulness	0.926	
Using open access for disseminating my research outputs increases the effectiveness of my research work		0.777
Open access web avenues enable me to publish more quickly		0.828
Using open access for disseminating my research outputs enables me to improve my work performance and gain credits for academic advancement		0.779
Using open access for disseminating my research outputs enhances the productivity of my research work		0.813
Using open access improves the efficiency of my research work		0.839
Overall, I find open access useful for disseminating my research outputs		0.798
Satisfaction	0.915	
I am satisfied to access scholarly literature from open access outlets		0.716
I am satisfied to continue posting my work on publicly accessible web sites even if others in my field do not (repeat visits)		0.807
I am satisfied with open access systems effectiveness		0.823
I am satisfied with open access systems efficiency		0.845
I am satisfied that open access outlets meet my information needs		0.817
Overall, I am satisfied to continue publishing in open access outlets (repeat visits)		0.769

structural model of this study exhibited good fit (AGFI = 0.816, NNFI = 0.942, CFI = 0.951, IFI = 0.951, RMSEA = 0.058).

Figure 1 indicates the structural equation modeling results, and it shows the standardized path

coefficients, their significance for the structural model, and the coefficients of determinant (R²) for each endogenous construct. The standardized path coefficient indicates the strengths of the relationships between the independent and dependent variables. R² represents the percentage of variance

Table 5: Composite Reliability (CR), Average Variance Extracted (AVE) and Discriminant Validity of constructs

	CR	AVE	Information quality	System quality	System quality	Perceived usefulness	User satisfaction
Information quality	0.922	0.632	0.795				
Service quality	0.887	0.568	0.801	0.754			
System quality	0.909	0.668	0.760	0.830	0.817		
Perceived usefulness	0.917	0.650	0.706	0.784	0.723	0.806	
User satisfaction	0.913	0.636	0.586	0.739	0.663	0.855	0.797

of a dependent variable that was explained by its predictors. Figure 1 shows that all of the hypothesized relationships, except three, were supported. Firstly, information quality had significant negative influences on user satisfaction, and it had no significant effects on perceived usefulness. Thus, hypothesis H1 and H2 were not supported. Secondly, system quality had a significant positive effect on both user satisfaction and perceived usefulness. Thus, both hypothesis H3 and H4 were supported ($b = 0.270$ and 0.441 respectively). Thirdly, service quality had significant positive effect on perceived usefulness, but it had no significant effects on user satisfaction. Thus, hypothesis H6 was supported ($b = 0.260$), but not H5. Lastly, the effect of perceived usefulness on user satisfaction was also significant, and thus H7 was supported ($b = 0.745$).

On the whole, the study findings supported four out of seven hypothesized relationships. The research model indicates that information quality, system quality and service quality can account for 64.7% of the variance in perceived usefulness. Collectively, all these factors explain 75.5% of the variance in user satisfaction.

Table 6 summarises the direct, indirect and total effects of information quality, system quality, and service quality on perceived usefulness and user satisfaction. It is worth noting that that perceived usefulness had the strongest direct effect on user satisfaction than the other determinants within the model. Among the three quality-related constructs, system quality had the strongest total effect on perceived usefulness and user satisfaction.

Discussion of study findings

The study used constructs from the original IS success model (Delone and Mclean, 2004), and re-specified IS success models as developed by several scholars (Floropoulos et al., 2010; Landrum et al., 2010; Seddon, 1997) to examine the faculty usage behaviour of open access systems in Tanzanian health sciences universities. This study conceptualized the IS success model to consist of five dimensions: system quality, service quality and information quality, perceived usefulness and user satisfaction. The study findings indicated that despite the low usage of open access in terms of self-archiving and publishing in OA web avenues, health sciences faculty are positive about adopting and using open access. The study findings indicat-

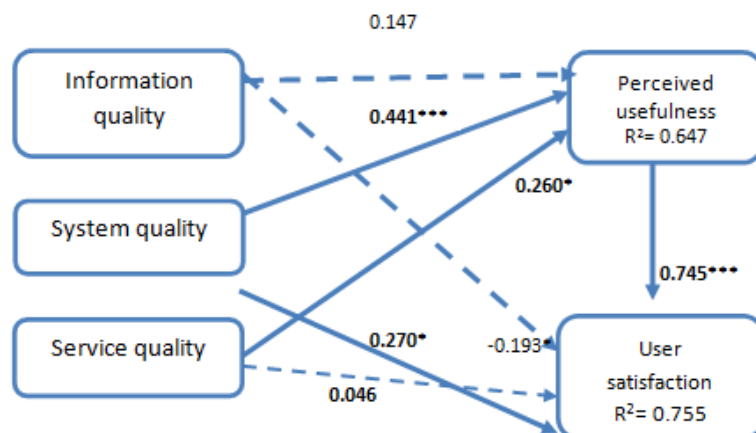
**Figure 1: Hypotheses testing results: Standardized Path Coefficients and Significance**

Table 6: The direct, indirect and total effect of variables depicted

	Direct effects	ef- faction	Indirect effects			Total effects	ef- faction
	Perceived usefulness		Perceived usefulness	User satisfaction	satisfaction	Perceived usefulness	
Information quality	0.147	-0.193	-	0.109		0.147	-0.084
System quality	0.441	0.270	-	0.328		0.441	0.598
Service quality	0.260	0.046	-	0.194		0.260	0.240
Perceived usefulness	-	0.745	-	-	-	-	0.745

ed that there was a strong association between the five factors, supporting four out of seven hypothesized relationships. The data collected from this study yielded four main findings.

Firstly, the study findings indicated that perceived usefulness exhibited a stronger direct effect on user satisfaction than the other determinants within the model. The results of this study confirm many of the findings of the earlier studies indicating that perceived usefulness had significant positive effects on user satisfaction (Fethi Calisir and Ferah Calisir, 2004; Chen and Kao, 2012; Chen, 2010; Floropoulos et al., 2010; Seddon, 1997). The results suggest that faculty are more likely to use open access once they believe that it will improve their performances and productivity in academic and research activities. Prior studies demonstrated perceived usefulness as important extrinsic motivation which brings instrumental value to users' to use an information system (Chen, 2012). Thus, libraries and OA advocates need conduct extensive OA awareness creation programmes about the usefulness of OA publishing and self-archiving systems to enhance usage of open access.

Secondly, among the three quality-related constructs, system quality had the strongest total effect on perceived usefulness, the strongest indirect effect on user satisfaction. These study findings corroborate with the results of previous studies that system quality was a significant predictor of perceived usefulness (Chen, 2010; Floropoulos et al., 2010), and user satisfaction in various types of IS (Chen and Kao, 2012; Petter and McLean, 2009; Raeth et al., 2009; Urbach and Müller, 2012; Wu and Y. Wang, 2006). It is evident from the present study that faculty members are willing to use open access web avenues to disseminate their research materials if they find the systems are reliable, and easy to use. Although faculty members had sufficient computer skills, most respondents had little knowledge on how to post

research outputs on the internet, and creation of personal websites. Thus, system quality was a critical factor in determining faculty's perceived usefulness and satisfaction when using open access publishing system due to limited internet skills. According to Venkatesh *et al.*, the system quality construct is significant only during the initial period of adopting and using the system, and it becomes non-significant over periods of extended and sustained usage (Venkatesh et al., 2003). The study findings suggest that librarians and OA advocates need to improve information literacy skills of faculty members in their institutions to enhance usage of open access in their institutions. It is also important for the surveyed institutions to improve the existing ICT infrastructure including, as reported by the respondents, increased bandwidth and alternative power supply to enhance use of open access among researchers. Furthermore, open access journals and repositories administrators have to focus on designing both useful and easy to use websites.

Thirdly, service quality had significant positive effect on perceived usefulness, but it had no effects on user satisfaction. The results of this study are similar to other IS studies which found service quality as a significant determinant of perceived usefulness (Floropoulos et al., 2010). Indications are that the reliability, responsiveness and empathy of open access journals and repositories contributed to the strong influence of service quality on perceived usefulness, when using open access among the surveyed faculty members. The technical support from librarians and ICT technical staff is also critical in influencing strong influence of service quality on perceived usefulness when using open access. Thus, the usage of open access among faculty members can improve, if service quality of open access journals and repositories is appropriately managed. The study findings also suggest that academic institutions need to ensure adequate and reliable ICT technical support to enhance usage of open access.

Lastly, information quality had significant negative influences on user satisfaction, and it had no significant effects on perceived usefulness. The study findings indicate that faculty members were not satisfied with the quality of some of the open access publications, which may constrain them to publish and self-archive their research findings. Similar to previous studies (Casey, 2012; P. Davis and Connolly, 2007), the study findings suggest that faculty feared that low quality of some open access materials would taint their research outputs. It is thus important for librarians to establish institutional repositories in the institutions, and ensure quality of the metadata or bibliographic details describing the deposited content. At the time of the survey, only one institution had established an institutional repository, while another institution had an OA journal. The findings also indicate a need for more awareness creation about OA, for faculty to become more familiar about OA issues and use it as a dominant medium for scholarly communication.

Conclusions

The study findings demonstrate that the information systems (IS) success model is suitable in guiding the understanding of the contributing factors that can enhance usage of open access among health sciences faculty in Tanzania. The study findings supported the IS success model (Delone and Mclean, 2004), and the re-specified and validated IS success model well (Floropoulos et al., 2010; Landrum et al., 2010; Seddon, 1997), where four out of seven hypothesized relationships were found to be significant. The 75.5 percent overall explanatory ability exhibited in the research model, also testified the potential of the information systems (IS) success model in evaluating the success of open access in the African context. The study findings indicated that despite the low usage of open access in terms of self-archiving and publishing in OA web avenues, health sciences faculty are positive about adopting and using open access. The study found that system quality, service quality, perceived usefulness, and user satisfaction are important factors for evaluating the success of open access. Among the three quality-related constructs, system quality had the strongest total effect on perceived usefulness and user satisfaction. Perceived usefulness had the strongest direct effect on user satisfaction than the other determinants within the model. Information quality had significant negative influences on user satisfaction. The results suggest that librarians and OA

advocates efforts aimed at increasing the faculty's perceptions of the usefulness and satisfaction of the open access repositories and journals will contribute to usage success, where success is defined as effectual usage of open access. Overall, this study reveals findings that are useful for planning and implementing open access initiatives in research and academic institutions in Tanzania and beyond.

This study has several implications for the success of open access and its effectiveness in academic and research institutions. The study findings indicate that librarians should pay attention to IS success factors when planning and establishing institutional repositories and promoting open access in their institutions in order to ensure success from such investments in four folds. Firstly, the significance of perceived usefulness factor indicate that librarians and OA advocates need to create awareness to educate faculty members on the importance of using open access to improve their research and academic performances. These promotion strategies can include face to face communication via workshops and public lectures, as well as printed and electronic communication channels such as library website, group emails, social media etc. Secondly, the significance of system quality factor demonstrated a need for universities to establish institutional repositories, improve internet bandwidth, and ensure adequate supply of electrical power to enhance usage of open access among faculty members. Librarians should also conduct information literacy training to enhance faculty's internet competencies on how to create personal webpages, and how to post their research materials on publicly accessible websites such as institutional or discipline based repositories. Thirdly, the significance of service quality illustrated the importance of having adequate and reliable ICT technical support in universities to enhance usage of open access among faculty members. Further, the responsiveness, assurance, empathy and reliability of institutional repositories need to be ensured by librarians and ICT technical units in universities. Lastly, the negative effects of information quality factor on user satisfaction indicates that librarians need to conduct extensive creation awareness programmes for faculty to become familiar with open access issues, and consequently publish and self-archive their research materials in open access web avenues.

Research limitations

The study limitations are in two folds. This study

focused on health sciences discipline to ascertain factors that enhance utilization of OA across the discipline, although previous studies assessed open access usage behaviour among researchers from various disciplines. This study used IS success model (Delone and Mclean, 2004) as re-specified and validated by several authors (Floropoulos et al., 2010; Landrum et al., 2010; Seddon, 1997), therefore future studies can be expanded to use the extended IS success model (Delone and Mclean, 2004) to measure other remaining variables such as system use, intention to use, and net benefits in order to assess the adoption and usage of open access across multidisciplinary universities or institutions.

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A Proposed Theoretical Framework for Analyzing Lecturer Perception of e-Learning Implementation

By

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Abstract

Providing access to education continues to be a challenge, particularly in a developing country context. The lack of resources has hindered the capacity of most governments to facilitate citizen participation in the education system. However, technological innovations such as e-learning are bringing hope to the multitudes who hitherto could not participate in the conventional education system. Unfortunately, there is also strong evidence that putting in place e-learning programs does not guarantee their use. What seems critical therefore is to understand the challenges that come along with e-learning implementation. Along with attitudes, perception is a very important factor in understanding motivation for implementation/adoption of e-learning in an institutional setup. This paper describes a proposed theoretical framework for analyzing lecturer perception of e-learning implementation. It argues that e-learning will achieve desired impact to the extent that institutional support, technological infrastructure, individual adopter's behavior and skill, the environmental factors (political, social economic and cultural) and stages of concern are effective in driving the implementation process.

Key words: *e-Learning Implementation, e-Learning Stakeholder's Perceptions*

1. Introduction

This paper presents a proposed theoretical framework for an ongoing study which aims to examine the perceptions of lecturers on the e-learning at the Chancellor College of the University of Malawi. It posits that lecturers are a critical part of the e-learning implementation. Hence, their perceptions on the various components of e-learning could be a plausible indicator of whether the implementation will be a success or not.

E-learning is a broad concept and has been explored and defined differently by various authors, emphasizing the technology used (what is used?), processes of learning and teaching (how technology is used?) and the outcome (with what result or benefit?) in the provision of education (Allen, 2003; Romiszowski, 2004; Hrastinski, 2008; Hill and Wouters, 2010 and Al-adwan and Smedley, 2012). For the purpose of this paper, we adopt a much simpler and user oriented definition. Drawing insights from the above authors, e-learning is defined as the use of Information and Communication Technologies (ICTs) to support learning and teaching.

This paper is organized as follows: first, the con-

text of the problem is presented which provides an overview of situations of e-learning in tertiary education in the developing country context. This is followed by a description of e-learning in the Malawian context. The next section describes the role of lecturers in e-learning. Thereafter we review literature on some critical drivers of e-learning from which we derive constructs for the proposed theoretical framework. After presenting the theoretical framework, a guide on how the framework could be implemented is provided.

2. Problem Context

Today, in the developing countries, situations exists where potential students are unable to get access to tertiary education because of unavailability of spaces, life situations which do not allow them to leave home or work places to go and stay at a place where educational institutions are located, and sometimes because of disabilities. These are common factors that deny potential students opportunities to get into tertiary education. For example, in Malawi, in 2009, 5000 students qualified for university entry, but only 1200 could be taken (Divala, 2009). E-learning promises to be one of the innovative ways in which the issue of access to tertiary education could be addressed. Available literature shows that when e-learning is

implemented, various benefits may be realized, including the enrollment of a larger number of students, thereby, increasing access to education (Mapuva, 2009; Lundy and Logan, 2002). Further, e-learning could also cater for those who for one reason or the other may not enroll in conventional education system due to commitments such as in work or family situations (Lundy and Logan, 2002) and or disability (Brown, Cromby and Staden, 2001) because of its flexibility that reduces the negative effects of time and distance in the learning and teaching processes (Gombachika and Kanjo, 2005).

Malawi is a resource-constrained country with a population of 13 million, 63% of which live below the poverty datum line (Brossard, 2010). The country has two public universities and six private universities. However, given the poverty levels, the majority of the population cannot afford the fees required to enter private universities. Public universities therefore become the only hope for tertiary education for the majority of the population. However, these universities can only take a limited number of students because of limited resources which the government cannot increase, given the current economic situation of the country. As mentioned above, incidents of students who qualify for tertiary education, but fail to get admission are common. The Government, through its public universities, is under constant pressure to increase enrolment. E-learning has been identified as a critical initiative to addressing the problem of access to tertiary education in Malawi. The project has brought hope to the multitudes who until now could not participate in the conventional education system. Hence, the importance of its success can never be overemphasized. This paper argues that lecturers as key stakeholders in e-learning need to positively predispose towards the e-learning initiative in Malawi. Therefore, the paper discusses a proposed theoretical framework developed in a study that seeks to assess lecturer's perceptions of e-learning at the University of Malawi's Chancellor College.

3. E-learning in the Malawian Context

Extant literature shows several initiatives that African countries are making to embrace e-learning. For example in Malawi, the Government adopted e-learning under the auspices of the Pan African e-Network Project in August 2010. Two educational objectives for the e-learning were: (1) to increase access to tertiary education and (2) to increase the urgently needed medical personnel in the

health sector. Positive results have been reported at the medical school with enrolment increasing from 15 to 350 medical students between 1992 and 2011 (Mandevill, Bartley and Mipando, 2012).

However, like any other technological implementation, e-learning normally encounters various challenges which can hamper its success (Abell and Long, 2010; Beaudoin, 2007; Mills, 2004; Mapulanga, 2012). Examples of these factors are the lack of institutional and administrative support, lack of student preparedness for online learning, lack of technological competence on the part of lecturers, shortage of time, lack of technical support and academic integrity concerns (Betts, 1998; Schifter, 2002; Oomen-Early and Murphy, 2008). From the student perspective, there can be a feeling of isolation from lecturer and/or peers because there is no physical contact among participants; lack of ICT equipment such as computers and access to internet; insufficient level of skills and knowledge of how to use ICT facilities (Wools *et al.*, 2002); Robinson and Bawden, 2002) and Newman, 2008). Lundy and Logan (2002) argue that costs, complex and time consuming implementation, and a shortage of quality course content are some of the problems experienced in e-learning adoption and implementation.

Other challenges which are typical in developing countries like Malawi include issues such as expensive bandwidth which by some estimates, can be four to ten times as much as typical rates in the developed countries (Mills, 2004; Mapulanga (2012); declining budgets, lack of qualified technicians, outdated equipment, limited facilities, unreliable Internet connections, problematic access to online scholarly materials and poor or lack of electricity characterize the general environment of e-learning projects implemented in African countries (Beaudoin, 2007). Gombachika and Kanjo (2005) and Chimpololo (2010) reported donor dependence, lack of collaboration amongst institutions, lack of awareness and limited library resources as some of the issues that affect e-learning in Africa. Further, as Beaudoin (2007: 445) notes, in some situations faculty are not willing to embrace e-learning in their teaching. Because of these challenges, the commitment of the lecturers becomes indispensable if they are to contribute positively to e-learning.

4. Lecturers as Critical Stakeholders in E-Learning

E-Learning programs have several stakeholders,

including lecturers, students, educational institutions, content providers, technology providers, accreditation bodies and employers (Wagner, Hassanein and Head, 2008). The attitudes, perceptions and motivations of these stakeholders are very important factors in the implementation of e-learning in an institutional setup (OECD, 2005). This is particularly so when considering lecturers because they are instrumental in the learning and teaching process (Leung, 2008). However, studies have shown that it is not always that e-learning gets the full support of lecturers. For instance, Lindsay's (2006)' study at Oxford University found that lecturers were reluctant to incorporate ICT in their learning and teaching, because it encouraged student dependency on lecturer rather than independent learning. Livingston and Condie (2006) found limited use of ICT among lecturers due to fear, skepticism, lack of understanding of ICT, reluctance to surrendering their role of expert propagator of knowledge and institutional culture. Similarly, Urguhart et al. (2004) also found that lecturers were unwilling to make material available online for fear of surrendering control over the learning process. Donnelly and O'Rourke (2007) saw the use of ICT in learning as a way to render lecturer irrelevant in the learning and teaching process.

E-Learning also presents technical challenges to the lecturers. For example, the requirements to deliver content in an e-learning environment are different. The lecturer requires a new set of skills as well as a change in the mind-set. The role of the lecturer changes from being the primary source of knowledge to that of managing and facilitating the learning processes (Romiszewski, 2004). The lecturer manages the content which students make meaningful of at their own pace (Teo and Gay, 2006). Such requirements may be a challenge if the lecturer is unable to change to work in accordance with the requirements of e-learning. In order for the lecturer to effectively perform in an e-learning environment, they require technical knowledge, which normally would be at a high level than that of a student (Jones, 2003). For example, course administration may require that lecturers learn new software applications. This is particularly so if they are also the content designers, the lecturers' technical know-how has an effect in the students' acceptance of e-learning tools (Wagner et al., 2008) as the course would be more innovatively designed, appealing to the student and thus pedagogically effective to the students (Lee, Cheung and Chen, 2005).

5. Drivers of e-Learning

Various factors have been identified as critical in the implementation of e-learning. First and foremost, the institution that is implementing e-learning should give it the necessary support (Lion and Stark, 2010) which can be shown by among others, having a clear strategy for implementation, encouragement to lecturers to become actively involved in design and implementation and commitment and ownership of the e-learning (Maselela, 2011). Another factor is the availability and adequacy of up-to-date and reliable ICT infrastructure (Jefferies, Cubric and Russell, 2013). For instance it is important that both faculty and students have computers with Internet connectivity with sufficient bandwidth to handle the traffic generated by e-learning processes. This will have the effect of also building confidence in the users that e-learning could enhance the delivery of education.

One other key driver in the implementation of e-learning is the lecturer's skill to implement e-learning (Al-adwan and Smedley, 2012). Through institutional support system, training needs should be availed or facilitated for those who do not possess the right skills. Failure to provide the right skills to lecturers could be detrimental to the implementation of e-learning (Munguatosha, Muyinda and Lubenga, 2011).

E-learning, especially when implemented in public institutions, has national interests as the core. Hence, the national interests as espoused in the political, economic, cultural and social values of the country need consideration in the implementation. For example, Rozendal, (2002) argues that an e-learning program can run into problems if conflicting interests lead to political strategies such as avoidance, competition or fights. To avoid such problems the technical skills of program management have to be complemented by those of change management and communication, negotiation and advocacy to mobilize enough commitment among the different actors and setting clear objectives that every actor can interpret according to their own interests.

Social interaction among lecturers leads to social learning. Individuals form beliefs about e-learning adoption within an environment, stemming from the social setting in which they interact with technology systems (Leenders, 2002) and this influences its adoption (Jan, Lu and Chou, 2012).

6. Proposed Theoretical Framework

Figure 1 presents our proposed theoretical framework. The independent variables are: institutional support, technological infrastructure, individual ICT skills, environmental factors (political, social, economic and cultural) and stages of concern. The dependent variables are: perceived usefulness, perceived ease of use, behavioral intention to use and actual use of the e-learning program. Depending on the interaction between the independent variables and dependent variables an e-learning program will be adopted and implemented successfully otherwise it fails.

When the institutional support, whether administrative or technical in nature, is favourable in an institution, lecturers will perceive the e-learning program useful. This is the case because all the lecturers' needs, interests and aspirations will be taken care of by the supportive institutional leadership. Consequently, even the so called laggards will adopt the behavioral intention to use the program leading to the eventual adoption and use of the program. The opposite is true in a situation

where institutional support is lacking. Lecturers will perceive the e-learning program as non-useful, difficult and unattainable.

In addition, when the technological infrastructure is impressive (sufficient bandwidth, quality computers in abundance); individual factors such as individual ICT skills, gender issues, and experiences of lecturers are appropriate; the environment (political, social, economic and cultural aspects) are favorable and the concerns of individual lecturers are fully taken care of, the lecturers in an institution will perceive the e-learning program as something they can easily do (perceived ease of use). This positive perception would eventually lead to the lecturers perceiving the e-learning as useful program and then have behavioral intention to adopt and finally use the program. On the other hand, if the above factors are not favourable, the lecturers in an institution will perceive the e-learning program as something they cannot do. This negative perception would eventually lead to the lecturers perceiving the e-learning as not a useful program; hence, it will not have behavioral intention to adopt and use the program.

Independent Variables

Dependent variables

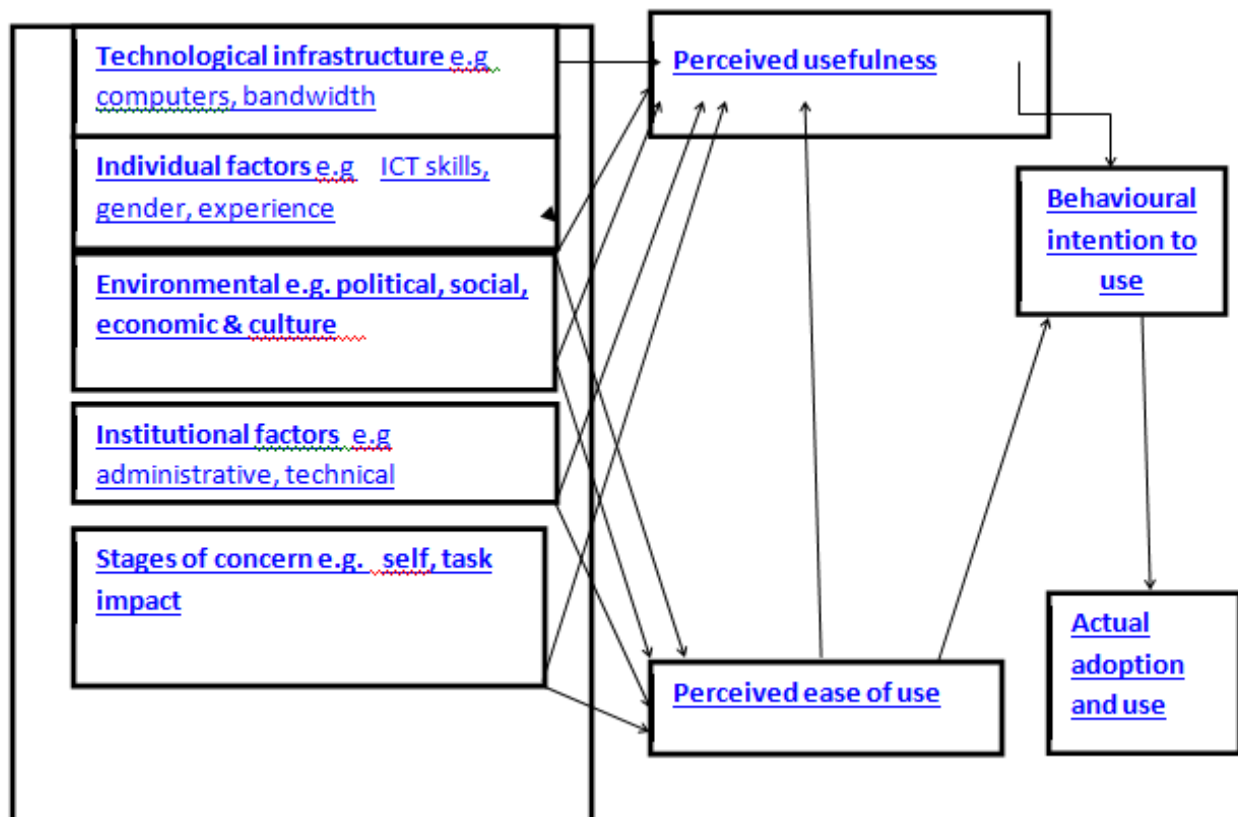


Figure 1: Proposed theoretical framework for studying the lecturers' perception of e-learning in Malawi

In this paper we argue that that institutional support, technological infrastructure, individual skills, environment (political, social, economic and cultural) and stages of concern are critical elements to the adoption and implementation of e-learning. We further argue that these five independent variables have a positive or negative effect on perceived usefulness and perceived ease of use (dependent variables).

Perceived usefulness and perceived ease of use are critical constructs explaining adoption (Bwalya and Healy, 2010; Pinho and Soares, 2011). For example, when the institution is supportive, stakeholders may perceive e-learning to be useful. When the technological infrastructure, individual skills, the environment and the stages of concern (that is the individual is ready and predisposed towards success of e-learning) are favorable, stakeholders will perceive e-learning program doable (perceive ease of use), which will lead to perceived usefulness. Both perceived ease of use and perceived usefulness will influence stakeholders' behavioral intention to use the e-learning and eventually the adoption and implementation.

As can be determined from the intervening and dependent variables, our proposed theoretical framework is informed by two models, namely the Technology Acceptance Model (TAM) and Concern-Based Adoption Model (CBAM).

Technology Acceptance Model (TAM) is one of the dominant theories used to explain the process of user acceptance of high-tech products, mainly from intrinsic perception factors, rather than extrinsic environmental factors (Tao, 2008). Accord-

ing to TAM, adoption behavior is determined by the intention to use a particular system, which in turn is determined by perceived usefulness and perceived ease of use of the system (Davis, 1989). TAM provides a basis for tracing the impact of external factors on internal beliefs, attitudes and intentions of individual towards a particular system.

Concerns-Based Adoption Model (CBAM) focuses on natural and developmental process that people go through whenever they engage with a new program (Leung, 2008). CBAM gives evidence to and supplies a description of people's feelings of new program; it also explains how individuals engage with the change and evaluate the process. CBAM has four main assumptions, and they are that:

- (1) Change is a process not an event.
- (2) An organization does not change until the individuals within it actually implement the new program.
- (3) For individuals change is a personal experience.
- (4) Change "mutates" during the course of implementation in the real world.

CBAM has three main dimensions which include: Stages of Concern (SoC) which address the personal side of change; Level of Use (LoU) describes the different behavioral profiles of non-users and users and Innovation Configurations (IC) representing the possible operational forms of the change.

7. Implementing the Theoretical Framework

The proposed theoretical framework will be used to guide the collection of data that would enable

Table 1: The number of items per construct

Construct	Comments	Number of items
Institutional Support	Assisting developing e-learning modules; Coordinating key e-learning stakeholders	5
Individual Skills	Involvement in the implementation of program; Lack of confidence in the use of ICTs	6
Technological Infrastructure	IT personnel ready to help lecturers with technical issues	7
E-Learning (for assessing perceived ease of use and usefulness of e-learning)	I like using e-learning; I am unwilling to teach using e-learning	7
Environment	It's easy to start using e-learning when my friends are using it also.	6
Stages of Concern	I have a very limited knowledge of e-learning; I would like to know how e-learning is better than what we have now.	35
Total items		66

us to examine the perceptions of lecturers on e-learning at Chancellor College of the University of Malawi. A questionnaire comprising of 66 items adapted from literature as well as from Concerns Based Systems International South West Educational Developmental Laboratory was formulated, piloted and thereafter administered to a randomly selected group of lecturers in a university that has implemented e-learning. The number of items per construct is presented in Table 1. Follow up interviews will be done with key informants to get more insights and/or clarifications from the findings of the questionnaire.

Items on first four variables (institutional support, individual skills, technological infrastructure and environment) are measured on a Likert scale of 1 to 5, where 1 represents strongly agree and 5 strongly disagree. Stages of concern items are also measured on a Likert scale of 0 to 7. For completely irrelevant items, it is 0 on the scale. Other items will represent those concerns in varying degree of intensity and are marked highly on the scale. These include; not true for us now 1, 2; somewhat true for us now 3, 4, 5 and very true of us now 6, 7. As for data analysis, we envisage to use the Statistical Package for the Social Sciences (SPSS) as well as the descriptive statistics.

8. Conclusion

The paper has presented and discussed a number of issues. These include: problem context, which is basically potential students failing to get access to tertiary education due to a variety of reasons. In response to this problem, the Government of Malawi introduced e-learning in 2010; the paper also looked at lecturers as critical stakeholders in e-learning, citing the strengths and limitations these lecturers face in an e-learning environment; drivers of e-learning have been elaborated based on literature review; from these drivers of e-learning the authors have proposed a theoretical framework based on Technology Acceptance Model (TAM) and Concern-Based Adoption Model (CBAM). They have gone further to formulate data collection tool based on the theoretical framework. However, the limitation of this model is that it has not been formerly empirically tested or validated to confirm the anticipated benefits that it has to offer and its appropriateness to the developing countries such as Malawi.

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Gender and Knowledge Based Economies: An Overview of Initiatives of Women's Access to Information for Development in Uganda

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Abstract

The knowledge economy could be described as resulting from a society, where possession of information, intellectual creativity and knowledge drives transformation and development. In the knowledge economy, the potential for ICTs is almost infinite. At the same time, the African Continent had been earlier described as one that suffers from "technological apartheid" due to unreliable power supplies, communication networks and inadequate human and technical support which leaves commodity production way behind. This situation paints a darker impression of the continent's capacity to informationalize its economies and to participate in the Knowledge based economy, and thus a digital divide. The digital divide implies gaps between, access, adoption and use of technology. Furthermore, the divide affects different categories of people differently, depending on how they are positioned and situated in society and in the economy. The divide between gender has been acknowledged in literature. However, there have been developments geared towards bridging the divide on the continent, mostly evident in the liberalization of the telecommunication sector, improvements in literacy and enactment of ICT policies. This paper will focus on women's access to information, through ICTs, for development purposes. The paper will review initiatives in Uganda and the gender challenges that curtail full participation in the knowledge based economy. It is based on literature review.

Key words: *Gender; Access to Information; Knowledge Economy; Digital Divide; ICT; Women; Uganda*

Introduction

The knowledge economy is resultant from the information society or the postindustrial society, where knowledge is considered to be an organizing factor in social control, innovation and change (Bell, 1999). In this mode, possession of information, intellectual creativity and theoretical knowledge are key raw materials and strategic resources that drive transformation and development (Masuda, 1980; Bell, 1999; Powell and Snellman, 2004). Within this economy, production and services are based on activities that are knowledge intensive (Powell and Snellman, 2004). The Knowledge economy is propelled by Information and Communication Technologies, whereby technologies provide the infrastructural background to act on information and that it is through computer networks that information is created processed and transmitted. In this economy, productivity and competitiveness of players or agents is dependant on their capacity to produce, process and apply knowledge-based information. Through this mastery, economic growth can be registered (Castells, 1996, 2010). Castells (1996, 2010) further points out other characteristics; the economy is global mainly because fundamental activities of production, consumption and circulation tend to be organized on at an international level; and that it is also networked and interdependent. Productivity is enhanced in this economy, and competition manifests in global networks of interaction with business networks. In order for countries to participate in the knowledge economy, the World Bank

(2014) and Britz et al... (2006) point to the following prerequisites as central to the transformation;

Human intellectual capability: there ought to be an educated and skilled population that has the capacity to create share and make use of knowledge

Infrastructure and deliverability: an infrastructure for information and communication, right from radio, television to internet so as to facilitate communication, dissemination and processing of information

a regulatory regime and economic environment that enables free flow of knowledge, support for investment in Information and Communications technology and encourages entrepreneurship.

Development of useable content: information ought to be affordable, available, timely, relevant and packaged in appropriate user languages and in forms that ease assimilation.

Linkages with research centers, universities, Think tanks, private enterprise and community groups to tap into the global stock of knowledge.

Within this new economy, the principle organizing factor is networking. Participation and opportunity depends on ability and capacity to connect. Thus, only regions endowed with resources, both cultural and economic, and invest in information technologies, can compete (Castells, 1996). A darker picture was portrayed of the greater part of the African continent. Africa was observed to be under-

going a process of social exclusion and thus cast into what was termed as the 'Fourth world', which is a territory of 'outcasts' (Castells, 1998). The reasons advanced for the downcast included:

- Limited primary commodities
- Weak domestic markets, hence inability to import substitution industrialization.
- Aid driven economies, thus perennially indebted and margined in world economies
- Concentration of resources amongst few individuals
- 'Technological apartheid' due to inadequate ICT infrastructure, technical and human support, and consequently cannot keep up with technological advancements, henceforth commodity production is kept behind.
- Governance structures with predatory tendencies, ruthless repression, personalization of power and networks, as a result, political institutions disintegrate. These institutions of Governance cannot be counted on for stability and this leads to unemployment, poverty and deterioration in agricultural production, (Castells, 1998)

Furthermore, whereas knowledge is invested through research and education, and that technological innovation secures competitive edge Statistics, Netherlands, (2011), Castells (1998) observed that research and innovation output was mostly concentrated in few centers in the western world, i.e. the United States, Western Europe and Japan. Through the control of the world's technological advancements, these nations are able to accumulate wealth and take lead in shaping the direction of the global knowledge economy.

The Digital Divide

In all circumstances demonstrated through the analysis in the previous section, Castells (1998) concluded that most African economies could not possibly be globalized or even 'informationalized'. These differences in access to and use of ICTs cause what is generally taken to be the digital divide. The divide has been variously studied and defined by different scholars at global, national and intra-national levels. However, this paper will adopt one by Fuchs and Horak (2008) who describe it as the unequal patterns of material access, capacities to use and to draw benefits from computer based information and communications technologies and participation in institutions governing ICT and society. This definition not only points to uneven forms, but also consequences in

participation and reshaping this economy. According to an analysis by Fuchs and Horak (2008), to be connected requires a high income, influential social networks, considerably fair education and skills. These endowments can be used to produce other forms of capital of economic, political and cultural kind.

Gender Digital Divide

The divide, can, however, affect various groups of people differently depending on the stratification of society. Age, gender, ethnicity, language and geography are among variables of disparity (Fuchs and Horak, 2008). The focus of this paper will be on the divide caused by social and cultural differences between the two sexes of male and female. The focus on women is based on the presumption that within the digital divide, they still face a gender divide, even though the knowledge economy is supposed to have made room for gender equity, as earlier presumed, for instance, more women have access to higher education at least in the North (which North?, which forms an important human capital resource for the knowledge economy. Secondly, the organizational form of the knowledge economy is through networks rather than domestic relations and hierarchies, and women tend to have an edge in the social skills necessary for networking (Walby, 2011). Other indicators pointed out by Castells (2010) include; the decline of the patriarchal social organizational structure exemplified in the rise of single parenthood, the entry of women into gainful employment and the upsurge of other forms of sexual expression through gay and lesbian movements, consequently, leading to the disintegration of the roots of dominance. This situation is supposed to have leveled the ground for equity. However, despite these developments and possibilities, Walby (2011) notes that the gender digital divide, even in the North still prevails. The arguments presented are;

education and training themselves are gendered and that women are less likely to acquire specialized skills required for opportunities in Science and technology jobs, but that progress has been registered in acquisition of general forms of education.

Secondly, that even the networks forming organizational platforms for the knowledge society tend to be informal, thus reducing possibilities of instituting formal equal treatment procedures.

The third observation is pointed out by Caprile and Pascual (2011) that the work culture in Science and technology fields tends to be encap-

sulated in long hours, time pressures and demands for total availability, which blurs professional and private life and in turn becomes less attractive for women. This forms another demoralizing factor for gender equity in these disciplines.

In developing countries, women face further challenges. Cultural barriers are still strong. There are issues of illiteracy, for example out of 773.5 million illiterate people, 63.8% are female which amounts to 493.4 million, and who live mostly in developing countries (UNESCO, 2013). Other bottlenecks include poverty and economic deprivation. The general situation is captured in an analysis by Primo (2003) and Hafkin (2002).

Social cultural barriers that stem from the socialization process and cultures that impinge on association and mobility of women and girls. Yet, interaction is important in the knowledge economy. Furthermore, girls tend to be socialized into internalizing that technology belongs to a man's world; hence, fewer enrolment statistics for science, engineering and technology courses.

The Rural/urban divide also exacerbates the gender divide. The majority of women in the developing world live in rural areas. Yet, most ICT infrastructure tends to concentrate in urban areas, thus where other priorities exist, like building access roads, accessing credit, chances are that ICT infrastructure would be less prioritized by Governments, and hence a gender gap in access to communication.

With regards to literacy and skills, a large percentage of illiterate people are women. Yet, basic literacy of the ability to read and write and functional literacy in the ICT world would incorporate components of computer, Internet/digital and Information literacies, which are key competencies in drawing benefits from the Information society.

In addition, internet content tends to be designed in the western world and in predominant languages, which may not be familiar with the rural women. Thus, even initiatives like telecenters in rural areas tend to be less utilized by women.

There are also issues of cost. The fibre optic and satellite links are expensive, thus rural areas which are mostly poor do not provide enough incentive to attract investment in telecommunications infrastructure, since there is a likelihood of low returns.

Some Developments in Africa

Within the African continent, there have been progress registered and political will by some governments. There is, for instance, the African Information Society Initiative (ASIS) which was launched in 1996 and endorsed by the Organization of African Union (OAU). This was supposed to develop a plan for integration of ICT in socio-economic development. E-strategies, target goals and performance indicators were put in place including, establishment of community access points, wireless coverage, connectivity of Public institutions for example Public universities, public libraries and Government ministries and local governments and raising awareness of ICT by set dates, (UNECA, nd; 2008). Among the transformations is a broad consensus on the benefits of ICTs in promotion of economic growth. Most African countries' ICT information is captured in the global statistics maintained by the World Economic Forum (Britz et al., 2006). Through this forum's annual global country IT assessments, it is possible to follow up and compare the progress of ICT implementation using various indices. The indices include the political and regulatory framework, business and innovation, infrastructure and digital content, affordability, skills, individual, business and government usage and economic and social impacts (Britz ..et al 2006& Global IT report, 2013).

Access to global intellectual information has been another area of improvement as well as building capacity for knowledge creation and dissemination. This has been enhanced through various programs including HINARI, the Health internet-work access to research initiative, by the World Health organization; AGORA, Global online research in agriculture for agricultural information and supported by the UN Food and Agricultural Organization and PERI, the Program for enhancement of research information, which supports capacity building in research. Through PERI, journals from developing countries are assisted (Britz ..et al, 2006). Most university libraries have put in place collaborative arrangements that facilitate continuous access to research information, for example the Consortium of Uganda University Libraries (CUUL) in Uganda.

However, other perennial challenges, like illiteracy, multiplicity of languages and infrastructure development still prevail.

The ICT Situation in Uganda

Key Statistics

The projected population for Uganda in 2013 was 35.4 million. The projection rate for the urban population by 2013 was 6.4 million. The literacy rates by 2009/2010 for males in urban areas was 90%, while for females it was 86%. For rural areas, the literacy rates were 72% male and 62% female (Statistical abstract, 2013).

As far as internet penetration is concerned, by 2012, 14.7 % of the population was connected. Fixed Internet subscribers were 96,000, mobile internet subscribers were 2,692,705. The subscription to fixed phones was 0.9%, while mobile subscription was 45.9%. The percentage of households with Internet access was 4.2. Fixed broadband subscription was 0.1%, while the mobile broadband subscription was 7.6%. The adult literacy rate was 73.2%. The total number of subscribers were 16,671,343, fixed phones 314,956, mobile subscribers 16,356,387, (Uganda Communication Commission, 2012)

On the global scale, Uganda ranks rather low on the various indices, for example, in terms of network readiness index, Uganda is ranked at No. 110 out of 144 countries. However in mobile network coverage and in affordability for both Internet and telephone costs, rankings are fairly favorable. In terms of availability of latest technologies, the rank is 104(WEF, Global IT Report, 2013)

Regulatory Framework

The centrality of ICT by the Government was encapsulated in the creation of a substantive Ministry in 2006. The Ministry is supposed to mainstream ICT development in all national structures. Several policy frameworks and legislation have been put in place to facilitate access to the ICT infrastructure as well as information. The policies are also supposed to provide a safe environment through which individuals can engage in the knowledge society and knowledge economy. It is presumed that these will form the basis for social inclusion. When compared globally, the country ranks at No. 97 out of 144 countries in terms of instituting a political and regulatory environment for ICT operation (WEF, Global IT report, 2013). The telecommunications sector has also been liberalized drawing several players and some form of leverage over tariffs. Examples of policies include the ICT policy enacted in 2003 which acknowledges infor-

mation as a resource for development, mechanisms of access and ICT as an industry for business. The significance of ICT is stated as including among others;

- promotion of economic growth,
- creation of opportunities and empowerment,
- improvement of Government transparency and accountability through public domain information
- inclusion of different social groups into the knowledge economy,
- facilitation of research and development (National ICT policy, 2003)
- Acknowledging the vulnerability of women

The need to take into account needs of marginal groups including women is highlighted in all initiatives and ICT developments. The significance of inclusion in the knowledge economy is emphasized.

The Rural Communications Development policy (2009) and Rural communications development fund (RCDF) are another significant milestone. The policies have been revised to take into consideration emerging needs. They acknowledge the need to connect to the rural population and provide a sustainable mode of operation so that this population too, benefits from ICT. The policies are also meant to ensure basic communication services at affordable charges, (Madanda, Okello & Bantebya-Kyomuhendo, 2009). There is recognition that the majority of the rural population are women and are also poor, so specific intervention would be required to create entry points, as Madanda, Okello & Bantebya-Kyomuhendo, (2009) pointed out, market forces could not be relied upon to provide uniform access. Amongst the basic policy objectives include;

- expansion of coverage of basic ICT services
- provision of broadband connectivity, and
- support for content development (local and relevant)
- Addressing social exclusion gaps
- (Rural Communications development policy, 2010/11 – 2014/15)

The first two provisions are basically geared towards access to the ICT infrastructure, while the third option provides for access to information. Insufficient local content has often been cited as a hindrance to women's use of tele-centers. The policy incorporates what could be considered progressive provisions that take into consideration the circumstances of women.

Other pieces of legislation include:

The Electronic transactions Act, 2011 which aims at promoting and facilitating electronic transactions, e-government and maintaining security and safety of electronic data.

The computer misuse Act, 2011 aims at ensuring safe and secure transactions, as well as securing information systems.

The draft information management services policy, 2011 which provides a structure for access and management of information for the Government.

The existing literature did not offer much in terms of gender based initiatives. The documented strategies involving women and use of ICT for economic empowerment included;

The CD-ROM project entitled; 'rural women of Africa: ideas for earning money' funded by Development partners, the International Women's tribune, IDRC/Eastern and Southern African office.

The project provided information for business development and entrepreneurship and it was carried out in three tele-centers and respondents were interviewed between 2005 and 2006. Women were facilitated with information on business improvement and development.

The findings showed that in some respects, improvements were registered, while in others, profits were eaten up by domestic responsibilities (Bakesha, Nakafeero and Okello, 2009)

The mobile payphone business, was another initiative in which women engaged in providing pay telephone services, once again, the findings showed a delicate balance between maintaining family relationships and economic empowerment. There was a tendency to relegate financial obligations formerly met by the male spouse to the now 'earning' female spouse (Bantebya Kyomuhendo, 2009). This could give rise to other forms of inequalities, where attempts to economic sustenance by women had to fit or be negotiated within particular gender relations.

In conclusion, the use of ICTs for economic empowerment is at times a double edged sword, for example, there were tendencies to relegate domestic financial obligations formerly settled by husband to the 'earning' wife (Bakesha, Nakafeero and Okello, 2009). In addition, there is the inclination to operate within the existing cultural

framework, sometimes limiting possibilities.

There is also need for regular and independent studies to assess the impact of the policy frameworks on the participation of different groups of people in the knowledge economy, which existing literature indicates that it is gendered and skewed in some instances. It is yet to be seen whether the seemingly progressive gender sensitive policies have translated to better access to ICTs and information for the rural women and other marginalized groups. Studies by Madanda, Okello & Bantebya-Kyomuhendo (2009), which focused on the impact of the initiatives of the Rural Communications Development fund and policy (RCDP/F) on universal access to rural communications, would be ideal if regularly instituted by Government or civil society. The challenge of the Internet content which is not localized and therefore less appealing to women is still of concern.

In addition, it would be important to find out whether information exchanges, through the new technologies, create gender equity or bring new forms of domination and violence in developing countries like Uganda.

There is also the challenge that the Global IT statistics are not gender segregated. So, it is difficult to ascertain the direction and distinctions of 'progress'.

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Knowledge Management Enhancement Through Information Communications Technology (ICT)

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Abstract

We live in a knowledge society where economies are knowledge based. Knowledge assets have become the intelligence behind individual and organizational success. Knowledge plays a role in contributing to the economic development of developing countries including Kenya through job creation, reduction of operational costs, improvement in revenue collection and improved operational performance in organizations. These knowledge assets come in many forms of content including text, graphics, sound and video and as tacit knowledge embedded in human minds which is known as human and structural capital. Knowledge therefore is an important competitive asset in these competitive economies; however it faces challenges that include lack of familiarity and access to new and changing technology. The overall purpose of this paper is to report on the Information Communication Technologies (ICTs) and their impact on managing knowledge. It explains the use of (ICTs) as an enabler for managing knowledge (tacit and explicit) in the knowledge society. Technology should be seen as an enabler of Knowledge Management. ICT tools are used to capture, codify, store and distribute knowledge throughout the organization. ICT tools such as Internet, Intranet, Extranet, Email, Electronic Data Management Systems (EDMS), Decision Support Systems, Expert Systems, Groupware, Wikis, Weblogs, and other shared networked and net-based technologies are used to leverage Knowledge Management processes in the organization. ICTs provide members in an organization with a platform to communicate and to get access to the right information at the right time for the right purpose. Therefore, there should be a balance between knowledge management initiatives and engagement of ICT tools and infrastructure in order to exploit the benefits of Knowledge Management to the fullest.

In the creation, sharing and usage of knowledge, organizations depend on the availability of people who can manipulate various knowledge assets and leverage them across the organization using appropriate technologies and channels to enhance knowledge.

Keywords: *Knowledge; Knowledge Management; Information Communication Technology*

Introduction

Information and Communications Technology (ICT) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots. Therefore, ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. Although ICT has been the driver of innovation importantly, it is also concerned with the way these different uses can work with each other share their experiences and knowledge.

With regard to knowledge management, it is important to consider the following topics that deal with the way ICT is used and managed in an organization:

The nature of information— This covers topics such as the meaning and value of information; how information is controlled; the limitations of ICT; legal considerations

Management of information - This covers how data is captured, verified and stored for effective use; the manipulation, processing and distribution of information; keeping information secure; designing networks to share information

Information systems strategy - This considers how ICT can be used within an organization as part of achieving goals and objectives

As we have all witnessed, the advent of the ICT

tools such as internet, broadband communication, open source collaboration, and the rapidly improving computing capacity has changed the world economy drastically. The knowledge economy and the globally integrated enterprise have become a reality. The competitive playing field between industrialized and emerging markets is leveling. The economies of industrialized countries are moving into services. Knowledge and ICTs play a major role in research and innovation

Management thrives on the ability to create and innovate new knowledge; research is needed to use existing knowledge and to create new knowledge. It is the means for maintaining intellectual leadership.

Knowledge management is the solution for sustaining a competitive edge in a knowledge economy.

ICTs act as the means for knowledge management. It has been the driver of innovation. Innovation is defined as the application of knowledge to societal and organizational challenges to come up with solutions to the challenges. Innovation can target the challenges an organization or society faces. For example, ICT can create value by contributing to innovation in customer intimacy and product leadership by doing customer profiling, based on customer data while respecting people's privacy. Then by using advanced technology in data mining, data warehousing, and customer relationship management software we generate accurate profiles of customers to provide tailored products and services that meet their needs and wants. This would hence help in the optimized mass customization to increase market share, thus improving operations and obtaining a competitive edge.

Knowledge Management (KM)

2.1 Knowledge

Knowledge is closely linked to doing and implies know-how and understanding. The knowledge possessed by each individual is a product of his experience, and encompasses the norms by which he/she evaluates new inputs from his surroundings (Davenport & Prusak, 2000). The definition presented by Gamble and Blackwell (2001) is based closely on a previous definition by Davenport & Prusak:

"Knowledge is a fluid mix of framed experience, values, contextual information, expert insight, and

grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knowers. In organizations it often becomes embedded not only in documents or repositories, but also in organizational routines, practices and norms."

2.2 Knowledge Management

KM is about making the right knowledge available to the right people. It is about making sure that an organization can learn, and that it will be able to retrieve and use its knowledge assets in current applications as they are needed. In the words of Peter Drucker, it is "the coordination and exploitation of organizational knowledge resources, in order to create benefit and competitive advantage" (Drucker, 1999).

Knowledge management consists of the initiatives and systems that sustain and support storage, assessment, application, refinement, dissemination, and creation of relevant knowledge.

Knowledge management involves knowledge acquisition, creation and sharing.

Knowledge acquisition refers to the knowledge that a firm can try to obtain from external sources. Knowledge creation according to the Nonaka's SECI model is about continuous transfer, combination, and a conversion of the different types of knowledge, as users practice, interacts, and learns. Knowledge sharing on the other hand is an activity through which knowledge (i.e. information, skills, or expertise) is exchanged among people, friends, or members of a family, a community (e.g. Wikipedia) or an organization.

2.3 Types of Knowledge

2.3.1 Explicit Knowledge

This type of knowledge is formalized and codified, and is sometimes referred to as know-what (Brown & Duguid, 1998). It is therefore fairly easy to identify, store, and retrieve (Wellman, 2009). This is the type of knowledge most easily handled by KMS, which are very effective at facilitating the storage, retrieval, and modification of documents and texts.

From a managerial perspective, the greatest challenge with explicit knowledge is similar to information. It involves ensuring that people have ac-

cess to what they need; that important knowledge is stored; and that the knowledge is reviewed, updated, or discarded.

Many theoreticians regard explicit knowledge as being less important (e.g. Brown & Duguid, 1991; Cook & Brown, 1999; Bukowitz & Williams, 1999, etc.). It is considered simpler in nature and cannot contain the rich experience based know-how that can generate lasting competitive advantage.

Although this is changing to some limited degree, KM initiatives driven by technology have often had the flaw of focusing almost exclusively on this type of knowledge. As discussed previously, in fields such as IT, there is often lack of a more sophisticated definition. This has, therefore, created many products labeled as KM systems, which in actual fact are/were nothing more than information and explicit knowledge management software. Explicit knowledge is found in: databases, memos, notes, documents, etc. (Botha et al. 2008)

2.3.2 Tacit Knowledge (Embodied Knowledge)

This type of knowledge was originally defined by Polanyi (1966). It is sometimes referred to as know-how (Brown & Duguid, 1998) and refers to intuitive, hard to define knowledge that is largely experience based. Because of this, tacit knowledge is often context dependent and personal in nature. It is hard to communicate and deeply rooted in action, commitment, and involvement (Nonaka, 1994).

Tacit knowledge is also regarded as being the most valuable source of knowledge, and the most likely to lead to breakthroughs in the organization (Wellman, 2009). Gamble & Blackwell (2001) link the lack of focus on tacit knowledge directly to the reduced capability for innovation and sustained competitiveness.

KMS have a very hard time handling this type of knowledge. An IT system relies on codification, which is something that is difficult/impossible for the tacit knowledge holder.

Using a reference by Polanyi (1966), imagine trying to write an article that would accurately convey how one reads facial expressions. It should be quite apparent that it would be near impossible to convey our intuitive understanding gathered from years of experience and practice. Virtually all practitioners rely on this type of knowledge. An IT spe-

cialist for example will troubleshoot a problem based on his experience and intuition. It would be very difficult for him to codify his knowledge into a document that could convey his know-how to a beginner. This is one reason why experience in a particular field is so highly regarded in the job market.

The exact extent to which ICT systems can aid in the transfer and enhancement of tacit knowledge is a rather complicated discussion. Successful KM initiatives must be very strongly emphasis on the tacit dimension, focusing primarily on the people involved, and they must understand the limitations imposed by computerized systems.

Tacit knowledge is found in: the minds of human stakeholders. It includes cultural beliefs, values, attitudes, mental models, skills, capabilities and expertise among others.

2.3.3 Embedded Knowledge

Embedded knowledge refers to the knowledge that is locked in processes, products, culture, routines, artifacts, or structures (Horvath, 2000; Gamble & Blackwell, 2001). Knowledge is embedded either formally, through a management initiative to formalize a certain beneficial routine, or informally as the organization uses and applies the other two knowledge types.

The challenges in managing embedded knowledge vary considerably and will often differ from embodied tacit knowledge. Culture and routines can be both difficult to understand and hard to change. Formalized routines on the other hand may be easier to implement and management can actively try to embed the fruits of lessons learned directly into procedures, routines, and products.

ICT's role in this context is somewhat limited but it has some useful applications. Broadly speaking, IT can be used to help map organizational knowledge areas; as a tool in reverse engineering of products (thus trying to uncover hidden embedded knowledge); or as a supporting mechanism for processes and cultures. However, it has also been argued that IT can have a disruptive influence on culture and processes, particularly if implemented improperly.

Due to the difficulty in effectively managing embedded knowledge, firms that succeed may enjoy a significant competitive advantage.

Embedded knowledge is found in: rules, process-

es, manuals, organizational culture, codes of conduct, ethics, products, etc. It is important to note, that while embedded knowledge can exist in explicit sources (that is a rule can be written in a manual), that way the knowledge is not explicit.

2.4 Knowledge Transfer/Sharing and ICTs

ICTs impact upon knowledge in a variety of ways. Firstly, the proliferation of cheap decentralized computational power that allows for the collection, collation, storage and dissemination of data on a scale not practicable in the past. This gives rise to new information and from this new knowledge. Secondly, ICTs facilitate knowledge transfer through the exchange of data. However, as Bolisani and Scars argue, this requires a double transformation process from knowledge to information and then to data, and back from data to information and, finally, to (fresh) knowledge. Where knowledge can be codified, with the use of ICTs, be distributed worldwide with the touch of a button at little cost.

The transfer of tacit knowledge, however, cannot be executed in such a simple fashion, since the transformation from knowledge to information and on to data will be incomplete. Consequently, the transfer of tacit knowledge often requires proximity between the transmitter and receiver. Videoconferencing and virtual project rooms may aid the transfer of tacit knowledge. Nevertheless, such technologically facilitated communication cannot at present replace the direct face-to-face contact that is often a prerequisite for the successful transfer of tacit knowledge.

In addition, the establishment of a level of trust required to facilitate the exchange of knowledge also favors co-presence and co-location. ICTs increase the sharing of information and information about sources of knowledge, as well as knowledge about sources of information. However, ICTs alone fail to capture fully the conditions required for the successful sharing of tacit knowledge.

Two individuals on different sides of the world can read the same codified knowledge embedded in a document delivered to them simultaneously through e-mail.

However, these individuals cannot share tacit knowledge actively, even with the help of desktop videoconferencing, unless they share a common social and cultural context. If this condition is fulfilled

they may *share* tacit knowledge by assimilating codified knowledge and thereby creating new tacit knowledge that will be largely, though not completely, the same. Indeed, if the view of knowledge as fundamentally centered on the individual is accepted, it is questionable whether individuals can share their tacit knowledge base in its entirety with other individuals. The most that can be achieved is a high degree of overlap between the tacit knowledge held by individuals working together within a group.

2.5 Using ICT in Knowledge Management

ICT is used in knowledge management as a mechanism to create knowledge. Nonaka and Takeuchi (1995) suggest four types of knowledge management interactions that are necessary for effective knowledge creation. These are:

Tacit to tacit knowledge via socialization, Individuals have a wealth of tacit knowledge to share with colleagues. IT is the most convenient, cheapest and fastest mode of doing so. For instance, face-to-face exchange of knowledge via teleconferencing technologies, including desktop videoconferencing.

Tacit to explicit knowledge via externalization, explicit knowledge is stored on paper, audio or video or videotape, computer disks, etc. Its creation has been greatly enabled by IT. For instance, electronic mail (email) to exchange information.

Explicit to explicit knowledge via combination, In addition to e-mail, organizations have invested in new web-based software and servers to facilitate explicit knowledge sharing. In addition to web sites big companies also use intranet home pages for publishing applications to exploit the hypertext linking and search capabilities of these web technologies.

Explicit to tacit knowledge via internationalization, this depends on an individual's ability, expertise, and experience to make sense out of explicit information. Computer applications can help people recognize patterns or anomalies. For example, data mining tools based on neural networks, simulation modeling and applications based on visualization technologies such as geographic information systems are increasingly being used by decision makers for

sense-making in the presence of complex sets of data.

The information sources used by the decision makers; many information system organizations have invested in the creation of large stores of data (data marts or warehouses) in order to support the information needs of decision makers. ICT facilitates this by providing large storage capacity devices which are more reliable.

Sense-making activities to support innovation most of ICT capabilities facilitate sense making in the presence of highly complete information and less complete information. For instance, simulation tools and pattern-matching applications based on neural networks can be used for the modeling and identification of patterns not apparent to the knowledge worker alone. Here, ICT can be used as a tool to support sense making by the decision makers.

Web-based technologies are popular for several reasons; they are convenient to use, easy to develop and maintain and provide one of the quickest and most far-reaching means of conveying information. "The key issue is not about the latest information technologies, but whether those technologies are used within, and for facilitating, a culture of information sharing, relationship building and trust" (Malhotra, 1999). In other words, it is not what you have but how you use it and that depends on different individuals.

Junnarkar and Brown (1997:147) suggest four points to be considered to see ICT as a key enabler in knowledge management:

- Develop enterprise wide IT standards for an IT infrastructure in order to link people to people and people to information;
- Link IT investments in the firm's overall knowledge management strategy;
- Knowledge managers need to be proactive in implementing IT tools to access explicit knowledge; and
- Establish knowledge management partnerships that bridge information systems and human resources.

A good ICT infrastructure is not a sufficient condition for the success of KM but a necessary condition for it. ICT *per se* cannot change, but only reinforce norms and folkways about sharing information or insights and using other's ideas in an organization". It is important to have an adequate and efficient system, but this system must be

geared towards a long-term fulfillment of objectives as well as immediate goals, otherwise the organisation may succeed initially but will ultimately suffer. It cannot be ignored that the human aspect of KM is the most important-it is here that knowledge arises, technology simply makes it easier to catalogue and convey this knowledge. Without individual participation, even the latest technology will be redundant.

Rutherford (2001) further adds to the above: "Buying a typewriter does not make one a better writer. Similarly, just buying new information technologies do not make an organization better at managing knowledge. What is critical is acceptance and effective utilization of the technologies." It should be remembered that ICT infrastructure is valuable for knowledge management, but ICT alone cannot bring about a revolution in African development without the necessary expertise.

ICT is being used all over the world to store, manage, retrieve, disseminate and preserve indigenous knowledge. It is astounding to see how the basic ICT tools like the tape recorder can make the transfer of IK possible. For instance, to promote sustainable management of agro ecosystems Kenya initiated an IK journal to document and use indigenous/traditional knowledge. For this journal farmers record their knowledge on a specific topic on an audio tape or any other media in their own language. This can then be listed in a scientific journal. Information given in such papers are deemed to be the interpretations of the tapes content.

A good example of Community Documentation of indigenous knowledge is the Kyanika Adult Women Group (KAWG), who had started a two-year project to conserve and share the diversity of *Kitete*, a bottle gourd that is found in virtually every aspect of the Kamba people's traditional and cultural life, and its associated IK was launched in March 2001. KAWG identified and invited community resource persons to train women at a six-day seminar and women further trained community groups to conduct the project in their own areas. The documented information and techniques are being used nationally and internationally in workshops and other presentations. Recorded materials, documents, and a collection of *Kitete*, samples and seeds can be accessed by the local community and others. Other activities are story telling by elders; sharing myths, songs, dances, riddles, poems, and drama; listening to taped material; looking at photographs; watching videos; and reading written

reports (in the local kikamba language); and displaying materials at seed/fruit fairs and IK competitions. Groups have also come up with income generating activities such as selling decorated or carved *Kitetes*, making and selling *Kitete*, ornaments, and selling rare and popular types of seeds and fruits to the visitors. This is all possible by using modern ICT, which enables the saving, documenting and improving upon traditional knowledge of plants and their uses.

Information and communication technology (ICT) can enhance knowledge sharing by lowering temporal and spatial barriers between knowledge workers, and improving access to information about knowledge.

Knowledge sharing is related to communication. It is also different from but related to information distribution. ICT may help locate the various elements relevant to the process of knowledge sharing. ICT may be introduced with the purpose of improving the processes involved in knowledge sharing.

ICT here also facilitates sharing of knowledge and information over wide geographical area.

Information Communication Technology if well implemented and people are trained and educated in its use can help in faster and effective access to information and knowledge. The information can also be posted on the system for access by others in the organization either on their desk or on the other side of the world. But more than just this, groupware technology, for instance, the Lotus Notes and Domino working over the internet, an organizational intranet or extranet allows you to work collaborate with anyone anywhere in the world to achieve your objectives.

ICT facilitates the locating of sources of knowledge for example source of tacit knowledge through systems like yellow pages, that is, it is an expert finder.

Content creation tools like authoring systems and annotation facilities help with creating and integrating knowledge, just like automated approaches to document enrichment and expertise profiling. Organizing knowledge benefits from specialized applications handling structures like thesauri and classification schemes. All these tools not only help with creating content but also maintaining it. Content management systems, including both document management and web content management,

excel at integrating documented knowledge. Metadata and classification capabilities help in organizing knowledge, versioning and link management while maintaining it.

Advancement of ICT through the artificial intelligence provides methods for automatically segmenting and classifying content, aiding the organization of knowledge. Expert systems and intelligent agents also support knowledge integration and transfer. Network technologies rarely are at the foreground of any knowledge management initiative. Nevertheless, they provide necessary infrastructure and particularly with regard to knowledge transfer. A standard for file exchange formats, metadata and content syndication are important for knowledge integration, knowledge transfer and knowledge management.

ICT helps in providing security to information. Security is a key concern, and a firm must protect its crucial knowledge and information resources. This can be done using firewalls, use of encryption, and simple or strong authentication. Simple authentication involves usernames and passwords, while strong authentication makes use of digital certificates.

ICT can be used to capture knowledge, categorize, search, subscribe relevant content or information and present it in more meaningful formats across multiple contexts of use. IT can be used to convert tacit knowledge into an explicit form.

2.6. Knowledge Management Technologies

Knowledge Management technologies support strategies, processes, methods and techniques to create, disseminate, share and apply the best knowledge, anytime and at anyplace, across the organization and across several organizations, especially its clients, customers and stakeholders.

The key technologies are communication and collaboration technologies that bring together people and knowledge they are mostly web based for internet and intranet usage, as well as mobile technologies such as PDA's, tablets, pads', mobile phones and videoconferencing. New technologies are rapidly emerging that act as intelligent agents and assistants to search, summarize, conceptualize and recognize patterns of information and knowledge.

i. Intranets

An intranet is a collection of private computer

networks within an organization. An intranet uses network technologies as a tool to facilitate communication between people or work groups to improve the data sharing capability and overall knowledge base of an organization's employees. The intranet is not only a powerful communication medium but also a knowledge base. It has advantages over previous digital knowledge bases in that it can easily capture and handle unstructured and implicit knowledge (in contrast, DBMSs require very structured schemas to be effective). An intranet can play a valuable role in supporting and establishing knowledge management activities this is through collaborative communities for example such as communities of practice.

ii. Communities of Practice and Intranets

The approach 'communities of practice' was developed by Etienne Wenger to explicitly recognize the importance of the less-formal knowledge sharing that occurs between peers, and within small groups. This has grown to be of major interest within the knowledge management community, and it has been used successfully within (and between) many organizations.

An intranet can play a valuable role in supporting the establishment and ongoing activities of a community of practice, including:

- Building a 'home page' for the community of practice, this can be used as the basis for establishing the identity of the group, and promoting its existence throughout the organization.
- Providing a collaborative environment that can be used by community of practice members, especially those located in other offices, cities or states.
- Offering a mechanism by which the output of the community of practice can be disseminated to the rest of the organization (a weblog can be very effective for this).

One of the key elements of a community of practice is that the group takes on the responsibility for the stewardship of the knowledge within their domain. This often involves the creation of some form of knowledge base, or content repository. Once captured, this knowledge can then be shared with other areas of the business that may face the same challenge, or stored for future use. Regardless of the tools used, the environment must be established with an understanding of the nature of the knowledge sharing, and must be driven by the needs of the community of practice itself.

iii. Weblogs

Weblogs have exploded in popularity over the last year. At their most simple form, a weblog (also commonly known as a 'blog'), is an online diary created by one or more writers. They illustrate the new class of 'personal publishing' tools that some see as 'disruptive' threat to existing publishing tools.

A weblog provides a simple interface for writing a new entry, typically via an online form. This is published to the site, with standard page layout and formatting automatically added. What the reader sees is then an online diary, with the most recent posts first, and an archive of past writings.

There are now tens of thousands of weblogs in existence, written by a wide range of people covering every possible topic. A quick search for 'knowledge management' will reveal dozens of weblogs specifically addressing this subject.

From a knowledge management perspective, weblogs harness the power of conversation to convey messages in a very honest and powerful way. With weblogs being written in a first-person format, the voice of the author comes through clearly, thereby supporting the message with the reputation of the author.

As such, weblogs are increasingly being used by individuals, communities and companies to share knowledge across traditional boundaries.

iv. K-logs

Weblogs become particularly interesting when they are used within an organisation, where they are known as 'knowledge logs' or 'k-logs'. This has been an approach evangelised primarily by John Robb.

k-logs act as a way of breaking down barriers within the organisation, and facilitating a more efficient flow of information and knowledge. For example, key individuals with the knowledge and respect can use weblogs to record progress on strategic projects or issues. By building on the reputation of the writer, weblogs harness the recognised benefits of 'storytelling' techniques.

Weblogs can also be used by project teams to both communicate to the wider organisation, and to keep track of who is doing what within the team. In this way, the team weblog acts as a voice

for the project, and an archive of past decisions.

v. Wikis

- Wikis are a surprising new approach to publishing online information. They are essentially an ultra-lightweight content management system, developed primarily in the open-source world. They work as follows:

- At the bottom of each page, there is an 'edit this page link'.
- Anyone can click on this link to bring up an editing screen, make changes, and click 'save'.
- The page is then instantly updated with the changes.
- Creating a new page is as simple as capitalizing a word in a specific way and it automatically becomes a link. Click on this link, and the user is given the option of creating a new page.

A Wiki imposes no controls over who can create or edit pages. Making it very simple to update content supports the ongoing growth of content, and not imposing any restrictions consequently encouraging multiple people to add content to a single page.

It is this easy of editing and natural support for collaborative work which makes wikis an ideal tool for communities of practice, or team-level knowledge sharing. The author has used a wiki in this way to support the innovation of practices within his consulting team.

What is extremely interesting from a knowledge management perspective is the way in which wikis, due to their complete lack of control or restrictions fundamentally rest upon the social dynamics of the communities that use them.

While any user can delete at will the work of others, this rarely happens. Instead, the use of wikis seems to encourage the free flow of information between participants and the voluntary contribution of additional knowledge.

Over time, the community using a wiki builds its own language and structure (ontology) for the domain that the site covers. This collaborative, innovative and incremental development of knowledge is a rich source of exploration for knowledge management professionals' remarkable example of the power of wikis is the Wikipedia

(www.wikipedia.org), a public site where visitors from across the globe have voluntarily contributed their knowledge to a (now substantial) free encyclopedia. A fascinating question is why this site succeeded on such a large scale when so many other knowledge-sharing initiatives have failed.

vi. World Wide Web

As the largest interconnection of computers and computer networks, the World Wide Web makes information and knowledge widely accessible.

vii. WEB as a Platform

The WEB should be treated as a platform and not as a main application. Just as the telephone is regarded as a channel, while the conversation is the essence, WEB 2.0 applications should be treated as channels only. Trying to set a standard around your application and dominating the conversation, is a misplaced emphasis. Companies that understand and instill the concept of "WEB as platform", selling the channel (services through which people purchase the content). These include among others, Amazon, eBay, Napster, and Netscape.

Participation of users both in the WEB arena and in the KM world, content managers and content experts took a major part in writing the content, collecting it, organizing it and categorizing it. Users mainly used it. In the WEB 2.0 new world, this concept changes: the user is an active participant and gives added value to the content. There are various levels of user participation based on web 2 tools:

- Passive users: the history of their activity is what is collected, giving an added value. For example: Amazon recommends books based on what readers, with similar profile, have already purchased.
- Minimal active users: users adding content to other people's content (i.e. Tagging) or write content themselves, but as individuals (i.e. Blogs).
- Collaborative active users: users that work together over the net, adding collaborative content. For examples: Wiki, Google's spreadsheet, etc.

The more it is used (by the people), the service improves automatically. As defined above, users are active, and their participation is part of the architecture in which the services are based on. Users' participation influences the net. The service

is designed so that it improves the more it is used. This principle can be understood by looking at an example of the Google Search model of ranking. The ranking is heavily influenced by the number of accesses of all previous users to pages on the results domain of the search. The more people search, the more statistics are gathered, and the quality of this ranking will be higher. The service improves by the same principle also in eBay, Napster, Amazon and many other WEB 2.0 applications. This principle may sound new, but is not so revolutionary. The academic field has always respected researchers according to the number of papers written by them, but more than that, regarding the number of times they were cited by other researchers.

The supplemented content is a competitive advantage because content is the core. In order to give the service a competitive edge, the service will be based on content: It may be based on its own content or manage complementary content, to that which it is based on thereby giving the user a new added value, as a result of the new data. This principle can be demonstrated by viewing the Google search model, where the added content lies in the indexing and ranking.

viii. Social Media

Social media technology provides the conduit and means for people to share their knowledge, insight and experience on their terms. It also provides a way for the individual to see and evaluate that knowledge based on the judgment of others. The emergence and impact of social media in the enterprise forces us to rethink knowledge management and creates completely new challenges

Social media takes knowledge and makes it highly interactive. It creates content as a social object. That is, content is no longer a point in time, but something that is part of a social interaction, such as a discussion. It easily disassembles the pillars of structure as it evolves. As examples: content in a micro-blogging service can shift meaning as a discussion unfolds; conversations in enterprise social networks that link people and customer data can defy categorization; and internal blogs and their comments don't lend themselves to obvious taxonomy.

Social media is often cast as being at odds with enterprise initiatives such as knowledge management. There is a sense that as people embrace and use social media tools like Twitter, Facebook,

LinkedIn, the enterprise loses control over their knowledge. There have always been and always will be opportunities and reasons to search the Internet versus searching the Intranet; for participating in an Internet discussion group versus one in your enterprise community; and for leveraging external wisdom versus known internal resources.

Social media and knowledge management are not at odds at all. In fact, the most successful knowledge management systems embrace social media, but with a business mindset. The smart KM implementations leverage blogs, subscriptions, communities, discussion forums, and member profiles. They tie it together with search in a single working environment. They look for opportunities to tie in other tools to streamline knowledge sharing — everything from instant messaging (i.e. Facebook)

ix. Mobile Phones in Knowledge Management

Mobile phones are increasingly being used for exchange, collection and dissemination of information, and knowledge. Mobile phones through its various functionalities such as messaging services and calling service facilitate a group to share and discuss lessons learned, best practices, current challenges, innovations, news, and other information and knowledge. What took days and weeks before wireless communication, now takes minutes and hours. With the development of internet enabled mobile phone and smart phones, knowledge is easily shared among people in the remotest places. This is done through sharing experiences and problems which bring up new knowledge and ideas.

Mobile telephony systems provide an immediate, transparent and multi-directional way for organizations and customers to manage existing problems and also better plan for the future. It allows for the development of data direct from the source. Mobile telephony builds on successful open-source systems and opens up multi-channel communication among organizations. Mobile telephony allows sharing of information and knowledge by creating Multi-directional communication, Community-driven list of issues

x. Intelligent Agents

These are software programs or codes that accept input in the form of a user profile indicating the

information that is deemed significant in a particular job or in a specific working environment and produces the information in an easy-to-understand manner. Agents are rarely stand-alone programs; rather, they are embedded in other applications programs such as e-mails, word processors, or scheduling programs (Petter, 2000). A simple example of an agent is software that allows users to develop rules for automatically handling e-mail messages, based on subject matter, source, or other characteristics.

xi. Groupware

Groupware is software that supports collaborative work and sharing of information in pursuit of company goals and objectives. Groupware, such as the popular Lotus Notes, provide tools to enhance the communication between work groups and keeps everyone up to date on what has transpired (Vail Iii, 1999).

Groupware can provide an effective means to put the action into the definition of knowledge, which is, turning information into actionable knowledge.

xii. Electronic Networking

In this context, the KM needs to produce information, acquisition data at the source, transmit it to the data warehouse, analyze it with data mining, and finally transmit the information to the needed entities (Vail Iii, 1999). These knowledge management processes and activities are based on electronic networking architecture, including the Internet, intranet, and extranet, etc.

xiii. Knowledge Mapping

Vail Iii (1999) defined a knowledge map as the visual display of relationships of acquisitioned information which will provide a vehicle for the communication of knowledge in an organization. This is a collection of relevant knowledge that is continuously evolving in all its forms (text, pictures, stories, data, and models) in an organization. There are two basic types of knowledge maps, static, and dynamic (Vail Iii, 1999), that can be used for acquisition of the organizational knowledge.

3. Challenges of Knowledge Management Through ICT

Knowledge management through ICT faces many challenges:

Even with the modern tools, the process of knowledge transfer is inherently difficult, since those who have knowledge may not be conscious of what they know or how significant it is, or be able or willingly to share with others. Even when they are so willing the readiness to accept the wisdom of others is often not obvious.

There are also many systems that are neither quick, easy- to- use, problem free in operation, or easy to maintain. The web, for example, frequently creates information overload.

Cultural change to embrace formal education to acquire knowledge- intensive skills

The constitution is not encouraging knowledge sharing because of the governments secrecy Act

Cyber-crime – banking frauds, MPESA frauds, immoral behavior, hacking and hacking of websites

Knowledge is too difficult to measure. Some people believe that the benefits of knowledge simply too difficult to measure without the ability to accurately measure the benefits, there is no way to know for sure whether or not the knowledge management system is truly adding value.

4. Conclusion and Recommendation

For an organization to stand at a position of gaining a competitive advantage, it has got a mandate to manage its information and knowledge. This can be achieved through the establishment of Information Communication Technology. While knowledge management must focus on supporting the sharing of knowledge between individuals, this cannot be done in isolation. Instead, knowledge management projects must recognize the importance of providing effective platforms for this dissemination of knowledge. A range of valuable technologies can be used to directly support KM goals, including: collaborative environments, weblogs and wikis, web 2.0 in many ways, the evolution of these tools is keeping pace with, or outstripping, the pace of innovation in the knowledge management field as a whole.

This points to a future where a seamless knowledge management environment, encompassing both the physical and online worlds, will

start to be a practical reality. ICT tools have a great potential in information and knowledge sharing and collaboration although there is an immense challenge to use them in a meaningful and coherent way. It is also important to use technology that is economically feasible, in tune of information and knowledge management and that always priorities the ideas, hopes and motives of organizations in their context.

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Benefits of using KOHA in cataloguing of library materials: Study of Mzuzu University Library and Learning Resources Centre and National Library Services

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Abstract

Purpose: The paper aims to examine the benefits of using Open Source software Integrated Library Management System (KOHA) in cataloguing library materials. Study of Mzuzu University Library and Learning Resources Centre and National Library Services.

Design/methodology/approach: A questionnaire was developed to elicit data for the study. Questionnaires were distributed to the identified cataloguing staff at Mzuzu University Library and Learning Resources Centre and National Library Services.

Findings: Interpretation of the returned questionnaires revealed that both at the Mzuzu University Library and Learning Resources Centre and National Library Services have automated their cataloguing processes using KOHA software. It has also been established that KOHA is user friendly since all tags are self explanatory as compared to other Integrated Library Systems which require the user to punch in MARC fields. Automation of the cataloguing processes has increased the efficiency of the cataloguing processes at the two institutions. The continual power-cut was identified as the major limitation to the use of the software. Other limitations include low band-width, poor computer literacy on the part of the librarians.

Practical implications: The study recommends that bandwidth and persistent power cuts be increased and improved respectively, training of librarians in software use, and provision of standby electricity generators solely for library use.

Originality/value: The study gives recommendations of the adoption of Open Source software (KOHA) for cataloguing activities by Malawian libraries.

Paper type- Research paper

Keywords: *Malawi, Mzuzu University; National Library Services; Cataloguing Benefits; Open Source Software; Integrated Library Management System; KOHA*

Introduction

Cataloguing is one of the processes carried by the librarians on information resources such as books and journals to facilitate their arrangement and easy retrieval. Traditionally, libraries have been separated into two main divisions, namely Technical and Readers Services. The technical division acquires information resources and processes them in order to render services to the library users. With the advent of automation, the technical services division has been more affected by computer revolution (Oduwale 2005)

Major developments in the use of automated systems in Malawi have been mainly in the academic and national libraries. A computerized cataloguing system enables the use of centrally produced bibliographic records especially in libraries of University of Malawi. This saves time and ensures uniformity of cataloguing procedures as well as standardized cataloguing rules and procedures. Mzuzu University and the National libraries do not share bibliographic records with other libraries in Malawi. At present, one serious limitation to the development of automation in Malawian libraries in general is the lack of suitable trained manpower.

There is a scarcity of librarians specially trained to handle application of computers in libraries.

The Koha Integrated Library Management System being an open source system, has proved to be helpful to the library automation needs of Mzuzu University Library and Learning Resources Centre (LLRC), with its collection of about 39,000 books, print journals and electronic journals. Previously, in its efforts to automate its operations, the library adopted the CDS-ISIS system, which was modified by the Japanese volunteer in 2001. However, due to some technical problems experienced with the CDS-ISIS system from 2006, in addition to lack of proper documentation, it could no longer be maintained after the volunteer had left. Therefore, the CDS-ISIS system was replaced by Koha, bearing in mind that MZUNI could not afford to purchase commercial software.

The major challenge with open source software is that they do not have vendor support for installation, settings and operation. Such software requires local IT and library skills to go through the process of installation, settings and operation. Despite this challenge, MZUNI LLRC staff, composed of librarians and involvement of other IT members

at the University, and through experiments and consultations of relevant e-mail lists of Koha users and developers at koha@lists.katipo.co.nz, as well as through the sharing of ideas with Malawi Library and Information Consortium (MALICO) Technological Group meetings, the Library managed to successfully implement Koha in early 2009.

In March 2010, National Library Services (NLS) began automating its processing activities for books and other reading materials in Technical Services Department (TSD). The process of cataloguing and classification of books is done using computers and card catalogue has been replaced by Online Public Access Catalogue. With automation now in place at TSD, cataloguing data through the use of Koha software can be imported from Library of Congress through the Z39.50 gateway. In order to build NLS's local database MARC 21 records can now be imported easily online from large libraries such as Library of Congress, British Library and New York Public Library through the Koha cataloguing search facility. The quality of cataloguing and classification output at TDS has improved remarkably because cataloguing standards are adhered to through shared MARC records. Highest levels of consistency and uniformity of practice has also been achieved through use of KOHA. KOHA cataloguing module also provides a platform for learning cataloguing standards. The department updates itself easily about the cataloguing and classification changes taking place around the world professionally. New cataloguing standards using Resource Description and Access that will be adopted in 2013 by migrating from AACR will automatically be incorporated into NLS database.

Full automation helps the library to save and achieve a higher operating efficiency. Automation will enable NLS patrons to have access to book stock in all the branches. Resource sharing through Inter library loan will also be made easier and faster. Branch libraries in National Library Service will also benefit.

Literature review

A number of authors advocated the suitability of Open source software (OSS) to libraries, while few articles describe empirical studies of open source ILSs. Tennant (2000) asserted that open source is better than proprietary software because libraries may alter it to meet their needs, and such alterations may benefit other libraries as well. However, he noted that small libraries were unlikely to have

technically sophisticated personnel who could install and maintain OSS, and large libraries exceeded the scalability limits of open source ILSs at the time.

Bretthauer (2002) considered OSS an opportunity for libraries and with a tendency to push innovations. OSS considered low-cost solutions for technological applications and offer cheap alternatives to expensive commercialized solutions for libraries. Forrester (2007) undertook an in-depth study of how open source software is being used in North America and Europe to understand its role in IT and examine the barriers and benefits that open software represents to enterprise customers. Among the concerns, the biggest concern was to find "technical support". The survey revealed respondents' perceptions as: OS provide significant economical and technological benefits including cost savings, improving overall efficiency of IT, quality of products and processes, greater innovation, increased competition among service offerings, and more efficient use of resources cross the industry.

According to Formson (1999), an increase of over 100 per cent was reported with the application of information technology (IT) to the cataloguing process at the University of Botswana. Discussing the impact of IT on cataloguing in the USA, over 12 years ago, Holley observed that:

In the past few years, many changes have occurred within cataloguing departments in American research libraries. This has been due to reduced budgets, and greater use of library assistants. Standardization and automation have also had an effect on the professional responsibilities of cataloguers. The amount of original cataloguing has reduced considerably. Cataloguers these days are more concerned with the library's bibliographic control system. It is possible that the professional cataloguer will perform public service duties (Holley, 1991).

Integrated systems are helping libraries to facilitate quick check-in of bibliographic records when the materials are received by the acquisition section. With Promptcat services, Michigan State University discovered that 90 per cent of materials could be processed quickly in the acquisitions section and sent directly for labeling. The editing in the acquisitions section was to change the locations for branches and to complete Cataloguing – in- Publication records. Thus, no more than 10 per cent of the records were sent to copy cataloguing for more extensive review.

Automation in cataloguing has enhanced efficiency and productivity and has produced new assignments for copy cataloguers. With the use of IT in cataloguing, card catalogues are closed down, on-line systems are developed, bibliographic utilities are joined, cataloguing records are standardized, resources are shared through networking and staff are reassigned. CD-ROM technology has also greatly enhanced the copying of LC numbers to books thus reducing the time spent on original cataloguing. Also according to Rider (1996), cataloguers are not defined solely on the basis of traditional tasks, such as creating original records, doing authority work, or assigning call numbers, they are today seen more holistically as managers, coordinators, and automation experts who assume a larger role in planning and directing cataloguing operations, including creation and maintenance of bibliographic databases.

Formson (1999) noted OPACs had made the card catalogue redundant and brought efficiency among other benefits into bibliographic searches. And some ten years ago, Lambart (1994) reported that IT applications in cataloguing were having a huge impact on the way academic libraries function and the services they offer to their users.

Information technology application to cataloguing is thus of potential value to libraries and information centres without enough funds to employ an adequate number of personnel. Easier access provided by the bibliographical databases used in cataloguing has had a very significant impact among researchers who need the access to wide range of up to date information about a library's holding as these are displayed by the system.

It is anticipated that in the near future, on-line catalogue would have been provided by all Malawian libraries. This will enable the users to have easy access to materials. Public terminals will also be available to users to access the library holdings. Records can be accessed through author, title, corporate body, class mark.

Objective of the study

The survey reported here aimed at examining the benefits of using Open Source software Integrated Library Management System (KOHA) in cataloguing library materials at Mzuzu University Library and Learning Resources Centre and National Library Services. In order to achieve the aims of the survey, the following objectives were formulated:

the version of Koha; the benefits of using KOHA in cataloguing library materials, and the challenges of using Koha in cataloguing activities and suggests ways of increasing the efficiency and productivities. The survey of Koha used in cataloguing at Mzuzu University and National Libraries was carried out by means of a questionnaire which was sent to the six (6) cataloguers of the two libraries. The questionnaire sought information on the version of Koha, the benefits of using Koha in cataloguing library materials, and the challenges of using Koha in cataloguing activities and suggests ways of increasing the efficiency and productivities. Four (4) out of six (6) were returned and found usable—response rate of 67 per cent.

Results and discussions

On the version of Koha used at Mzuzu University Library and Learning Resources Centre, all the three (3) respondents mentioned that 3.10.03.000 was being used. While one (1) respondent from National Library Services mentioned that 3.14 was being used. This shows that the National Library Services is using a higher version of Koha.

On the benefits of using Koha in cataloguing library materials at MZUNI and NLS, the following were responses from respondents:

- Importation of biblio data using Z39.50.
- Koha supports MARC 21
- Easy search of OPAC.
- Fast way of cataloguing library materials, it also reduced work overload.
- Easy to search for already catalogued materials from other libraries instead of doing it manually.

We have OPAC on www.catalogue.mw where our patrons could search for our information sources 24/7 wherever they are in the world as compared to when we had a card catalogue and they had to come to the library.

- Koha gives us real time and sophisticated reports which we could not have when we used the physical reporting system. This is so because Koha uses MySQL database management system which is standard.
- Koha imports CIP from other major libraries in the World eg The Library of Congress, hence it makes Cataloguing job much easier.
- Koha has cut man hours at our work place by making it so easy to do the library work eg circulation, cataloguing, patron management, acquisition.

tions, budgeting, vendor management, reporting etc.

We don't pay any subscription fees for such a robust system since it is open source.

On the challenges associated with the use of Koha in cataloguing library materials at MZUNI and NLS, the following were responses from respondents:

- Continual power-cut.
- Internet speed is slow
- Quality control not applied
- Only internationally available materials are searchable unlike local materials
- When there is no electricity no work
- When Internet is slow it is difficult to retrieve information quickly
- The cataloguer not conversant with Koha

So far the only challenge we have is lack of Database Management skills like SQL querying among our staff, it becomes challenging for them to come up with highly customized SQL queries.

Recommendations

The following recommendations are made to increase the efficiency and productivity of cataloguing of library materials using Koha.

- Power back-up
- Improve Internet flow
- Electric power should be upgraded to provide constant power supply
- Internet band width should be increased, because if there is a congestion on the line it is difficult to work faster
- Necessary equipment to be purchased for better and fast work eg barcode scanners
- Developing local databases where local materials can be searched in information centres and creating links to other local information centres to ease local searches.
- The Malawi Library Association (MALA) should request major libraries in the world to share their Cataloguing in Publication Data (CIP) with Libraries in Malawi so as to alleviate cataloging problems faced by some libraries that have Koha and under qualified catalogers.

Cataloging workshop trainings are also vital as short term solution to the challenges.

Conclusions

According to this survey, Koha is a more appropriate solution for libraries using MARC 21, it is obvi-

ous that the use of Koha in cataloguing of library materials saves time and ensures uniformity of cataloguing procedures as well as wider access; Koha has also increased library use by the clientele as OPAC has almost made the card catalogue redundant and brought efficiency, among other benefits, to the bibliographic searches. Koha has also reduced work overload. The major constraints to the use of Koha in cataloguing of library materials are the continual power-cut. Other limitations include low band-width, poor computer literacy on the part of the librarians.

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Annotated Maps, Charting Your Research Through Technology

By

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Abstract

As libraries in developing countries increasingly adopt digitisation in order to expand access to their resources, they are often constrained by lack of funds to acquire the necessary Information and Communication Technology (ICT) infrastructure and recruit skilled personnel that can successfully develop, implement and manage such projects. Rather than striving to gather all the resources in-house, university libraries may put to use their limited funding by collaborating with other units within the same university or external partner organisations that may already have the requisite skills and infrastructure to assist them with bringing their projects to fruition.

In the 1970s, a naturalist, Peter Alexander Smith traversed the Okavango Delta, a major wetland in north-west Botswana, with a very rich flora and fauna, scribbling his observations and notes on 1:50000 topographic maps. His donated works now form part of the University of Botswana (UB), Okavango Research Institute (ORI) Library's natural collections. The maps have approximately 4500 handwritten annotations of observed flora, fauna, places and water channels within the delta. However, due to their fragility, access and retrieval of information on the maps by library clients is restricted, and deciphering the handwriting requires expert knowledge about the features on the maps.

In order to enable wider access to this rich resource, the ORI library formed a partnership with the Geographic Information Systems Laboratory (GIS lab) and sought funds to embark on a digitisation initiative. By utilising the tools and skills that were already within the institution, substantially less resources were required than if the library had sort an external contractor. The maps were scanned and imbedded with spatial coordinates using a Geographic Information System (GIS) from the ORI GIS laboratory so that they could be matched to already existing maps and for easier online retrieval in a map interface.

After transcription by library staff and error checking and interpretation by relevant content experts, each annotation was stored as a point in a GIS database. The images and annotations were then converted for internet access using a GIS internet map server. Finally, a story web map was created from the now 'web friendly' collection by applying web page templates found on ArcGIS Online to create a rich, user friendly and interactive home for Pete Smith Annotated Map Collection.

Digitization and online publication enabled instant searching for annotations while preserving the originals. Web GIS technology has assisted the library to bring to life the observations of Peter and make them more accessible to users and saving economically. The collection is also useful for research on the Okavango Delta.

Keywords: *Digitization; Information and Communication Technology (ICT); Natural Collections; Resource Sharing; Information Sharing; Online Publications; Geographic Information Systems.*

Introduction and Background

This paper addresses the long-term importance and the future of our priceless digital resources, in comparison to print/hardcopy resources, using Okavango Research Institute Library's Map Collection Digitization as our case study. As libraries in developing countries increasingly adopt digitization in order to expand access to their resources, they are often constrained by lack of funds to acquire the necessary Information and Communication Technology (ICT) infrastructure and recruit skilled personnel that can successfully develop, implement and manage such projects. Rather than striving to gather all the resources in-house, university libraries may put to use their limited funding by collaborating with other units within the same university or external partner organizations that may already have the requisite skills and infrastructure to assist them with bringing their projects to fruition.

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We developed a multifaceted inventory of data layers that can be structured queried and visualized on a digital map through a free online interface. The interface allows the users to visualize the Okavango delta then and now.

2. Objectives

This paper addresses the long-term importance and the future of our priceless digital resources, in comparison to print/hardcopy resources, using Okavango Research Institute Library's Map Collection Digitization as our case study.

3. Challenges

3.1. User Environmental Factors and Technological Factors

Digital access to collections maybe as simple as putting documents on a desktop scanner and emailing as putting documents on a desktop scanner and emailing to the user, i.e. remote access at its basic (Landis, 2006).

This can be compared to photocopying an image/document and sending it via mail, which saves

time and postal expenses as emailing, is instant. This can as well be broadening access by using other means other than emailing, for example, putting it on the website. This is stressed by Chandler as he proves that putting an image on a website will make it accessible to a larger audience. (Chandler, 2006). He however, points out that in case of images being put on the web, there is a need of some contextual description as they may be accessed unknown audience. We have adopted Chandler's idea by making sure we capture every detail on the map annotations as metadata. The rapid evolution of knowledge societies continues to provide new means for achieving progress in all sectors of work and life through the increasing use of information and communication technologies (ICTs) such as computers and networks. While ICTs have greatly facilitated the movement and handling of data, the process of generating and validating information and knowledge remains essentially one of human creativity. While access to the information highways is still a real problem in many countries, questions of access to scientific and development data and information in the digital world, including questions of intellectual property rights, are attracting growing debate.

Thus, the role of new ICTs extends to human development more generally and, therefore, to such matters as intellectual cooperation, lifelong learning, and basic human values and rights. Another quite distinct matter concerns provisions for a fair balance of interests in the use of copyrighted works in the digital environment.

3.2. Challenges for Developing Countries

Libraries are, however, facing, some difficulties in developing and managing digital collections. Landis (2006), stresses this as he writes that digital libraries and archives are facing challenges in creating useful, easy-to-use services. This being due to that it is not enough to provide access to information in digital format, as patrons have more information resource choices than ever before. It is, therefore, increasingly important for libraries and archives to provide easy-to-use sites and services aligned to their patron needs.

In addition, on his introduction as Menon from India pointed out the issue of the impact of restrictions on access, not only from the viewpoint of science and as an international endeavor, particularly noting what is happening in the developed countries, but also on what would happen to the developing societies, and how they would access

the data and information that is vital for their development and for their nascent science. We are talking about an economic divide, and now there is the growing digital divide. The problems faced in developing societies, including poverty, illiteracy, population growth, malnutrition, poor sanitation, and ill health, among others, are a result of poor economic growth. This will be exacerbated by the growing digital divide.

First of all, the poor cannot afford computers. Telecommunications in general in developing societies is poor and where (and to the extent) available, expensive, making access to the Internet limited.

Illiteracy is especially a problem. People who are illiterate cannot use computers. The Internet is significantly English-dominated and will be so for a long time to come for example, he cited that In India today only 5 percent of its population of one billion knows English. There are vast numbers in the developing societies who, for a variety of reasons, are educated but computer illiterate. In most places energy availability is poor and in some cases totally unreliable for the use of current computer systems. Computer systems will have to be made more inexpensive and telecommunications less costly for more widespread growth of information technology in these countries.

These are the problems developing countries face, even if total access to everything is available, without any hurdles and barriers relating to access. Reading material has become enormously expensive. There are very few universities in developing societies that can afford the scientific journals that are produced. These journals are enormously expensive, along with books; therefore, as far as developing societies are concerned, one has to consider the ethical aspects of this issue.

However, the problems caused by these challenges can be curbed by the employment of technology, which is the main driver of information dissemination in today's world, though there are some who still encounter difficulties in using the available technology. This is stressed by Hughes (2004) in his article as he describes the use of technology as vital to libraries around the world today. More institutions are unleashing the "added value" of their collections by developing digitization initiatives.

It is against this backdrop that the Okavango Research Institute Library found it suitable to digitize

their map collection of the Okavango Delta.

Web Mapping Design and Development

Story mapping can be defined as a visual organizer that helps a reader understand a work of literature by tracking setting, characters, events and conflicts or it can also be defined as a visual depiction of the settings or the sequence of major events and actions of story characters. This procedure enables students to relate story events and to perceive structure in literary selections. By sharing personal interpretations of stories through illustrations, students increase their understanding and appreciation of selections. (<http://www.wallkillcsd.k12.ny.us/education/components/scrapbook/default.php?sectiondetailid=128528&>).

The development of digital collections and the proliferation of such contents through the global 'Information Explosion' (Gill & Miller, 2002), is changing the way information is used and managed. The 'digital library' the online archives 'and 'desktop museum 'as Martha Wilson of Franklin Furnace calls it, is enabling new paradigms for scholarships and access.

Web Map Design Criteria

As Phadke (2006) states, Geographic Information System (GIS) has traditionally been used in areas like land-use, urban planning, environmental and demographic analysis, natural resources assessment. Now GIS finds its applications in many other areas like non-traditional areas like business, banking health and other utility services. On the otherhand, Aronoff (1989) sees GIS as designed for the collection, storage and analysis of objects and phenomenon where geographic location is an important characteristic.

This application and use of Geographic Information System, can be used in a variety of ways in the Library. For example, we used it for story mapping. The process of developing a story map can be summarized into the following 5 step process (Esri, 2014):

Develop a Storyboard

In the 1970s, a naturalist, Peter Alexander Smith traversed the Okavango Delta, a major wetland in north-west Botswana, with a very rich flora and fauna, scribbling his observations and notes on 1:50000 topographic maps. His donated works now form part of the University of Botswana (UB), Okavango Research Institute (ORI) Library's natu-

ral collections. The maps have approximately 4500 handwritten annotations of observed flora, fauna, places and water channels within the delta. However, due to their fragility, access and retrieval of information on the maps by library clients is restricted, and deciphering the handwriting requires expert knowledge about the features on the maps.

After transcription by library staff and error checking and interpretation by relevant content experts, each annotation was stored as a point in a GIS database. The images and annotations were then converted for internet access using a GIS internet map server. Finally, a story web map was created from the now 'web friendly' collection by applying web page templates found on ArcGIS Online to create a rich, user friendly and interactive home for Pete Smith Annotated Map Collection.

We then chose a basemap from National Geographic Basemap where a mosaic of digitized handwritten annotations, which were placed against the coordinated points. Annotations of the shapefiles were then loaded onto the basemap.

To configure the storytelling application, we then chose the compare template, which enables us to compare changes in the features then and now. Finally, more information was added to the map through the use of some expertise, and also sent to users to add more data as some might have more information of the delta. This, according to Landis (2007), is a good move. He views it as a philosophy and methodology that advocates user involvement and has roots in a variety of fields. The end product was then published.

5. Summary and Conclusions

Despite all the challenges, it can be concluded that digitizing collections can raise the institution profile. This according to Hughes (2004), can bring prestige to the whole institution, as he says raising the profile of the institutions by showcasing digital collections can be a useful public relations/catalogues can improve collection management in general by creating records about the collections to users or even by including browsable digital images in alignment with catalogue entries. Digitizing collections can be of tremendous benefit to research and education. Many institutions present educational 'modules' on their websites for educational material based around their collections. This has been stressed by Hughes (2004) as he proves that museums have been successful in this re-

spect, as he even sited University of Glasgow as one of the successful institutions with a digital collection used for educational purposes (www.hunterian.gla.ac.uk).

Digitized materials provide broader and enhanced access to a wider community and collections of all types, as all manner of materials can be digitized and delivered in electronic form. They can also be copied to different format and from one storage medium to the other, that is, "refreshing", as Lazinger (2001) calls it. This helps to prevent obsolescence of material.

Developing a digital surrogate of rare or fragile original materials can provide access to users while preventing originals from damage by handling or display. (This is what ORI Library did to their map collection). Provision of digital materials can overcome gaps in existing collections, that is, "collection development" as Hughes (2004) places it. Digitizing collections provide an opportunity for collaborative digitization initiatives to allow the reunification of disparate collection. Digitization is also a means of creating resources that can be repurposed for unforeseen uses in the future.

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SUB-THEME: 2

***The Impact of Global Credit Crunch on African
Libraries and Archives***

The Impact of Global Credit Crunch on African Libraries and Archives

By

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Abstract

Using a case study methodology, this paper aimed at determining the impact of the global credit crunch and its implications for African Libraries and Archives with specific reference to Zambia. Data sets from closed ended questions were analysed using Statistical Package for Social Sciences (SPSS) while data sets from open ended questions were analysed by content analysis method. Findings indicate that GCC has had a negative impact on the operations and services offered by libraries/ archives in most tertiary institutions surveyed. In the light of these findings, libraries/archives were encouraged to strengthen their already existing income generating ventures and also explore other means of fundraising to offset any shortfalls in the budget that may arise owing to sudden withdrawal of donor funds and cuts in government grants should the global credit crunch persist.

Key words: *Global Credit Crunch; Libraries; Archives; Impact; Library Services; Zambia.*

Introduction

The Global Credit Crunch (GCC) has been a topic of great interest to informational professionals, researchers, business people, policy makers, and the general public since its great impacts begun manifesting in all sectors and all markets. Looking at its devastating crash on libraries and archives, this study set out to examine the impact of the global credit crunch on African libraries and archives focusing on services, acquisitions, staffing and the responses made by libraries and archives for survival.

1.1 What is a Credit Crunch?

Bernanke and Lown (1991) define a credit crunch as a decline in the supply of credit that is abnormally large for a given stage of the business cycle. Credit normally contracts during recession, but an unusually large contraction could be seen as a credit crunch. From Investopedia, credit crunches are usually considered to be an extension of recessions, also making it impossible for companies to borrow because lenders are scared of bankruptcies or defaults, which results in higher rates. The consequence is a prolonged recession (or slower recovery), which occurs as a result of the shrinking credit supply.

1.2 Effects of the Global Credit Crunch on the Zambian Economy

According to Fundanga (2009), the Zambian financial sector has so far not been directly adversely affected by the credit crunch as reflected in the continued stability of the banking sector, with most banks being adequately capitalized and the inter-bank market operating as before. Fundanga further asserts that this is mainly due to the sector's limited integration into the international financial markets. Further, our financial sector had no exposure to toxic assets, which led to the credit crunch in most developed markets. However, the current global financial crisis, with the subsequent global economic recession, has adversely affected Zambia, like most global economies, mainly through: reduced revenue earnings from mineral resources; lower foreign capital inflow and foreign direct investment; rising domestic inflation as a result of the depreciation in the exchange rate of the Kwacha against major currencies; and declining number of foreign tourists (Fundanga, 2009).

This study intended to investigate the recent global credit crunch and its impact on African libraries and archives, with particular reference to Zambia. It focuses on the downward economic spin experienced by most African countries over the recent past, emphasizing the problems of library funding and acquisitions. The results include severe budget cuts, to the point of cancelling all periodical subscriptions in some cases, threatening the very existence of libraries and archives. The research

further investigated how libraries are coping with the fiscal constraints and challenges this economic climate imposes. It seeks to provide timely feedback and best practices from librarians and administrators (mostly academic) regarding measures they are taking and their plans for the future.

1.3 General Objective

To assess the GCC and its impact on African libraries and archives, with special reference to Zambia

1.3.1 Specific Objectives

The research aimed at:

- Understanding global credit crunch
- Investigating the effects of GCC on libraries and archives' ability to acquire information resources and quality service provision to users
- Finding out how GCC had affected staffing levels

Examine measures taken and to be taken by institutions to mitigate the crisis

1.4 Proposition

GCC has affected funding/budget allocation to Libraries/archives

2.0 Literature Review

The current global economic crisis has had ravaging effects on the economies of mainly the developed world. Although the USA is going through the greatest financial crisis since the 1930s, many African economies, including Zambia, have enjoyed steady growth though at reduced rate. Economic credit crunch has impacted library services and resources in a number of ways such as stagnating budgets, unsustainable costs, and reduced staff serving a large user group.

2.1 Financial Crisis

The financial crisis is commonly treated as the collapse of the economy, severely affecting the entire financial organizations and all involved industries in short and long run simultaneously. The financial crisis usually starts from a single industry or economical sector where almost all organisations of that industry face severe financial problems and the resulting panic and havoc spreads to other sectors of the economy creating a domino effect where each industry

starts failing one after another (International Monetary Fund, 2008). Some financial crises are also resultants of significant crashes in the stock market, bursting of financial and economical bubbles and entire countries going into default. As the financial services sector of the economy, is the most fundamental sector and termed as the backbone of the economy any problems in this sector result in economy wide implications. The 2008 credit crunch and financial crisis also started from the financial sector and quickly spread to other sectors of the economy as well which is explained in the following section (OEDC, 2010).

2.2 Effects of the Credit Crunch on Library and Archives Operations

Child & Goulding (2012) analysed the impact of the recession of 2008-2009 on public libraries in the Midlands region of the UK and the results show that the credit crunch had an impact on use of public libraries in the Midlands. The principal finding is that more people used libraries during the recession, particularly for job-seeking activities, advice and training. It also emerged that public libraries recognised that the credit crunch provided them with an opportunity to promote their free and low-cost activities, as well as develop new services to respond to the information needs of library users in a recession.

In 2011, Chaputula (2011) reported on a case study he conducted to determine the impact of the global economic crisis on University of Malawi Libraries and Mzuzu University Library. According to the findings, libraries in this study were not affected much by the global economic crisis. Budgets of the libraries had registered steady increments, and this had positively impacted on collection development activities, staff recruitment and training, infrastructure development, and internal and external travels etc. Effects of the economic crisis, though minor, were evident by the stagnation of some college budgets and absence of scholarships for training abroad.

A study by Guarria and Wang (2011) sought to provide insight on how librarians managed through the recession. It aimed to highlight key areas of concern such as budgets and personnel. It is the culmination of two surveys administered in the succeeding summers of 2009 and 2010. Survey findings show that budget cuts were worse in fiscal year (FY) 2009 than they were in 2010. There was no significant help, in terms of cost sharing

for purchases, from the departments within the organizations the libraries served. Best practice suggestions were offered in many areas to include communication, purchasing and personnel.

Kostagiolas, Margiola and Avramidou (2011) analysed the potential of a novel management response model as a pathway for library survival within the fierce economic crisis. Findings – Specific suggestions are made for the management of public libraries, future policies and trends in the lines of learning/education/training services; social/economic development services; electronic government and citizen participation in public affairs services; cultural identity and social cohesion services; and social inclusion services.

A research conducted by Ipsos (2009) on behalf of JISC, SCONUL and UCISA to assess the impact of the economic downturn on university library and IT services shows that although university library and Information Technology (IT) services may not yet be fully feeling the 'pinch' of the recession, given the likelihood of deeper financial cuts being imposed in 2010/2011, it is clear that they will be impacted unavoidably in a number of ways, such as reduced opening hours, decreased opportunity for developing staff skills, and limitations in procuring and providing resources. Such impacts, certainly for libraries, are likely to be compounded by the decreasing value of sterling in an international market for acquisitions, and the ever-changing demands of students and academic staff on their services.

3.0 Methodology

This case study embraced both quantitative and qualitative type of research methodologies through the use of both closed and open-ended questions. The purpose of combining the two methodologies was to bring out in-depth information, narrative descriptions and understanding of the global credit crunch and its effects on libraries and archives based on participants' experiences, attitudes, thoughts and feelings.

The research used self-administered questionnaires to collect data from the respondents of different institutions. Eight institutions namely; University of Zambia (UNZA), Copperbelt University (CBU), Mulungushi University (MU), Rusangu University (RU), National Institute of Public Administration (NIPA), Evelyn Hone College, Zambia Environmental Management Agency (ZEMA), and the National Archives of Zambia participated in the research.

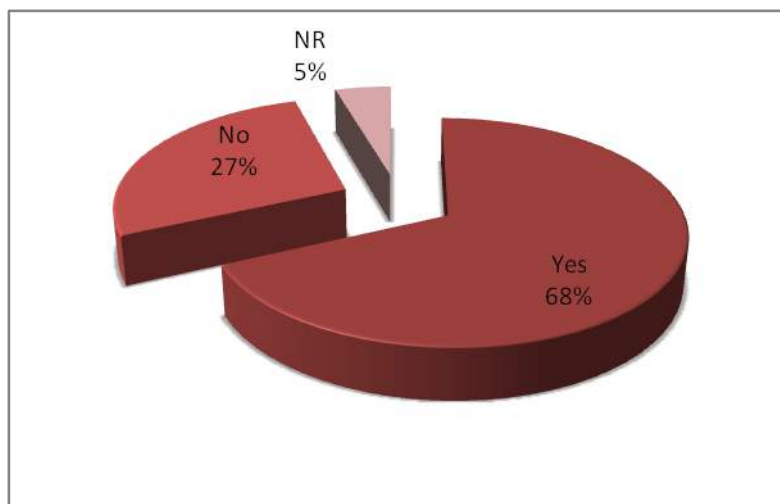
A total sample size of 22 Librarians /Archivists was used to provide responses to the study where a stratified random sampling method was applied for their selection. SPSS was used to analyse the data collected through closed questions while the responses from open-ended questions were analysed through content analysis.

4.0 Research Findings and Discussion

4.1 Bio Data of the Respondents

The response rate for this research was good. Out of the 10 targeted institutions, 8 institutions were

Fig 1: Effects of GCC on library/archives funding/budget allocation



represented, giving us a response rate of 80%.

Sex: 12 (55%) were females and 10 (45%) were males, Age: 9(41%) were between the age of 30-39 years and 13(59%) were 40 years and above, Job title: 3(14%) were Library Assistants Certificate holders, 10(45%) were Assistant Librarians with graduate degrees, 9(41%) Librarians with postgraduate degrees, Institutions: 12(55%) were from UNZA, 1(4%) was from Copperbelt University, 1(4%) from Mulungushi University, 4(18%) from NIPA, 1(4%) from ZEMA, 1(4%) Evelyn Hone College, 1(4%) from Rusangu University and another 1(4%) was from the National Archives of Zambia.

This information shows that the population was above 30 years of age and most of them with at least first degree. This is a sign that they were mature and with more experience and knowledge of how the libraries were operating

4.2 Understanding the GCC

Respondents were then requested to define GCC according to the way they understand it. The following were their responses:-

Eleven (50%) respondents felt that GCC is when there is a shortage of money in the economy

Another 11(50%) respondents indicated that GCC is when people have less money to spend on their basic needs such as food, shelter, sanitation and clothing

Thirteen (59%) revealed that GCC can be defined as a decline in loans availability from financial institutions

Seven (32%) felt that GCC is when borrowing money comes at a higher risk and at a higher rate

Fourteen (64%) indicated that GCC is when there is tight budget

Two (9%) said that GCC is when the financial status of economies and corporate entities get affected by the economic doldrums that are precipitated by economic down turns in global markets

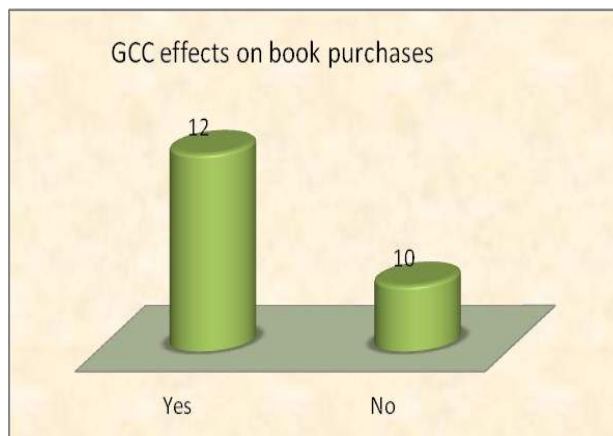
This is an indication that the people the study is dealing with basically understand what GCC is all about, at least in their own realms of knowledge

4.3 GCC and Its Impact on Libraries/ Archives

Many problems such as lack of funding and staff

training have been felt in libraries, which probably could be associated to GCC. In trying to seek the answers behind these issues, responses to this research suggest that the GCC plays a significant

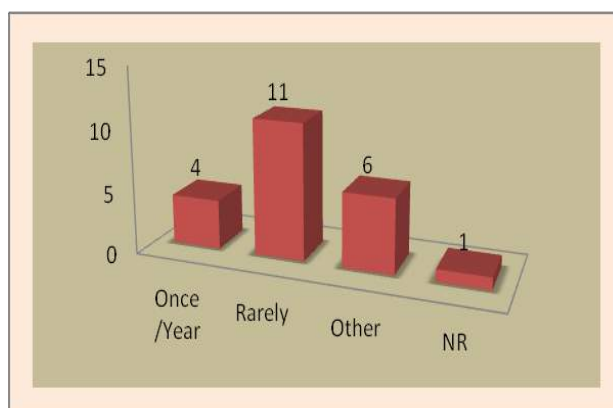
Fig 2: Effects of GCC on library/archives acquisitions



role in the reduction in funding/budget allocation to libraries and archives. The results showed that 15(68%) felt that GCC has greatly affected the funding to libraries and archives, while 6(27%) disagreed and explained that the poor financial status experienced in libraries/archives were not associated to GCC and 1(5%) respondent did not give any response. The results are presented in the pie chart below.

The explanation from those who said that GCC has contributed to reduction in budget allocation/ funding to libraries was that the evidence is clearly

Fig 3: Frequency of purchases



seen on out-dated reading materials, poor ICT infrastructure, poor services and lack of training for librarians. They further explained that GCC has led to limited staffing levels in libraries and inability to acquire all resources needed for users.

Table 1: Cross-tabulation of GCC's effects on funding to Libraries and purchasing rate

		How often the library buys books			Total
		Once a year	Rarely	Other	
If GCC has affected funding/ budget allocations to Libraries	Yes	2	8	4	14
	No	2	2	2	6
Total		4	10	6	20

Meanwhile, those that disagreed that GCC has affected libraries explained that "GCC or no GCC, the libraries/archives have been receiving very little funding for nearly four decades". They concluded that it is difficult to relate or associate "their" library's financial woes to GCC because their financial situation has been there even before the global financial crisis came on. Others further explained that it is not necessarily the global crunch, but changes in the financial management of their institutions. Meanwhile three institutions had not felt any difference because two are privately/self financed while one is a national repository so they do not buy but just receive.

4.4 Effects of GCC on Acquisitions

It has been further argued and believed that the result of the poor funding to libraries/archives as alluded to in the above research findings, has affected other library services such as quality of library resources/services and staffing levels. The research further set out to prove this fact seeking the respondents' opinions on whether the GCC has affected the library's/archives' abilities to build their acquisitions through purchase. The results showed that 12 (55%) agreed that GCC had affected the library's/archives' abilities to buy new resources hence affecting quality of services and 10(45%) objected. See the graph below for further information.

Ultimately, these results are an indication that libraries/archives are not able to purchase the most needed resources for their clientele due to poor funding from the Government or any other responsible body.

To get more information on the extent to which libraries/archives are affected on purchasing library resources, the respondents were asked how often their Institutions buy library resources. Four (18%) said that they buy at least once in a year, 11(50%) indicated that they rarely buy, 6(27%) responded that they were not sure of the buying frequency and 1(5%) did not give a response. See graph below

Further data analysis was sought to establish whether there was a relationship between GCC and how often libraries buy materials. This was also to prove the preposition set earlier that "GCC has affected funding/budget allocation to libraries/archives". The two variables were cross-tabulated and the results were as shown in the table above.

The results from the cross-tabulation showed that out of the 14 respondents that had initially indicated that GCC has a negative effect on library/archival funding, 8 indicated that their institutions rarely buy new library books, 2 said that they buy once per year, 3 were not sure how often they buy and 1 represented a National repository which only receives. In trying to explain how rarely they buy, some indicated that the libraries they represented actually never buy any books and that they totally depend on donations. Others could not even trace when last they bought library resources due to lack of funding libraries are experiencing. Their simple but profound response was that they buy as and when funds are available, which is entirely the decision of the Central Administration of their institutions.

The interpretation of the results is that there is a relationship between the GCC effects on funding

to libraries/Archives and how often they buy books for their clientele.

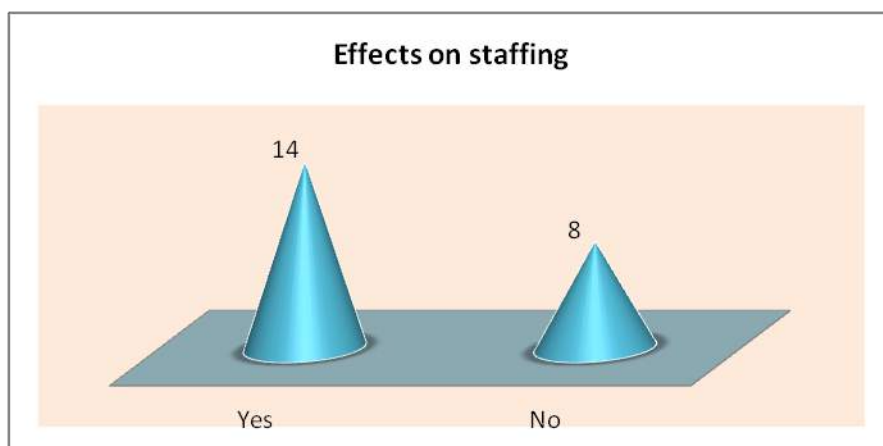
Based on the above findings and data analysis, the research can then safely conclude that GCC has led to reduced funding/budget allocations to libraries/archives, which has consequently affected the resources/services they offer. Libraries and archives rarely buy library resources.

4.5 Effects of GCC on Staffing Levels

What about staffing levels? Has the GCC got any effect on staffing levels in libraries and archives? The results showed that 14 (64%) said that GCC has contributed towards the problem of understaffing in libraries while 8 (36%) do not think so. See graph below

The respondents gave a number of explanations based on experiences and among which were as follows.

Fig 4: Effects of GCC on staffing levels in libraries and archives



Most of the respondents (10) stated that libraries have frozen employment of new staff apart from filling up vacancies. This has left some positions

unfilled leading to understaffing in all library departments. Few staffs are now expected to keep serving a growing user population. One respondent however revealed that it is difficult to relate staffing situation to GCC as underfunding to libraries seem to result from other situations such as management.

4.6 Measures to Combat GCC Crisis

Out of the total number of 22 respondents, 6 (27%) indicated that their institutions have come up with measures to combat GCC while 5(23%) said that their institution have not put in place measures to curb GCC, 10 (46%) were not sure and 1(4%) gave no response. See table 2 below.

Those that said yes cited measures like engaging in exchange program, donations/gifts, internal fund generation, reducing on certain expenditure such as reducing overtime hours for members of staff so that such moneys could be channeled towards buying library resources such as books and journals.

The respondents suggested other ways of combating the GCC crisis such as establishing resource sharing partnerships at consortia level where libraries subscribe for e-resources and formation of Union catalogues for print resources, initiate income generating ventures to stop relying on government funding such as introduction of levies on users etc, solicit for more donations from Donors in both finance and material

forms, lobby for the library to be given priority during budget allocation and increase allocation from students fees. Libraries can also cut down on expenditure and stick to tight budgeting

Table 2: Measures libraries have come up with to curb GCC

		Frequency	Percent	Cumulative Percent
	Yes	6	27.3	28.6
	No	5	22.7	52.4
	Not sure	10	45.5	100.0
	Total	21	95.5	
Missing	System	1	4.5	
Total		22	100.0	

5.0 Conclusion

The findings ultimately indicate that GCC has had a negative impact on funding and budget allocation to libraries/ archives in Zambia. Evidence can be traced on the purchasing frequency of libraries. Most libraries rarely buy books for their clientele such that some respondents could not even trace when they last bought books for the library, leading to out-dated reading materials, poor ICT infrastructure and lack of training for librarians. This has further resulted into poor services and staffing levels in libraries. Currently, Libraries no longer recruit staff to take up new positions but only employ to fill vacancies. This has led to understaffing in libraries; where few staff is expected to serve a large user group, hence compromising on quality of services.

What then is the way forward for libraries? The study brought out a number of measures libraries can engage in to curb the crisis such as engaging in exchange programs and resource sharing partnerships at consortia level where libraries can access e-resources and forming union catalogues to access print resources; reducing expenditure on certain aspects like overtime hours; initiate income generating ventures to stop relying on government funding such as overtime charges to users; and increasing donations from donors financially and materially.

In the face of budget cuts, it is, therefore, more necessary than ever before to convince decision makers of the importance and value of information for the political, cultural, scientific and economic development of a country. For this purpose, the authors propose three measures: Library resource sharing, improved approaches to funding requests from local and external donors and more effective pursuit of internal fundraising ventures.

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SUB-THEME: 3

***Knowledge and Information in Health Care
Delivery services***

Factors Influencing the Conduct and Dissemination of Nursing Research Among Practicing Midwives at a Tertiary Teaching Hospital

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Abstract

The individual, organisational (contextual) and research factors associated with conducting and dissemination of nursing research among practicing midwives had to be examined to stimulate growth of local nursing literature. A mixed methods approach employing a cross-sectional survey and phenomenology design was used to determine the factors influencing the conduct and dissemination of nursing research among practicing midwives. A standardised questionnaire was delivered to 44 midwives followed by 6 open-ended interviews which were held with key informants drawn from the initial 44 participants. The results of the study showed that demographic, educational, professional and contextual characteristics of midwives were the main factors contributing to the lack of participation in the conduct of nursing research. This encourages the philosophy of a library as a communication system to be expanded through the use of modern Information and Communication Technologies (ICTs) in the diffusion of research results among midwives.

Keywords: *Research Factors; Research Evidence; Nursing Research; Dissemination; Midwifery*

1.1 Background to the Conduct and Dissemination of Nursing Research

Research is both a multidisciplinary and interdisciplinary activity necessary for the continuous development of the much needed scientific body of knowledge in the knowledge economy. It marks the hallmark of a profession (Olade, 2003, ICN, 1999). The International Council of Nurses (ICN), (1999:1) position statement reads that "Research-based practice is a hallmark of professional nursing. Nursing research, both qualitative and quantitative, is critical for quality cost-effective health care." This idea concurs with International Federation of Library Associations and Institutions (IFLA, 2003) acknowledgement that the discovery, contention, elaboration and application of research in all fields will enhance progress, sustainability and human well-being. Conducting research involves formulating a research question, aim or hypothesis and identifying a clearly defined sample that has been selected according to pre-defined inclusion and exclusion criteria (AUSPRAC, 2009). However, there is a dearth of studies about the factors affecting midwives' conduct and dissemination of nursing research.

Nwagwu and Ahmed (2009) in Raju (2012) noted that Africa produces only 0.7% of the research output of the world. A close look at Band 1 countries such as Zimbabwe with less than US\$ 1 250 annual per capita income or Gross National Income (GNI), reveals a slow progression of article

output from 1996 to 2011 in the field of Nursing (SCOPUS-SCImago Lab, 2012). The trend for published documents in nursing for this period is exceptionally low with only four documents published in 2011 (SCImago, 2007). The dissemination of nursing research, however, remains difficult, as a peer-reviewed Zimbabwean midwifery journal does not exist. Despite all the effort in introducing research courses in the nursing and midwifery curriculum, Zimbabwe is failing to convert its exceptional high literacy rate into meaningful research output visible on the world map.

1.2 Research Problem

There is scarcity of local peer-reviewed sources of nursing literature for the would-be nursing researchers who find it difficult to contextualise the problems they would like to investigate. The dearth of local nursing literature in Zimbabwe also stifles the production of contextualized policies, programmes and interventions that address local health care problems. Difficulties in the initiation and conduct of nursing research in novice researchers/research beginners/ new research entrants- in midwifery is often problematic for research supervisors and information professionals who attempt to provide attentively for their needs. If information professionals view difficulties in the initiation and conduct of nursing research as meaningful behaviour to be explored and understood rather than as disruptive behaviour to be

castigated, they may find it more of a challenge and less of a threat. In the future, research interest in the new research entrants in midwifery is likely to have an even greater impact on individuals, families and society, since research is the proven scientific method known to increase the stock of knowledge and bring new innovations and interventions. Both research supervisors and information professionals need to understand factors affecting the conduct and dissemination of nursing research, and develop skills in overcoming the difficulties the initiation and conduct of nursing research.

1.3 Aim and Objectives of the Study

The aim of this study was to examine factors affecting midwives' contribution to research and ultimately the dissemination of the nursing research findings at PGH. The specific study objectives were to: find out midwives' attitudes towards nursing research; determine the factors influencing the participation of midwives in conducting nursing research and establish the scientific communication channels of nursing research dissemination among midwives at PGH.

1.4 Conceptual Framework

The conceptual framework for the study was the Research Publication Cycle. According to Subramanyam (1979: 392) as cited in library guides from Acadia University, scientific knowledge has been defined as the objective knowledge of the universe and its phenomena, generated by the scientific method of inquiry and validated to conform to empirical observations of natural phenomena. The famous chemist, Michael Faraday, once stated that the three necessary stages of useful research were to begin it, to end it, and to publish it. The importance of communication in the sciences arises from the fact that the objective knowledge of science is cumulative in nature. Each new bit of knowledge adds to, modifies, refines, or sometimes refutes that which came before.

The Research Publication Cycle (Subramanyam, 1979: 392) consists of four related circles, that is, Time, Knowledge, Publication and Access cycles. The model assumes that research literature begins with an idea or ideas. A researcher may be curious about an aspect of her discipline or perhaps a clinician encounters a challenge in practice. Initial recorded documentation about the researcher's investigation of the topic may appear only in laboratory notebooks, research diaries or email corre-

spondence. Developed and discussed ideas are presented in preliminary research through conference papers, proceedings, newsletters or internal reports. This documentation is better known as "grey literature" or "invisible college" because it is not uniformly indexed and is difficult to find. Soon or later the ideas are reported as research in technical reports, dissertations, theses or research reports. It is then published for academic scrutiny in scholarly, peer-reviewed journals. Eventually, key research findings gain acceptance within the scientific community and are recognized globally. At this position the ideas become fully integrated in encyclopaedia, textbooks and clinical tools.

2. Literature Review

The word *research* as it is used in everyday speech has numerous meanings, making it a decidedly confusing term for students, especially graduate students (Leedy & Ormrod, 2010: 1), who must learn to use the word in a narrower, more precise sense. The duo offered some activities often called research but more appropriately called other names: information gathering, library skills, documentation, self-enlightenment, or an attention-getting sales pitch. A number of scholars and researchers from various fields of knowledge offered varied definitions to this term. According to the Oxford Advanced Learners' Dictionary of Current English (1986: 720), research is defined as "systematic investigation undertaken in order to discover new facts, get additional information". According to Meyer et al. (2010: 344), research can be defined as a purposeful scientific, diligent and systematic investigation to validate and refine current knowledge or to create new knowledge. Nursing research is systematic inquiry designed to develop trustworthy evidence about issues of importance to the nursing practice, education, administration and informatics (Polit & Beck, 2012: 3). Both writers distinguished nursing research from clinical nursing research by defining clinical nursing research as nursing research designed to lead nursing practice and to improve the health quality of life of nurses' clients. Nursing research is research that arises from the practice of nursing for the purpose of solving patient care problems (Larson, 1981). Gortner (1975) a noted nurse researcher describes nursing research as a systematic inquiry into the problems encountered in nursing practice and into the modalities of patient care, such as support and comfort, prevention of trauma, promotion of recovery, health education, health appraisal, and coordination of health care. Nursing research is conducted to improve nursing

care and to ensure that patients receive the best possible nursing care and includes research on nursing management, clinical nursing and clinical nursing education to enhance the individual patient's quality of life and ability to take care of him-/herself (Meyer *et al.*, 2010: 345).

Midwifery research addresses midwives' ways of working and aims to improve midwifery practice. Its development in many European countries followed a call from the USA and the UK for increasing evidence-based practice in order to ensure quality in maternity care (Ernst, 1964 and Cochrane, 1972). Midwives in the USA focused their research on proving the effects of midwifery care, such as home birth, birth centres and care for vulnerable groups, as well as documentation of their specific practical experience (Levy *et al.*, 1971, Rooks *et al.*, 1989 and Scupholme *et al.*, 1992).

From the definitions offered above, it follows that research is a logical activity, aimed at bringing out new facts and information in support of or rejection of already known facts about a particular situation, object, process or subject.

Midwifery practice evolves with increased research evidence (scientific knowledge) and the change is on-going. The midwifery research evidence is developed through nursing research or applied from the natural and social sciences, and from medicine which is an applied science (Mellish, Oosthuizen & Paton, 2010: 5). The midwife has a role to play in ensuring that the profession is progressive, changing with times and, therefore, the practice is current (Moyo, 2000:73). The midwife achieves this by: a) keeping himself/herself up-to-date through reading professional literature, discussing new issues with colleagues, attending lectures, symposia and workshops. b) keeping the profession as a whole up-to-date by presenting programmes annually in the form of short courses, symposia of particular interest and workshops. Midwives get involved in nursing research to push forward the frontiers of science and to push forward the frontiers of their career (Meyer *et al.*, 2010: 344; Macnee & McCabe, 2008: 271-282; Schneider *et al.* 2003: 5-6). For midwifery to develop and grow as a profession and as a science, current knowledge must be validated and refined. In fact, existing knowledge must be tested again in a new or different context to create new knowledge, as one of the criteria for a profession (Meyer *et al.*, 2010: 345).

Nursing research literature are reports on research already completed in the field of nursing and it gives the researcher an indication of successes and stumbling blocks in respect of the design and initiation of research, as well as the validity of research hypotheses, research techniques and research instruments (Uys & Basson, 1998: 20). The dearth of local nursing research literature, lack of time to retrieve and read nursing literature, lack of experience in research and poor staff retention rates may be affecting the quality of health care provided to patients (Eiss & Glass, 2011; Woelk *et al.*, 2009; Pravikoff, Tanner & Pierce, 2005; Dobbins *et al.*, 1998). The dearth of local nursing research literature and shortage of research mentors may lead to lower participation levels in practice based research among nurses and midwives (Danielson & Berntsson, 2007), in order to generate the best research evidence (Polit & Beck, 2012). However, few studies have systematically investigated these variables on their utility in affecting the conduct and dissemination of nursing research at a teaching hospital among midwives.

Several barriers to the dissemination and utilization of nursing knowledge in clinical practice have been identified. These include: lack of awareness of nursing research, lack of knowledge of the research process and the inability to understand research reports (Cronenwett, 1995). These factors may contribute to negative attitudes among nurses regarding the use of nursing research in their clinical practice (Rassool, 2005).

3. Methods

For the purpose of this research, the researcher employed the mixed method approach. A mixed method approach is one in which the researcher tends to base knowledge claims on pragmatic grounds such as consequence-oriented, problem-centred or pluralistic (Cresswell, 2009:18). It employs strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand research problems. The data collection also involves gathering both numeric information especially on instruments as well as text information particularly on interviews so that the final database represents both quantitative and qualitative information.

The combination of qualitative and quantitative methods deepened the understanding of processes, attitudes, and motives (Stanisius *et al.*, 2008) of midwives' conduct and dissemination of nursing research. The qualitative approach was added in

order to develop a rich and context-bound understanding of the factors which constrain midwives in conducting and disseminating nursing research findings. The factors were drawn from the personal experiences of the practicing midwives. The study began with a broad survey on the factors contributing to the conduct and dissemination of nursing research by practicing registered midwives at Parirenyatwa Group of Hospitals in order to generalize results to midwives at teaching hospitals and then focused, in a second phase, on detailed qualitative semi-structured interviews with individual registered midwives. In this manner, a mixed method approach led to a richer understanding and description of the conditions and situations that midwives are involved in the conduct and dissemination of nursing research findings (Cresswell, 2009: 19; Miles & Humberman, 1994: 34). A single approach to measuring research behaviour of midwives was inadequate to justify a claim that it is a valid measure of the theoretical concepts (Burns & Grove, 2009:231), therefore, triangulation was the best strategy to increase the overall validity of the study. Triangulation is the combined use of two or more theories, methods, data sources, investigators, or analysis methods in the study of the same phenomenon (Burns & Grove 2009: 231; Denzin, 1989). Methodological triangulation takes two forms, 'within-method' and 'between-method' triangulation (Magnusson, Finerty & Pope, 2005). The latter form was considered an appropriate approach that combines two or more data collection methods in order to study the same phenomena. The 'between-method' option of methodological triangulation (Denzin, 1989) was chosen as the most appropriate triangulation method for the study. The underlying principle for its use was that through combining different methods, the weakness of one method would be addressed through the strength of another.

Cross-sectional survey was conducted over one short period and several representatives were selected at different stages of development (Uys & Basson, 1998: 49). This type of study was less expensive, external influences were limited and loss of subjects was minimised (Treece & Treece, 1986: 180-181 in Uys & Basson, 1998: 49).

The research population consisted of 51 practicing Registered Midwives working at Mbuya Nehanda maternity Hospital, Parirenyatwa Group of Hospitals as drawn from the Principal Nursing Officer's register of midwives as at April 2013. Borrowing the terms of Orwuegbuzie and Collins (2007) as cited in Polit and Beck (2012: 614), the research-

ers employed the nested sampling relationship between the qualitative and quantitative components. In such kind of sampling relationship the participants in the qualitative strand were a subset of the quantitative sample.

In the first quantitative survey, simple random sampling was used to select the respondents. The simple random sampling technique is a probability sampling technique in which subjects were afforded an equal chance to participate in the study and chances of minimizing bias were very high. The method involved the selection of midwives listed in the sampling frame drawn from the register of midwives for the maternity hospital at PGH. The selection of respondents was done using random number tables. Simple random sampling was chosen because of easy of calculation. The calculation of the sample size was based on significance level, statistical power and effect size. For a population of (N=51) midwives, a sample size of (n=44) was needed for a power of 95% Confidence Level and 5% Confidence Interval (Krejcie & Morgan, 1970: 608).

In the second phase of the study, a purposive sampling method for interviews was employed to corroborate responses from the initial survey. For this purpose key informants were drawn from the questionnaire respondents who exhibited interest in nursing research in their responses. The qualitative sample consisted of six cases and saturation was used to make decision about when to stop sampling (Polit & Beck, 2012: 614).

A self-administered questionnaire was used to collect demographic data and profile of research and dissemination of research findings. The questionnaire was accompanied by an introductory letter as well as guidelines for answering questions. A purpose made fifteen item questionnaire was designed based on the conceptual framework, other established research instruments and reviewed literature. The interviews were conducted with the practicing registered midwives who presented high interest in research from the first phase of the study, to explore and confirm the relevant details regarding the research activities and services provided to them. A semi-structured interview schedule was chosen as a confirmatory method to the quantitative questionnaire. A semi-structured interview schedule was formulated from the findings of the first quantitative study which then allowed for the subjective experiences of the interview participants to be explored. To avoid maturation and ensure uniformity (Trochim 2002), the data collec-

tion from all the participants were done within one day during the weekend.

The pilot study was done to investigate the feasibility of the study, detect possible flaws in the data collection instruments and estimate time requirements in completing the research instruments. A pilot study was done to test the questionnaire and interview schedule as research instruments, for reliability and validity. The research instruments were given to six experienced midwives to evaluate the questionnaire for content-related validity, including face and construct validity, as well as readability. The midwives were also asked to comment on the clarity of questions, effectiveness of instructions and completeness of the response sets.

Authority to conduct the study was obtained from the hospital authorities and consent was also ob-

tained from each participant.

Quantitative data from the questionnaire was entered into the computer using the Statistical Package for Social Sciences (SPSS) Version 14.0. After having completed six interviews with the senior midwives, we had a sense of what the main themes were, because they kept coming up in each interview. Recorded interviews were transcribed verbatim and the process took more than the budgeted time. We chose to start open coding to the transcript of the interview with the participant who seem to have stressed strong points to answer the research objectives. Textual data from the qualitative interviews were analysed using content and thematic analysis.

4. Results

Of the 44 distributed questionnaires, 42 were re-

Table 1: Practice setting, Position, Age, Education

Practice Setting	Frequency Response	Percentage %
Antenatal Clinic (ANC)	3	7.1
Antenatal Ward	11	26.2
Postnatal Ward	6	14.3
Labour Ward	8	19
Kangaroo Unit	3	7.1
Neonatal Intensive Care Unit (NICU)	4	9.5
Private Ward	7	16.7
TOTAL	42	100
Current Position		
Junior Sister	22	52.4
Senior Sister	11	21.4
Charge Nurse	6	14.3
Clinical Instructor	2	19
Matron	1	16.7
TOTAL	42	100
Age (years)		
<20	0	0
21-30	12	28.6
31-40	18	42.9
41-50	8	19
>50	4	9.5
Total %	42	100
Qualifications		
Diploma in Midwifery	34	80.9
BSc in Nursing	7	16.7
MSc Nursing	1	2.4
TOTAL	42	100

turned fully completed for a response rate of 95.5 %.

4.1 Demographic Characteristics

Subjects ranged in age between 25 and more than 55 years with a median age of 35. Their years of experience ranged from 1 to 25 years, with more than 61% having more than 5 years of experience (Table 1)

When asked about their membership to any professional association in an open ended question, 33 (78.6%) respondents indicated their affiliation to both Zimbabwe Nurses Association (ZINA) and Zimbabwe Confederation of Midwives (ZICOM), six (14.3%) indicated that affiliated to ZINA only. Figure 1 below presents the research results clearly.

4.2. Midwives' Involvement in Nursing Research

As the majority of the respondents were prepared for research up to the post basic level during their training only a few did not receive training in research probably due to the late introduction of the course of nursing research in the midwifery curriculum.

Figure 2 shows that 10 (23.8%) claim to have been involved in nursing research through initiating and carrying out a study to answer a nursing research question. The majority 32 (76.2%) indicated that they never conducted a research project. The ten who claimed to have conducted one or more research project(s) came from the Antenatal (6) and Private ward (4).

Table 2 shows the number of research projects each of the ten respondents who claim to have

conducted nursing research. The majority of the respondents 6 (60%) among the ten midwives who said they conducted nursing research have carried out only one research project.

The six senior midwives interviewed had engaged in one or more research projects. Four of the senior midwives had taken a lead in research projects.

4.3 Modes of Research Communication among Midwives

Out of the ten respondents, 4 (40%) indicated that they made use of the informal gatherings with their colleagues to communicate research findings to other midwives. The other 3 (30%) used research articles to communicate their findings and

Table 2: Number of Research Projects Conducted (n=10).

Number of Research Projects	Frequency (n)	%
<i>One</i>	6	60
<i>Two</i>	2	20
<i>Three</i>	2	20
<i>Four</i>	0	0
<i>More than Five</i>	0	0
Total %	10	100

colleagues and 2 (20%) used conferences as a platform to share their research results (see Figure 3).

One noted striking pattern was that predominantly young midwives were consistently inclined to the use of their smart phones to share research literature with their colleagues within the profession confirming the quantitative results from the questionnaire. However, the lack of sharable results

FIGURE 1: Respondents' Affiliation to a Professional Association (N=42)

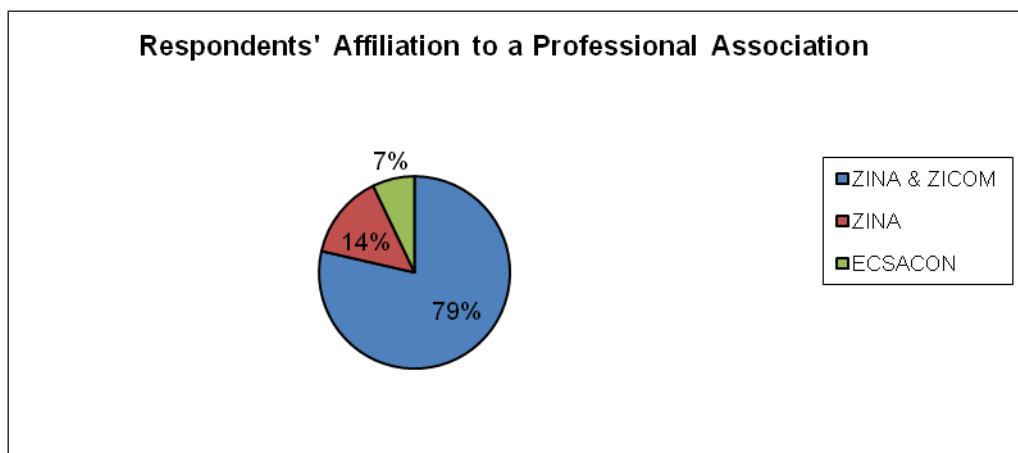
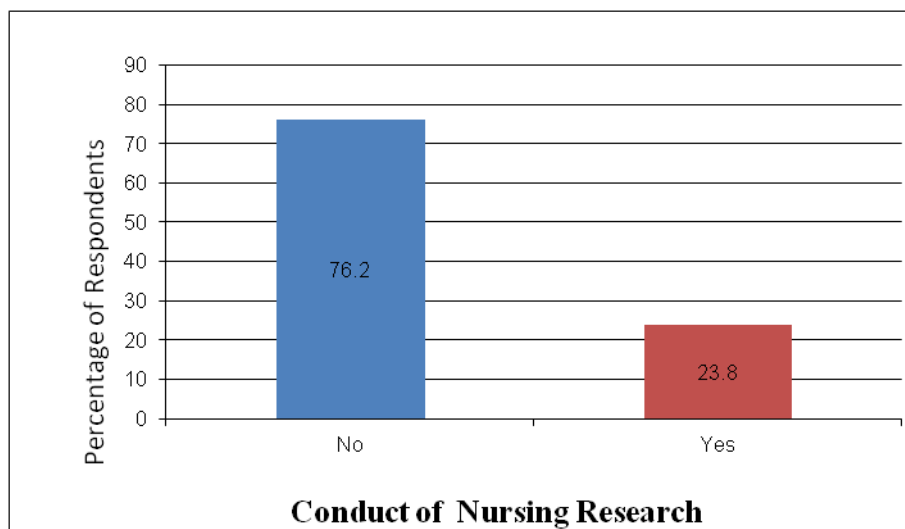
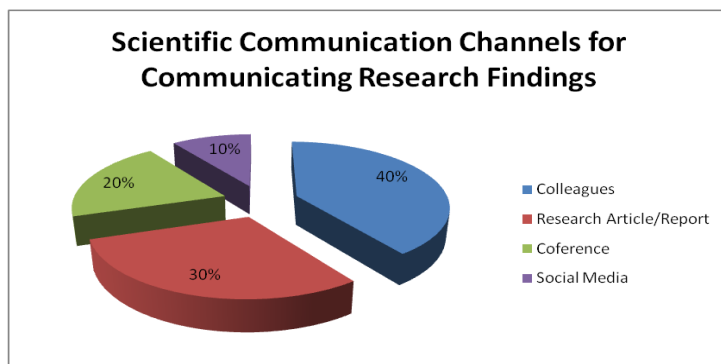


FIGURE 2: Conduct of Nursing Research (n=42)

from the local context was a major challenge. The trend indicates that midwives are likely to receive content from other researchers but not create content to send to other midwives.

Figure 4 indicates that Google Scholar 12 (28.6%) is a widely used bibliographic database or search engine among the sixteen midwives who provided information on their information seeking behaviour. Four (9.5%) of the respondents indicate PubMed as the database for their source of scientific

FIGURE 3: Scientific Communication Channels Among Midwives (n=10)

information. The majority of the midwives 26 (61.9%) did not provide information regarding this item and all the respondents seem to be unaware of the other databases such as CINAHL and EMBASE.

4.4 Perceptions, Attitudes and Knowledge towards Nursing Research

The midwives' attitudes to nursing research are described in Table 4.7. The majority 22 (52%) took the view that the intellectual challenge of nursing research motivates them to work harder.

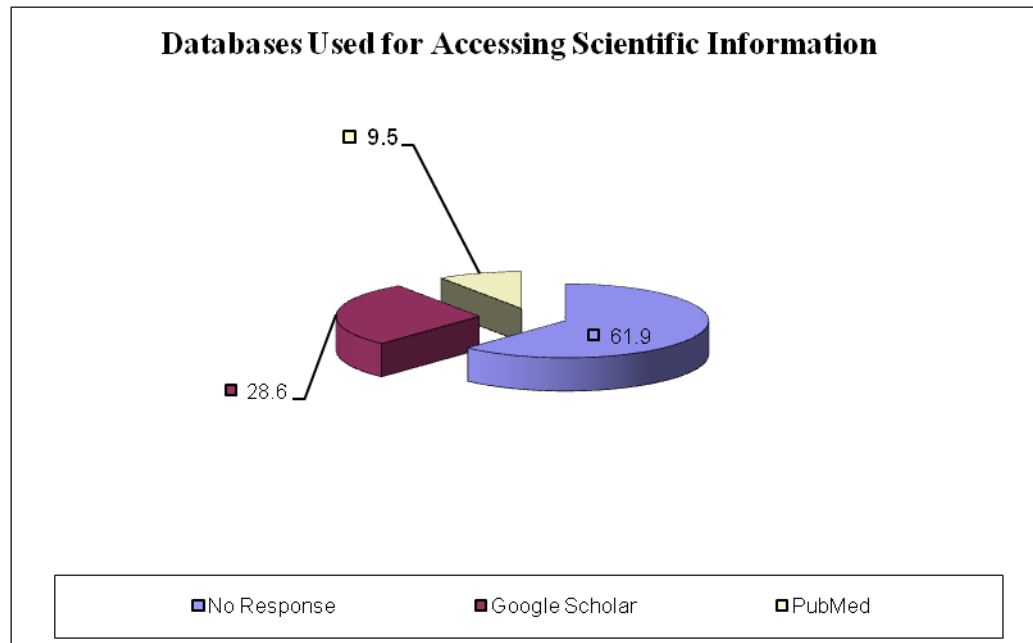
One-third (33%) strongly disagreed with the statement that "Nursing research has no value to midwifery" while one-third (33%) strongly enjoyed reading nursing research in catching-up with the latest trends and developments in the discipline. Nonetheless, a paltry two-fifth 17 (40%) felt that they can contribute to nursing research literature by doing research, and just above one-fifth 10 (24%) strongly agreed that sharing research results with other midwives is self-satisfying. For unknown reason, over half

22 (52%) reserved their perceptions regarding the statement "A nursing research team experience would be positive for me personally". Slightly over one-fifths 9 (21%) felt that doing nursing research is important in building their career.

One-third 14 (33%) showed uncertainty to the statement that they can contribute to PGH's research reputation by publishing research papers while nearly another third 12 (29%) strongly agreed to the same statement.

The mean value of the summary variable (n = 42) was 2.84 (minimum 1.12, maximum 4.00, range 2.85, s.d. 0.59 and 95% confidence interval 2.78–2.90), that is, midwives took a fairly positive attitude to nursing research from their own practical vantage-point.

4.5 Reasons for Not Conducting Nursing Research in Practice

FIGURE 4: Databases Used for Accessing Scientific Information (n=42)

In Table 4, it is evident that the non-existence of a professional obligation to conduct research was cited as the most prevalent reason for not conducting nursing research as indicated by 36 (85.7%) respondents. The absence of nurse research mentors was the second highest reason with 33 (78.6%) respondents while access to other research findings had the least number of respondents 22 (52.4%) but this number is above half.

Respondents from the questionnaire came up with a sizeable number of suggestions for the awareness of nursing research among midwives. From the suggestions, awarding prizes to successful nurse researchers was the highest among the suggestions, with 35 (83%) of the respondents putting it forth (see Table 5).

The senior midwives described a myriad of research activities within their role, with each functioning slightly differently. However, many common features were present, including those outlined in Box 1. Findings from this work are compa-

TABLE 3: Attitudes toward nursing research (n=42)

Factor	SD1 n(%)	D2 n(%)	N3 n(%)	A4 n(%)	SA5 n(%)	NA6 n(%)
A1	17(40)	6(14)	4(10)	2(5)	10(24)	3(7)
A2	3(7)	4(10)	3(7)	12(29)	9(21)	11(26)
A3	6(14)	5(12)	14(33)	5(12)	12(29)	0(0)
A4	1(2)	8(19)	2(5)	4(10)	5(12)	22(52)
A5	0(0)	5(12)	2(5)	5(12)	22(52)	8(19)
A6	12(29)	1(2)	3(7)	8(19)	14(33)	4(10)
A7	10(24)	6(14)	5(12)	4(10)	17(40)	0(0)
A8	11(26)	10(24)	1(2)	7(17)	10(24)	3(7)
A9	13(31)	2(5)	3(7)	8(19)	11(26)	5(12)
A10	14(33)	18(43)	2(5)	3(7)	5(12)	0(0)

SD1= Strongly Disagree, D2= Disagree, N3= Neutral, A4= Agree, SA5= Strongly Agree, NA6= Not Applicable.

Factors: A1=I believe that doing nursing research is important for building my career; A2= I don't understand how nursing research improves my practice/teaching; A3= I can contribute to PGH's research reputation by publishing research papers; A4= A nursing research team experience would be positive for me personally; A5= The intellectual challenge of nursing research motivates me to work harder; A6= I enjoy reading nursing research papers on topics of my interest; A7= I can contribute to library research literature by doing research; A8= Sharing research results with other midwives is very self-satisfying; A9= I want to build my reputation as a midwife through research; A10= Nursing research has no value to midwifery.

Table 4: Reasons for not conducting nursing research in practice (n=42)

Reason	Frequency Response	Percentage %
No Professional Obligation	36	85.7
No Time	25	59.5
Too Costly	27	64.3
No Knowledge of Research	28	66.7
No Access to other Nursing Research Findings	22	52.4
No Nurse Research Mentor	33	78.6

table to the issues identified in the quantitative results. Common constraints were expressed, including lack of time to read and review midwifery literature. This has resulted in a lack of motivation to develop research-specific skills such as project management and leadership skills, and a lack of guidance on research governance procedures. This lack of motivation was also identified as a reason for the lack of opportunities for midwives to develop their own research interests. The impact of the lack of administration support on the workload of the midwives was evident.

Frustrations were also evident for some midwives around the gap between the clinical and research role. Five of the senior midwives expressed a desire for better integration of the clinical aspect of the research role, and more opportunities to apply their research knowledge and skills to clinical practice. A need for better support of training and professional development was identified to recognise midwives' contribution in the creation of research evidence through research. While there were uncertainties around opportunities for career progression, the senior midwives described positive aspirations for the future development of their profession. These included developing and implementing strategies to enable more effective integration and use of research evidence within their

work. A training element within the hospital could be incorporated into the practicing midwives.

Implications

The research findings brought out the two major emerging issues in the conduct of nursing research, that is, lack of individual motivations and reward for professional development. Individual motivations include a set of broad personal factors such as quest for solving social or health problems or necessity to gain societal status. Reward for professional development resembles recognition by the employer, professional society and general society through either promotion or some honorary prize. The research results obtained from this study indicate that nursing research dissemination is not taken seriously as the concluding phase of every research project in order to facilitate access to and application of research findings. The contributions in this paper suggest that the development of a research training programme for midwives is worthy of consideration alongside the plans for midwifery career advancement. Providing a career structure that recognises the value of well trained and experienced midwives would also be welcome. Of high importance to information professionals is the compilation of bibliographies and databanks for the easy access and finding out what has been done by whom at a particular time. Not only does

Table 5: Suggestions for awareness of nursing research among midwives (n=42)

Recommendations	n (%) Respondents
Participate in national and international research conferences	25(60)
Improve speed and reliability of Internet connection	23(55)
Initiate research-training programmes	28(67)
Award prizes to successful nurse researchers	35(83)
Set up new guidelines for nursing research in clinical practice	31(74)

the nursing and midwifery library provide an ideal platform for the transfer of research results, but also creates an ideal condition for conducting research. From the identification of the research problem throughout the research process until the results are presented to the widespread recipients, the library is always a partner to the researcher.

Limitations

Like any other study ours has some limitations. First, our sample was relatively small obtained from a single institution, thus the results need to be interpreted with caution until further data from much larger samples of different hospitals can be collected. Second, this study was based on self-report, albeit, with a 95% response rate, which means data were limited to the voluntarily supplied information. It also means non-verbal communication from the interview was not taken into consideration during the analysis. Future research is needed to further support the findings of this study in other facilities and with varied populations.

5. Conclusions

Generally the level of midwives' involvement in nursing research was low, although they value research as important for the advancement of the profession. The study established that midwives have high interest and value for research as they wish to become midwife researchers and leaders. There is a distinct lack of participation of midwives in the conduct and dissemination of nursing research. The lack of participation of midwives in nursing research reduces production of local nursing research evidence which negatively affects the

quality of maternal health care provided to mothers in the country. The low participation of midwives in research leads to the dearth of local nursing literature as assumed in the introduction of this research. The results of the study showed that demographic, educational, professional and contextual characteristics of midwives are the main factors contributing to the lack of participation in the conduct of nursing research. Nursing research requires a number of skills over and above post basic midwifery. The main research role of the midwife is to act as the central coordinator for conducting nursing research and disseminating information to a number of those people in maternity services who contribute to the smooth running of a clinical nursing research. A successful midwife needs to appreciate the need for accurate research evidence and recognise the importance of contributing to the body of local available research evidence to incorporate in clinical decision making.

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BOX 1: Research Activities as Perceived by Participants

- Reading clinical research studies
- Analysing data
- Writing research proposals
- Attending and Presenting at a conference
- Leading a research project
- Arranging additional visits, for example for tests and investigations

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Knowledge Management Practices in Health Care Delivery Services: A Case Study of Tanzania Food and Nutrition Centre Library

By

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Abstract

Tanzania Food and Nutrition Centre Library plays the significant role of providing access to nutrition information and knowledge to various stakeholders in health care delivery services for the intention of improving nutrition status of Tanzanians and hence foster socio-economic development.

The purpose of this paper is to discuss knowledge management strategies which have been used by Tanzania Food and Nutrition Centre Library, TFNCL in health care delivery services. The paper is based on documentation review of knowledge management in health care delivery services and associated information sciences. It also used direct observation method for collecting information of knowledge management strategies used by TFNCL and obstacles confronted in knowledge management practices.

The article discussed obstacles in Knowledge Management practices include small budget, inadequate information communication technology infrastructure and underutilization of web 2.0 technologies

The article recommended establishment of nutrition institution repository. It will provide wider dissemination and visibility of nutrition knowledge in healthcare delivery services.

Keywords: *Nutrition Information; Nutrition Knowledge; Knowledge Management; Healthcare Delivery Services; Socio-Economic Development; Tanzania Food Nutrition Centre Library*

1.0 Introduction

Knowledge is a key organizational resource, and that its management is significant to organizational achievement (Hansen et al., 1999; Smith, 2001).

Knowledge management is vital to the health sector as it is to other development sectors. Health care information and knowledge is needed to deliver the safest and most effective health care possible with available resources.

It has been observed by Powell (2003) that by applying knowledge management, a country can achieve the following goals: efficiency- which refers to help people to quickly find the information they need. Second effectiveness refers to make people aware of lessons learned from research and experience and enabling them to adapt best practices. Third creativity refers to expose people to new ideas and approaches, and last empowerment refers to give workers and individuals at different levels knowledge and confidence to make well informed decisions on health issues.

Knowledge management in the context of the health sector can be categorized into two broad target groups; health workers include researchers, doctors, health managers and health personnel. The second category is members of the Public who

have to take responsibility for their health by following closely advice from health personnel.

In health sector industry, health professionals have been slower to adopt the principles and practices associated with knowledge management. A call is, therefore, being made for the application of knowledge management strategy in health care delivery practices.

In the context of health care delivery services, there has been little attention paid to empirical studies that investigate knowledge management practices in health care delivery services.

Since knowledge is an important component to effective decision making, it is necessary for decision makers in health care sector to put great efforts to its management. This paper aims to better understand the knowledge management strategies used by Tanzania Food and Nutrition Centre Library in health care delivery service.

1.1 Methodology

The article adopted a case study method, because the method allows a researcher to discuss knowledge management practices used by Tanzania Food and Nutrition Centre Library and obstacles in knowledge management practices. The advantages of this method, it provides more detailed information than what is available through other

methods since it is flexible in terms of data gathering methods and analysis (Yin, 2003; Kothari, 2004; Ndunguru, 2007).

The limitations of the case study method are; case situations are seldom comparable and as such that the information gathered in case study is often not comparable, since the subject under case study tells history in its own words and logical concepts. In case study method, the danger of false generalization is always there in view of the fact that no set rules are followed in collection of the information and only few units are studied (Kothari, 2004)

The researcher used documentation review and direct observation to gather information about knowledge management strategies used by Tanzania Food and Nutrition Centre Library in health care delivery services.

From the documentation methods, information was collected from published and unpublished sources such as books, journal articles, research reports and theses.

The researcher also used direct observation as source of collecting information, and direct observation is defined as methods of recording facts as they observed or experienced (Ndunguru, 2007). The advantage of this method is it is more reliable since data are obtained through observation or event as they normally occur and researcher can record information as it revealed (Aina, 2000).

1.2 Arrangement of the Paper

The paper is arranged into three main sections. First the paper provides a background on aspects of knowledge management practices in healthcare delivery services, and then discussions on knowledge management strategies which have been used by Tanzania Food and Nutrition Centre Library in health care delivery services, along with the paper discussed obstacles in Knowledge Management Approaches. Finally, the paper gives recommendations, conclusion and limitations and further research.

2.0 Knowledge Management and Health Care Delivery

Knowledge can be distinguished in two different types namely tacit and explicit knowledge (Polanyi, 1966). Tacit knowledge is the personal and con-

text-specific knowledge of a person. It is bound to the person and is thus difficult to formalize and communicate (Nonaka & Takeuchi, 1995). Consequently, it is not possible to separate, store, and distribute the whole knowledge of somebody (Davenport & Donald, 1999; Polanyi, 1966). Explicit knowledge in contrast can be codified, collected, stored, and disseminated. It is not bound to a person and has primarily the character of data. The words explicit and tacit can be misleading because they imply that they are exclusive. However, explicit knowledge is "grounded" in tacit knowledge and is created by externalization (visualization, articulation, or codification) of tacit knowledge (Nonaka and Takeuchi, 1995). It is the part of tacit knowledge that can be expressed verbally and does not represent the entire body of knowledge (Nonaka & Takeuchi, 1995).

Healthcare delivery is a depend on knowledge management (KM) and knowledge management capacity provides an opportunity for improvement in process performance (Nilakanta et al., 2009). The purpose of knowledge management in health care services is to improve organization's effectiveness and performance by stressing the importance of knowledge creation, development, organization and the dissemination.

Knowledge management involves four key steps of creating knowledge, transferring knowledge storing knowledge, and application /re-using knowledge (Davenport and Prusak, 1998; Alavi and Leidner, 2001). Knowledge management, therefore, can be said to involve a conscious effort to incorporate strategies and practices that ensure maximum use of knowledge in organizations with the aim of advancing the goals and objectives of the organization. It is presently recognized that successful organizations are those that create new knowledge, disseminate it widely throughout the organization, and represent it into new technologies and products (Hansen et al., 1999; Leonard, 1999; Metaxiotis et al., 2005). Recognizing knowledge management is essential element for health sector industry in delivering the best and quality health services, so it vital for health organizations to embrace and engage in it.

3.0 Knowledge Management Strategies at Tanzania Food and Nutrition Centre Library

3.1 Knowledge Management Strategies

A knowledge strategy is simply a plan that describes how an organization intends to better man-

age its knowledge for the benefit of that organization and its stakeholders. A good knowledge management strategy is closely aligned with the organization's overall strategy and objectives. Selecting the right knowledge management strategy is, therefore, an important prerequisite for attaining organizational objectives.

Different scholars in the field of Knowledge management have been discussed strategies for knowledge management in the literature for sharing tacit and explicit knowledge: the codification strategy has the objective to collect knowledge, store it in databases, and provide the available knowledge in an explicit and codified form.

The design of databases, document management, and workflow management can be considered to be part of this strategy. The codification strategy is assumed to be successful for the sectors whose organization's objective and strategy requires re-using existing knowledge (Hansen et al., 1999; Malhotra, 2004). In contrast, the focus of the personalization strategy is not to store knowledge, but to use Information Technology to help people communicate their knowledge. The objective of the personalization strategy is to transfer, communicate, and exchange knowledge via knowledge networks such as discussion forums.

3.2 Tanzania Food and Nutrition Centre Library

Tanzania Food and Nutrition Centre Library (TFNCL), is under the Tanzania Food and Nutrition Centre and falls under the Department of Nutrition Education and Training. TFNCL have special collections of food and nutrition information and other health related information. TFNCL was established in 1982 for the purpose of meeting information requirements of the Centre and other nutrition information users throughout the country and outside.

It is substantial for libraries to determine and manage their knowledge resources to avoid duplications of efforts. However, it should be noted that organizations, including their libraries do have a strong strategies for knowledge management practices, and it is important to recognize these, and use them as foundation for further development, rather than to invent a whole new paradigm (Rowley, 2000). The two types of knowledge management practices by (Hansen et al., 1999) were used to discuss KM practices at TFNCL.

The library has used both knowledge management strategies which have been presented by Hansen et al., (1999). The codification knowledge management strategy includes; Creation of Knowledge repositories/Documentation. Like many other libraries in developing countries, TFNCL does not have collection of knowledge repository. The library provides access to explicit knowledge in terms of full text databases via CD-ROMS, and databases for books, journals, research projects and grey literatures. Preservation and distribution of information social behaviour communication materials, such as posters, brochures, leaflets and fact sheets is also provided. TFNCL has been distributing its food and nutrition knowledge to various target group including government ministries/departments, Health facilities, Non-governmental organizations, United Nations Agencies and Research and Academic institutions.

The other strategy that has been used by TFNC library is the personalization strategy include Networks which refers to exchange of information through common communication channel for the rationale of sharing knowledge and it reduces expenses of acquiring knowledge and information. The TFNC library has done analysis of user's needs and has strived to acquire some of the resource through its partners, for example networking with the following information profession Associations: Tanzania Library Association (TLA), through using online network TLA mailing list; tla@yahoogroups.com. The librarians have been able to access knowledge and information resources for purpose of meeting information requirements of TFNC users and other stakeholders. Association of Health Information Librarians in Africa- Tanzania Chapter (AHILA-TZ chapter). Through using network online AHILA-TZ chapter mailing list; ahilatz@yahoogroups.com, the librarians have been able to exchange and network in health information service. The Consortium of Tanzania Universities and Research Libraries (COTUL), through using online network COTUL mailing list; cotul@yahoo.com. The library has been able to acquire access and use a variety of electronic information resources, and this has been facilitated by International Network for the Availability of Scientific Publication (INASP) through Programme for Enhancement Research Information Perii.

The library also has been networking with International Organization United; UNICEF, WHO, FAO and Save the Children. Others including: -The International Baby Food Action Network Africa

(IBFAN Africa), World Alliance for Breastfeeding Action (WABA) and AMREF.

E-mail is another strategy, the library staff have used an e-mail listing for sharing knowledge and information. The third strategy is Food and Nutrition information exchange; it is among the knowledge management practices for the purpose of meeting knowledge and information needs of TFNC staff and other users. TFNCL has used various channels such as exhibitions, workshops, conference, training workshops and personal visits at the library to share food and nutrition knowledge.

As pointed out by (Boateng, 2007), the best practices of knowledge management strategy is always a combination of the two, but with a stronger emphasis on one. While a codification strategy is appropriate for explicit knowledge to thrive, the personalization knowledge management strategy better supports the use of tacit knowledge in organizations (Jasimuddin et al., 2005). Since tacit and explicit knowledge forms are complementary, an organization's efforts towards knowledge management should be focused on instituting the most appropriate strategy. Furthermore, Ellingsen & Monteiro (2003) argue that today's health care sectors must combine codification and personalization strategies in health care delivery services.

4.0 Obstacles in Knowledge Management Practices

Despite the success realized in knowledge management practices, a number of problems continue to inhibit knowledge management practices at Tanzania Food and Nutrition Centre library.

4.1 Information Technology resources

TFNC has inadequate information communication infrastructure in terms of computer hardware and software, inefficiency connectivity and low bandwidth. Information technology infrastructure is crucial for knowledge creation, sharing, application and dissemination in the institution. Boateng (2007) argue that IT infrastructure has been considered the groundwork for the implementation of knowledge management practices in health care delivery services.

4.2 The Nature of People and People's Motivation

Health organizations have large numbers of staff that differ from their disciplines, personalities, val-

ues and culture. This entails that there are variations in the ability of people to create and share knowledge.

Motivating people in knowledge management activities is a key factor for its success. Without incentives, employees are not ready to share their knowledge. There are numerous solutions have been proposed to motivate employees in knowledge management practices.

Observations made by (Nove & Dyah, 2013) claim that reward system / incentive system could increase person's motivation in knowledge management activities, but reward system also can build negative habit to hold knowledge.

Sutton (2009) pointed out that on encouraging staff to do knowledge management practices, it needs to give employees opportunity to get intrinsic rewards such as opportunity to go for training or recognition.

4.3 Organizational Culture

The willingness of the individuals to share their knowledge depends on the organizational culture. The organization management need to significantly change their culture, values, structures and reward systems in order to facilitate, support and encourage knowledge creation, sharing and utilization among members in the organization community.

It should be noted that change in organizational culture will maximize the competitive advantages realized from any knowledge management process.

Davenport et al (1998) stressed on the importance of knowledge friendly culture for the success of knowledge management practices. Knowledge culture within an organization supports the decision making of knowledge workers through collaboration in knowledge teams. It also facilitates the exchange of tacit knowledge through interaction in knowledge teams with other knowledge workers (Nonaka & Konno's, 1998).

4.4 Financial Constraints

Monetary resources are also the barrier for knowledge management practices. Small budget is allocated for knowledge and information management activities. Information communication technology, ICT is a great facilitator in knowledge

management strategies. The big challenge is the high cost of telecommunication and connectivity.

4.5 Awareness on Knowledge Management Strategies

Involvement of the management and other stakeholders is required in knowledge management practices in order to nurture, support and create knowledge environment. The lack of awareness on strategies about knowledge management practices for top management will be the barrier for the implementation of knowledge management practices in the institution.

4.6 Underutilization of Web 2.0 Technologies/ Knowledge Management Tools

Developments in collaboration technologies/web 2.0 technologies such as blogs, RSS feed, Wikis and social networks make knowledge management practices more convenient, effective, and efficient, and might lower knowledge management barriers in the institution. Many technologies such as blogs and social networks have become supportive enablers that encourage the flow of knowledge in organizations (Cross et al., 2005)

Today, there is increasingly utilization of web 2.0 tools such as wikis, blogs weblogs, Rich Site Summary, RSS feeds and social networks in the organization including the libraries for knowledge creation, transfer and collaboration. Observations made at TFNC show that staff underutilize web 2.0 technologies for knowledge management practices. The reasons behind could be lack of knowledge, skills and awareness of the importance of web 2.0 tools in knowledge management practices. Other factor could be lack of speedy and reliable internet connectivity.

5.0 Recommendations

The following recommendations were made in order to improve knowledge management practices;

Increase ICT Resources

There is a need to increase ICT resources in order to facilitate and improve knowledge management practices in health care delivery services. The library also needs to establish knowledge repositories of food and nutrition and other health related information.

Increase library budget

There is a need for government to allocate sufficient budget for sustaining knowledge management practices in library. Libraries are also supposed to solicit funds from other sources in order to facilitate knowledge management initiative.

Provision of Right Incentives

There is a need for management to provide right reward/incentive to employees so that they can participate in knowledge management practices.

Education and Advocacy Program about Knowledge Management Practices

Knowledge professionals should educate health personnel and promote the culture of valuing knowledge as the significant resources for organizational achievement. As result this will enable health personnel to be committed and participate in knowledge management practices.

5.1 Conclusion

Tanzania Food and Nutrition Centre Library has used a combination of the two knowledge management strategies, that is codification and personalization in health care delivery services. However, there are a number of challenges faced by Tanzania Food and Nutrition Centre Library in knowledge management practices for health care delivery services. The call is needed for the Tanzania Food and Nutrition Centre Library to coordinate their efforts for the purpose of improving knowledge management strategies in health care delivery services.

5.2 Limitations and Further Research

This article focused on a single health organization and the sources of gathering information were documentation method and direct observation. The article can be expanded to explore knowledge management strategies used by different types of health institutions in health care delivery services.

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The Information Needs and Information Seeking Behaviour of Diabetic Patients at a South African Public Hospital

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Abstract

This paper reports on the information needs of type 2 diabetic patients at a South African Public Hospital. The objective of the study was to determine what their information needs are and how this can impact on their successful management of diabetes. Longo's 2010, Health Information Model provided the conceptual framework for the study. The qualitative aspect of the study was conducted on the patients who attend the Diabetic Clinic at Addington Hospital in Durban. The healthcare professionals completed the self-administered questionnaire. Four themes emerged from the study: (1) Reliance on the diabetic doctor; (2) the active and passive patterns of information seeking; (3) patients' fear of the consequences of diabetes; and (4) the value of the packaged information provided by the hospital. The study concluded that the patients relied heavily on the information provided by the doctor and less on other sources of information to assist with the management of their diabetes.

Keywords: *Information Needs and Diabetic Patients; Information Seeking and Diabetic Patients; Diabetes Information and Challenges.*

Introduction

Diabetes Mellitus, often simply referred to as diabetes, is a chronic disease associated with abnormally high levels of glucose (sugar) in the blood. It occurs when the pancreas is unable to produce sufficient insulin, or "when the body cannot effectively use the insulin it produces" (World Health Organisation, 2011).

The focus of this study is on type 2 diabetes. The increasing prevalence of diabetes is a global problem. Patients diagnosed with type 2 diabetes need to develop a range of competencies that will enable them to better manage and to take greater control over the treatment of their disease. Information provision is therefore especially important for the management of diabetes. The aim of the study was to gather accounts of the diabetic patients' information needs and information seeking and to explore their various preferences with regards to how they seek out information, what sources of health information they use and how they use the healthcare information. The study was guided by the following research question:

The main objective of the study was to investigate how a better understanding of the information needs and information seeking behaviour of diabetic patients, contribute to their successful management of the disease diabetes. The following research questions guided this study:

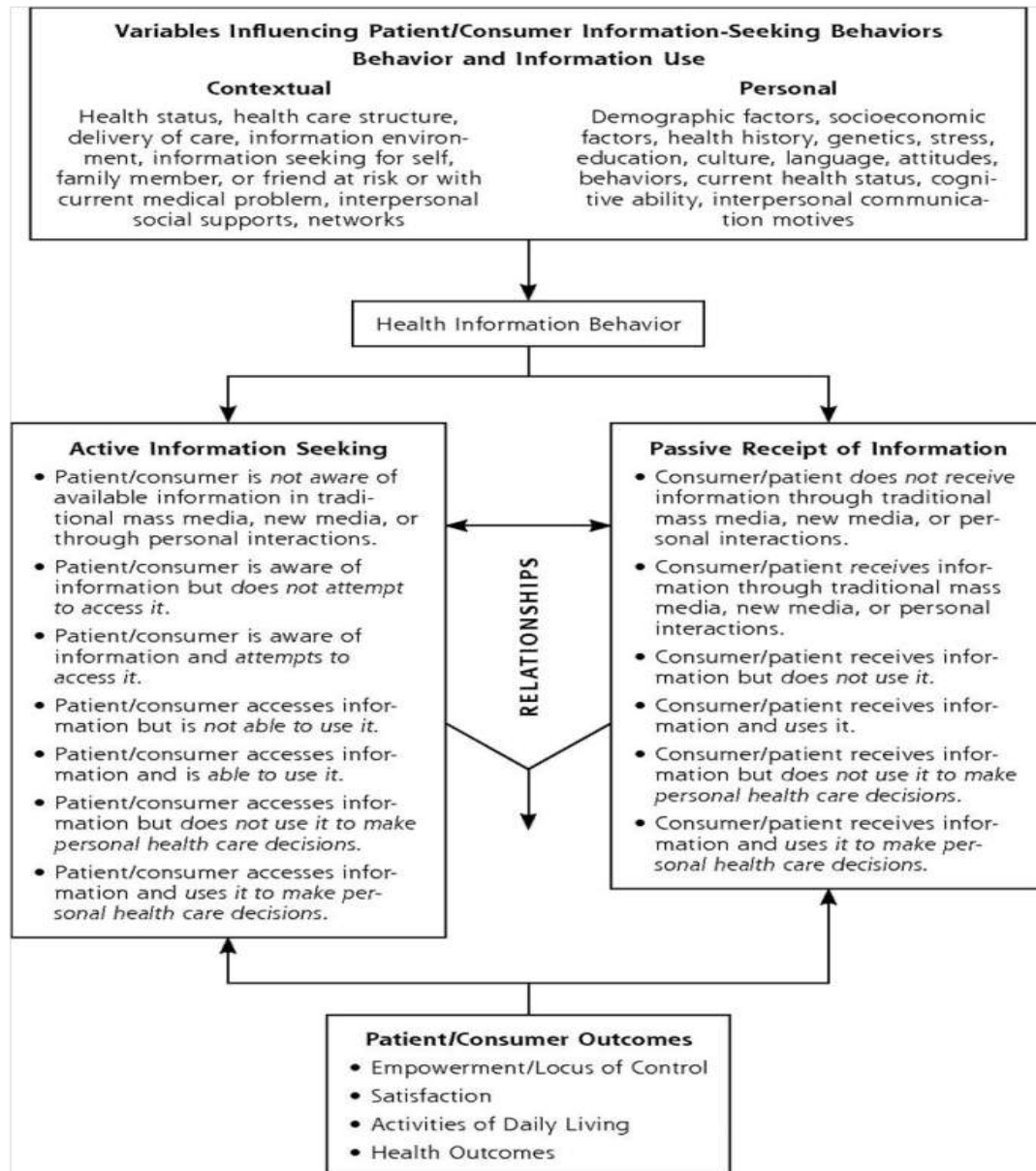
- What prompts type 2 diabetic patients to seek out information about diabetes?
- What are the information needs of type 2 dia-

betic patients?

- What are the information seeking behaviours of type 2 diabetic patients?
- Where do they obtain diabetes related information?
- What sources or types of sources do they use to answer questions about their diabetes?
- What are the challenges they encounter with regard to seeking health information on diabetes?
- Has the way in which they obtain information about their diabetes changed over time?
- Are they of the opinion that there is sufficient information available on type 2 diabetes?
- Do they rely heavily on the diabetic doctor and the nursing staff at the hospital for their diabetic education?

The following themes emerged with regard to the information needs and information seeking behaviours of diabetic patients:

- (1) Reliance on the diabetic doctor;
- (2) The active and passive patterns of information seeking;
- (3) Patients' fear of the consequences of diabetes; and
- (4) The value of the packaged information provided by the hospital.

Figure 1: Longo's Health Information Model: information seeking, passive receipt, and use

(Longo et al., 2010)

2. Conceptual Framework for the Study: Longo's Health Information Model

The literature review established the conceptual framework of the study. Careful reviews of applicable models, such as Wilson's model of information behaviour (Wilson, 1999), Kuhlthau's (2004) Information Search Process (ISP) and Fisher's theory of information grounds were considered before deciding on the most relevant model for this study. The conceptual model for this study was adapted from Longo's Health Information Model: information seeking, passive receipt, and use (Longo, Schubert, Wright, William, & Clore, 2010). The model (Figure 1) was useful for this

study as it looked at the role and importance of the passive receipt of information compared to active information seeking (Longo et al., 2010). The Health Information Model was initially developed for cancer patients, however it has been successfully used in other health related studies. Longo et al. (2010) reconfigured the original Health Information Model by adding some minor changes and the model was used to study the health information seeking, receipt and use in diabetes self-management. The model allows researchers to determine whether patients are active information seekers or they obtain their health information passively, (Longo et al., (2010).

3.0 Literature Review

Four trends were identified in the literature review.

1. The active and passive seeking of information;
2. Provision of information at the time of diagnosis and post diagnosis;
3. Patient empowerment, education and barriers;
4. Patient preferences in information sources.

3.1. The Active and Passive Seeking of Information

The focus of Longo et al. (2010) study was on the patients' preferences for sources of health information and how diabetic patients seek and use healthcare information. Five themes emerged from the study which can be summarised as follows: the passive receipt of information; patients tendency to weave their own information web; indications of the patients' personal relationships with the healthcare professionals; the impact health literacy has on the patients' ability to understand and use information; and how the patients' personal relationships help them understand and use information.

The methodology used in this qualitative study centred on focus group interviews and there was diversity in the age, race and sex of the participants, (Longo et al., (2010).

The participants identified a wide range of information sources. Many indicated they did not actively engage in information seeking behaviour and reported on the passive receipt of information. These participants indicated they came "across relevant health information about their diabetes" by television viewing or reading a newspaper or magazine. These participants who actively sought out information identified health-related sites, books, pamphlets and printed information provided by the healthcare professionals, Longo et al. (2010).

3.2. Provision of Information at the time of Diagnosis and Post Diagnosis

Peel et al. (2004) study focused on newly diagnosed type 2 diabetic patients. The study indicated that the amount of information provided to the patients at the time of diagnosis was too much as the patient was also dealing with the emotional aspect of the diagnosis. Some research also suggests that the emotional stress the patient encounters at the time of the diagnosis, directly impacts on the patient's ability to retain the infor-

mation that is provided.

An explorative study by Fourie (2010), showed the differences between the information needs reported by the patients and the families, and that of the healthcare professionals. The study reflected on how healthcare settings, combined with the support of libraries, can make a difference in supporting the information behaviour of cancer patients and their families.

Fourie's (2010) study interestingly discussed the unrecognised information needs of the patients, their information needs at different stages of their disease, information on emotional and psychosocial issues, information on issues that are difficult to discuss, and the need for individualisation and contextualising.

Fourie's (2010) study was conducted at a private medical oncology clinic and two oncology wards at a private hospital in Pretoria. The study was based on semi-structured interviews that were conducted by an oncology social worker. The author conducted individual interviews with the healthcare professionals at the hospital.

Stewart et al. (2004) study examined gender differences in health information needs in patients recovering from an acute ischemic coronary (ICE) event. The study was conducted on consecutive patients from 12 coronary intensive care units (CICUs) across Ontario, Canada. Patients who were unable or too ill to approach and were unable to read or speak English were excluded from the study.

Stewart et al. (2004) study indicated that the male patients reported receiving sufficient information on the role of each doctor, test results, treatments and how their families could support their lifestyle changes. They however required more information on sexual function. The female patients indicated they required more information with regard to angina and hypertension. The results of the study revealed that the patients wanted information on topics that were most salient to them.

3.3. Patient Empowerment, Education and Barriers

Funnel and Weiss (2008) defined patient empowerment as "helping patients discover and develop the inherent capacity to be responsible for their own health and life". Their article outlines four fundamental lessons that need to be addressed as

part of the patients' education and provides a straight-forward approach which the authors referred to as a LIFE plan to assist the patients in taking charge of their diabetes.

The LIFE approach is comprised of four clear steps which include: learn about diabetes; identify three guiding principles which are the role, flexibility and targets; formulate a personal self-management plan and experiment with and evaluate the plan, Funnell and Weiss, (2008).

Pooley et al. (2001) quantitative questionnaire survey focussed on the nature of the patient-practitioner relationship and the implications of this relationship with regard to patient empowerment and the effective self-management of diabetes. The practitioners considered a lack of time resulted in their inability to effectively deal with patients' concerns. The patients in turn, considered it was unrealistic to prolong a consultation by asking too many questions (Pooley et al. (2001). Interestingly the results of the survey indicated that both the patients and the practitioners displayed similar concerns and both groups identified the same problems in the "delivery of care for people with diabetes".

Patient Preferences in Information Sources

Previous studies have been done on the information needs and information seeking behaviour of patients with various health conditions such as cancer patients (McLoughlin, 1994; Leydon et al. 2000; and Fourie, 2010). Leydon et al. (2000) study focussed on exploring the reasons why cancer patients did not want to seek information beyond what was offered by the doctor during a consultation. Here, the patients expressed their faith in the doctor's medical expertise and this precluded their need to seek further information. McLoughlin's (1994) master's thesis aimed at determining the needs of cancer patients, who required relevant information within a limited time period. The results of the study revealed that cancer patients expressed a need for more information about most aspects of their disease and therefore there was a need for structured information provision to cancer patients. A limitation of the study was that the participants comprised mostly of white patients, hence it was not reflective of the South African population.

The study of Longo et al. (2009) revealed that interpersonal information was more often cited than the use of the internet or the traditional print

and broadcast media. The study also showed that many of the patients sought or received information from other patients or support groups and 83% were able to use the information and make healthcare decisions.

Some interesting contributions which focussed on the information needs and information seeking behaviour of cancer patients, contrasted explicitly from that of the diabetic patient. Many of the studies indicated the cancer patients' awareness of the severity of the disease and their need to seek out additional information. However, the literature on the information behaviour of diabetic patients revealed degrees of indifference towards the severity of the disease. This could be a direct result of the nature of each of the medical conditions.

Fourie (2008) indicated that studies by other researchers have shown that more patients are inclined to search the internet for their information. Fourie's (2010) study revealed that while cancer patients may prefer to receive information by word-of-mouth and personal contact, the internet and conventional methods such as brochures may also be useful.

Setting, Study Population and Instrumentation

The study was conducted at a South African Public Hospital. Addington Hospital is a district and regional public sector hospital, situated on South Beach, Durban, KwaZulu-Natal. The patients that are served at the hospital are comprised of a multicultural community from the greater Durban area and the majority of the patients come from lower socio-economic communities. The use of the medical library at the hospital is specifically for the medical and nursing personnel, nursing students and other categories of staff from the hospital. The patients do not have access to the hospital's medical library.

The main objective of the study was to investigate the information needs and information seeking behaviour of adult type 2 diabetes patients at the hospital. The research population consisted of 83 participants. A list of the patient population was obtained from Patient Administration and Records Department at Addington Hospital. Included in the research were 74 adult patients with type 2 diabetes of which 69 patients responded, one medical practitioner, two dieticians and four registered nurses. The first elements of analysis were the

adult type 2 diabetic patients who were legally 18 years and older, out patients (not hospitalised) at Addington Hospital and type 2 diabetic patients who were non-insulin dependent. The specific inclusion criteria for the healthcare professionals were, besides their qualifications within their professions, that they should have had experience of working with patients with type 2 diabetes.

The study was conducted by means of a self-administered questionnaire and both face-to-face and telephonic interviews. Two self-administered questionnaires which consisted mainly of limited closed or pre-coded questions, with some open questions, were designed to obtain information on the patients' information needs from the perspective of the health-care professionals. The purpose of these questionnaires was to find out what types of diabetic information was provided to the diabetic patients from the healthcare staff. The qualitative aspect of the study was conducted by semi-structured interviews with the adult type 2 diabetic patients in a face-to-face setting. Telephonic interviews using the same semi-structured interview questions were conducted on patients who were dispersed over a vast geographical area or were not available for the face-to-face interview. The intention of the interview was to obtain a better understanding of how and where diabetic patients obtain their information in order to contribute to the successful management of their diabetes. A combination of content analysis and qualitative coding was used to interpret the responses to open questions. Content analysis is a "technique for examining information or content in written or symbolic material", Neuman (2004). The data was analysed using SPSS in terms of frequency of results and presented in the form of tables, bar graphs or pie charts.

The Addington Hospital Ethics Committee, The KwaZulu-Natal Department of Health: Health Research Committee and the University of KwaZulu-Natal Humanities and Social Sciences Research

Ethics Committee had approved the study. Every effort was made to ensure that participants were informed about the study and participant confidentiality was protected. Upon entry into the study, participants were informed of the nature of the study and were asked to complete an informed consent form.

Themes Identified in the Study

The following themes were identified from the study.

5.1 First Theme: Reliance on the Diabetic Doctor for Their Diabetic Education

Reliance on the diabetic doctor's medical expertise precluded and limited the need for the patients to actively seek out information. The study revealed that while the patients may have come across diabetes information by chance, they did not utilise the information without first consulting the doctor. They only trusted the information provided by the doctor and did not actually seek out information. The diabetic patients did not trust the diabetic information obtained from other information sources other than that provided by the diabetic doctor. They were satisfied with how the information was conveyed to them by the doctor and they considered the doctor to be knowledgeable and efficient and she constantly informed them on new treatments on diabetes.

The findings of the current study are consistent with (Leydon et al., 2000) study which explored the reasons why cancer patients do not want to seek information beyond what is offered by the doctor. These patients expressed their faith in their doctor's medical expertise. While both the cancer patients and the diabetic patients of this study reflected their reliance on the doctor's medical expertise, the underlying differences were that the study on the cancer patients indicated the complexity of the relationship between hope and

Table 1: Themes identified in the study

Themes	Explanations
Reliance on the diabetic doctor for their diabetic education	The patients' reliance on the doctor and nursing staff is discussed. Their satisfaction with the information conveyed by the doctor.
The passive patterns of information seeking The active patterns of seeking information	The initial and post diabetes information received from the doctor, dietician, nursing staff and SADA. Information obtained from traditional mass media. Information from the internet and the public library.
Fear of the consequences of diabetes	The patients fear of amputations, eye and kidney problems. The patients concerns related to fertility and pregnancy.
The value of the DOH and dieticians' packaged information	The patients use and comments on the diabetic pamphlets

the patients' desire for information. The value of hope in the management of their chronic illness was well established for the cancer patients.

5.2 Second Theme: The Active and Passive Patterns of Information Seeking

The findings of this study revealed that patients made decisions regarding their diabetes based on their current needs. This included an interplay of both the active information seeking and the passive receipt of information.

5.2.1 The Passive Patterns of Information Seeking

Many of the patients when first diagnosed with diabetes received information about diabetes from the dietician and the diabetic doctor at the clinic. Many patients indicated they started collecting diabetes information when they were first diagnosed, but discontinued the learning efforts shortly after they had a basic understanding about their diabetes.

Information Received from the Doctor, Dietician, Nursing Staff and SADA.

Diabetes Information Provided by the Doctor and Nursing Staff

When the patient was first diagnosed with diabetes, (46.4%) of the patients indicated they were instructed on how to administer their oral medication and/or insulin injections and dosages. The doctor at the clinic indicated that the patient diabetes education was provided at each consultation, at the time of diagnosis, and when the patients asked for information. The types of information provided by the doctor to the patients were on injection techniques, treatment dosing, foot care and lifestyle choices such as diet, exercise, smoking and alcohol.

The types of information provided by the doctor at each consultation depended on the current medical condition of the patients. For example if a patient experienced a foot problem, the doctor would provide the patient with more information on foot care. The findings suggest that the provision of information at the time of diagnosis and post diagnosis is consistent with Fourie's (2010) study of cancer patients having different information needs at different stages of their disease and Peel, Parry, Douglas, & Lawton's (2004) study which indicated that the patient wanted information at their differ-

ent routes to diagnosis.

Only a small (31.9%) number of patients indicated they occasionally received information on how to administer their medication by the nursing staff. The nursing staff also provided the patient with the KwaZulu-Natal Department of Health diabetes pamphlets and the hand-outs provided by the drug companies.

These findings suggest that doctor and nursing staff at the Diabetic Clinic indicated that the consultation time was insufficient to effectively deal with the diabetic patients' concerns and information needs and this is consistent with (Pooley, Gerrard, Hollis, Morton, & Astbury, 2001) study where the practitioners considered the available time was insufficient to deal effectively with the patients' concerns.

Information Provided by the Dieticians

The results of the study revealed that a majority (81.2%) of patients obtained information on food choices, which included the foods they should include into their meal plans from the dietician. Some of the patients indicated they obtained information from the dieticians on how to examine their feet, the use of exercise and how to incorporate affordable food into their diets. 62.3% of the patients revealed that they cannot afford the recommended foods for diabetics that were suggested by the dieticians. One patient indicated that in supermarkets, food for diabetics is almost twice the price of the regular product. They also found the hand-outs provided by the dietician to be useful.

The adult type 2 diabetic patients obtained their basic eating and nutrition information from the diabetic dietician. This was done in the form of talks whereby the dietician illustrated their talks with hand-outs and sometimes physical props such as rubber models of food. The talks included information on what diabetes is, the role of good nutrition and the different food groups the patients should incorporate into their diets. The diabetic dietician provided the diabetic patients with information when they were newly diagnosed or when their glucose levels were very poorly controlled.

• SADA

The South African Diabetes Association provides a wide range of information sources on diabetes to its paying members. They have a website and

magazine which subscribers have access to. The patients who attend the clinic at Addington are from economically disadvantaged communities, hence only three of the 69 patients indicated that they are members of SADA. One patient indicated that on one occasion, SADA took them to a Supermarket and pointed out the suitable foods on the shelves and provided the patients who were members of SADA, with alternative food products. They also taught them how to read the food labels and were given a bag of food samples.

It should be noted that the KZND OH pamphlets on diabetes, includes a section with tips on shopping for healthy food.

Information Obtained from Traditional Mass Media.

A majority of patients in this study came across relevant information about diabetes during the course of their daily activities such as switching between television channels, listening to their favourite radio stations or by reading the newspapers or magazines. The following reflects on the patients' passive receipt of information through the mass media and talking to other diabetics.

• Television and Radio

The study found that 63.8% of the patients had watched a variety of talk shows on diabetes. Dr. Oz was favoured by many, followed by 3-Talk with Noleen. One patient indicated he had a medical problem that was related to his diabetes and was unable to get any clarity on how to treat the problem from the sources he had consulted. However he indicated that whilst watching Dr. Oz, someone in the audience had a similar problem as he did and Dr Oz had answered his question.

The findings of the current study revealed that 55.1% of the respondents listened to talk shows on the radio. Radio Ukhozi was listened to by the highest number of patients (20.3%), followed by East Coast Radio. Some of the patients indicated that during diabetes month, the Zulu station, Radio Ukhozi, had discussions every evening on diabetes. One patient mentioned listening to the discussions with her neighbour who was also a diabetic.

• Newspapers and Magazines

The study revealed that a majority (66.7%) of patients, while browsing through the newspapers or magazines, had accidentally come across some in-

formation on diabetes. A large number read the community newspapers which are freely available. One patient who is a member of SADA indicated that she received her monthly diabetes magazine from SADA and said that the articles and recipes were excellent. Another patient indicated she received a free trial to the SADA magazine for a year. She also indicated that the articles in the magazine were useful.

The findings of the current study are consistent with Longo et al. (2010) assessment of the diabetic and cancer patient's passive receipt of information through the mass media. Similarly the diabetic patients in this study also indicated that they came across relevant diabetic health information on television and in reading newspapers or magazines. The prevalence of radio use indicates that it is still a popular source of information in South Africa.

• Talking to Other Diabetics

The findings from the study indicated that 55.1% of the patients talked to other diabetics, including other patients at the clinic, friends and family members. Many spoke about their challenges living with diabetes and exchanged information on everything from healthy food snacks, recipes, some indigenous and Ayurveda alternatives to reduce their glucose levels and exercise tips.

The study also revealed that 59.4% of the patients had a family history of diabetes and discussed issues on how to manage their diabetes with family members who were diabetics.

The findings of the current study are consistent with (D.R. Longo et al., 2010) study, whereby patients also obtained and shared information with friends and (D.R. Longo et al., 2009) study, whereby interpersonal information was more often cited and the study showed that many of the patients sought or received information from other patients.

5.2.2 Active Seeking of Information

A small number of patients in this study indicated that they sought out information when a problem occurred, out of fear related to the consequences of diabetes or they wanted to better manage their diabetes. However, when these patients were asked where they sought the information from, the findings actually revealed that many obtained the information either from the doctor or accident-

ly.

The study revealed that 44.9% of the patients looked for information when a problem occurred, while 46.4% indicated they looked for information when they wanted to treat a diabetes related problem.

The patients provided a number of reasons for seeking out information, such as for health reasons and the ability to make better choices. Others required information on the side effects of diabetes or they looked for information to treat a problem or when they experienced a diabetes related problem. Some patients revealed that they were interested in new developments and treatment.

Internet

The findings suggest that only a small number of patients had access to the internet. Many were unable to use the internet. A small number of 12 (17.4%) of the patients personally searched the internet (new media) to find information, while 26.1% asked their family members to find and pass on the information to them. These patients used the search engine Google, while six of the 12 patients identified medical sites, however, at the time of the interview they could not recall the names of the specific sites. One patient indicated she obtained her information from the SADA website and Manna Health. This patient indicated that she suffers from peripheral nerve neuropathy and she obtained some useful information from both sites mentioned and Manna Health also e-mails her information regularly.

The findings of the current study are therefore consistent with Longo et al. (2010) assessment where the patients reported the use of the internet as an information tool and the patients identified health and diabetes related sites. However, the study is less consistent with Fourie's (2010) study where she indicated that studies by other researchers have shown that more patients are inclined to search the internet for their information. The reasons the patients in this study are less inclined to search the internet for their information may be attributed to the fact that these patients are from economically disadvantaged communities and they don't have access to the internet.

The Public Library

The study found that only 10 (14.5%) of the patients used the public library to find information

about their diabetes. Some of the patients were unaware that they could find diabetes related information in the public library. Five of the ten patients who used the public library to find information on diabetes indicated that the library had sufficient sources to answer their questions about diabetes. These patients used the Hillcrest public library, the City Library-Durban Central and the Musgrave public library. Five of the 10 patients indicated that the Reservoir Hills public library and the Prince Edward Street library had insufficient books on diabetes. One patient indicated that she was an avid reader and while the Prince Edward library had sufficient books in other areas, there were insufficient books on health related topics.

The study showed that a majority of 62 patients were satisfied with the amount of diabetes information available to assist them with their treatment. A small number indicated some degree of difficulty seeking information on diabetes, while 30.4% of the patients did not know where to find information other than that provided by the diabetic doctor.

While the majority may have indicated that there is sufficient information available on diabetes, the study revealed that many of the patients did not actively engage in information seeking.

5.3 Third Theme: Fear of the Complications of Diabetes

The study revealed that 68.1% of the patients had an overwhelming concern and fear of diabetes related consequences. This was indicated when the patients were asked to provide their reasons for using the mass media sources. When asked what prompted the patients to seek information, 46.4% indicated that it was due to diabetes related diseases, while 27.5% and 17.4% respectively indicated they experienced problems with their feet which could lead to neuropathy and they wanted to avoid amputations.

The patients, therefore, had an understanding that uncontrolled diabetes can lead to amputations, problems with their feet, eyes, kidneys, damage to the heart, blood vessels and nerves. One patient referred to diabetes as a "dreaded disease" and was concerned about being affected by the consequences of diabetes and she indicated that she sought information with the intention of finding out if she was "faulting and wanted to know what she should be doing".

The results from the interviews also revealed that many of the patients already experienced problems with their feet and this heightened their fears. Some patients experienced kidney failure resulting from diabetes and were on dialysis. There was an overall sense of fear from many of the patients that their elevated sugar or glucose levels would lead to kidney failure, ischemic heart failure and blindness and how this will affect their quality of life. These patients indicated they regularly sought out information on these conditions.

5.4 Fourth Theme: The Value of the Department of Health's Packaged Information

The findings from this study revealed that the KwaZulu-Natal Department of Health (KZNDOH) provides the patients with a variety of pamphlets on diabetes. Relevant diabetes and health related information was re-packaged by the KZNDOH into an understandable format. The pamphlets are colourful and are available on a variety of diabetes related issues which includes information on: 'What is diabetes?'; 'Diabetes self-care'; 'Basic eating and nutrition information' and 'Medication: Insulin and Oral'.

The majority of the patients listed the Department of Health (DOH) pamphlets on diabetes as their major sources of information after the diabetic doctor. They commented positively on the communicative and "easy to read" format of the pamphlets. The information contained in the pamphlet was available in both English and Zulu, which are the two most frequently spoken languages in KwaZulu-Natal and the patients also commented positively on that. The findings from the study also showed that the information provided by the diabetic dietician was of value to a majority of patients who attended the diabetic talk sessions.

Discussion and Conclusion

Information needs and information seeking behaviour from various perspectives have become an important topic in the literature to aid patients with the treatment of their medical conditions. The patients in this study made decisions regarding their diabetes on their current needs. The results of the study indicated that certain factors influenced the patients' decisions about their diabetes self-management. Their current needs influenced their need to seek out information and in most instances they sought this information out from the diabetic doctor. An interplay of both the active information seeking and the passive receipt of in-

formation existed amongst the patients. The study concluded that the patients relied heavily on the information provided by the doctor the dietician and the hand-outs and pamphlets that are available at the clinic. Without an understanding of the effects of information on type 2 diabetes patients, we have an incomplete picture of how information changes the patients' behaviour, which is of primary concern in healthcare information. The study therefore recommended that future research should investigate the effects information has on type 2 diabetes patients and their behaviour.

Recommendations

Recommendations that were drawn from the conclusions of the study were that the Diabetic Clinic and Hospital should consider approaching the South African Diabetes Association (SADA) with regard to volunteering their services and facilities to the patients at the Hospital. The Clinic should also consider playing a video/dvd recording on diabetes in the patient waiting room. The Diabetic Clinic should also consider inviting a podiatrist to speak to the patients about foot care.

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Experiencing HIV and AIDS Information: A Phenomenological Study of Serodiscordant Couples in Malawi

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Abstract

In the absence of HIV vaccine information has played a pivotal role in influencing behaviour change in people. However, the ability to design successful HIV and AIDS information campaigns is highly dependent on knowledge of the information behaviour of the target population. Accordingly, there is need for good understanding of information behaviour of specific groups of people affected and infected by HIV.

This paper will present preliminary findings of a research project investigating the experience of HIV and AIDS information by serodiscordant couples in Malawi. Phenomenological interviews were used to invite serodiscordant couples to describe how they experience HIV and AIDS information. The interviews were analysed using Van Manen's approach to analysis of phenomenological data to come up with descriptions and interpretations of the experiences.

Keywords: *HIV and AIDS Information; Serodiscordant Couples; Phenomenology, Malawi*

Introduction

In this paper we describe how serodiscordant couples experience HIV and AIDS information. I draw on the in-depth interviews I conducted with serodiscordant couples in Lilongwe and Dedza Districts in Malawi.

For many years HIV and AIDS has been a public health concern in Malawi and Africa affecting social-economic development. (Joint United Nations Programme on HIV/AIDS, 2012a) estimated that 34 million people were living with HIV globally at the end of 2011. According to Joint United Nations Programme on HIV/AIDS (2012b) Sub-Saharan Africa is the hardest hit by the HIV pandemic. Although this region has only 12% of the world population, it was home for about 69% of all people living with HIV in 2011. Further, 71% of all new HIV infections globally were occurring in the region. "AIDS places an increased economic burden on households needing to pay for drugs and funerals, putting particular pressure on women and girls caring for AIDS patients" (Joint United Nations Programme on HIV/AIDS, UNICEF, World Health Organization, & United Nations Population Fund, (2009:21).

According to Malawi Government (2012) the first HIV case was diagnosed in Malawi at Kamuzu Central Hospital in Lilongwe in 1985. The 2010 Malawi

Demographic and Health Survey (MDHS) reported that 11% of adults aged 15-49 in Malawi were infected with HIV. The survey further indicated that women and men of the same age group 13% women were infected and 8% men are infected (National Statistical Office (NSO) & ICF Macro, 2011).

Although the 2010 Malawi Demographic and Health Survey showed that there was universal awareness of HIV and AIDS in Malawi several studies have indicated that this did not translate into behaviour change (Malawi Government, 2012; Malawi National Aids Commission, 2007; National Statistical Office (NSO) & ICF Macro, 2011). In a report to the United Nations Joint Programme on HIV/AIDS, Malawi Government (2012) reported that 80% of new HIV infections occurred among partners in stable heterosexual relationships; and discordancy as the second most important driver of the HIV pandemic in Malawi. Malawi Government further stated that persons with higher educational qualifications in Malawi were the ones who were at higher risk of contracting HIV and yet they were the ones who were more knowledgeable about HIV including how it is transmitted and prevented.

Literature Review

HIV and AIDS, and Serodiscordant Couples

Serodiscordant couples face many challenges regarding sexual intimacy, child bearing and the constant reality of transmission of the virus to HIV negative partner. World Health Organization (2012:24) defines serodiscordant couple as “a couple in which one partner is HIV-positive and one partner is HIV-negative”. In 2009, the World Health Organisation reported that increasing proportions of new HIV infections were occurring among serodiscordant couples (World Health Organisation & Joint United Nations Programme on HIV/AIDS, 2009). In addition, Malawi Government (2012) reported that 80% of new HIV infections in Malawi were occurring in stable heterosexual relationships.

HIV prevalence among couples is similar to that of the general population since the majority of adults of the reproductive age are either married or in cohabiting relationships. According to World Health Organization, (2012) couples can remain serodiscordant indefinitely if they consistently use condoms. Therefore, World Health Organisation and Joint United National Programme for HIV and AIDS encouraged national governments to scale up couple testing and counselling programmes (World Health Organization, 2012). However, a study conducted by Hailemariam, Kassie, and Sisay (2012) in Ethiopia reported that couples were faced with struggles to save their relationship, deal with mismatch in desires for sex and to have children, and deal with issues of disclosure of their serostatus. While the couples were going through this process, they were faced with intervening conditions. These included pressure from relatives, information provided by HIV and AIDS management centres, and people’s judgement.

Although HIV and AIDS knowledge among women and men in Malawi is almost universal (National Statistical Office (NSO) & ICF Macro, 2011) there still exist barriers to access and use of health information which includes HIV and AIDS information. Chimphamba et al. (2012) used informant interviews to explore barriers to accessing sexual and reproductive services among couples living with HIV in Malawi. A purposive sample of twenty couples living with HIV was recruited from antiretroviral therapy clinics. The study identified barriers that were categorised as personal, interpersonal, community, organizational, and societal. One of the major barriers was lack of literacy skills to read

written media communicating HIV and AIDS and reproductive health information. The study also found that couples living with HIV were receiving conflicting HIV and AIDS information from different sources. The couples reported that while HIV and AIDS radio programmes were advocating that it is possible for couples living with HIV to have HIV negative children, counsellors in the health facilities were against such messages.

In his second model of information behaviour (Wilson, 1999) posits that even after being exposed to information people evaluate the information based on its effect on the need. In their study, Beyeza-Kashesya et al. (2010) reported that information provided by health care providers did not influence serodiscordant couples’ reproductive decisions. 114 mutually disclosed serodiscordant couples receiving HIV care in four centres in Uganda were surveyed to determine factors that influenced the couples’ reproductive decisions. Couples were found to be greatly influenced by relatives to have children. In addition, the study found that a member of a couple desired to have children when they knew their partner’s desire to have children.

Although Allen et al. (2003) and Beyeza-Kashesya et al. (2010) make no reference to information behaviour in the interpretation of their findings, the actions of the serodiscordant couples in the two studies point to information avoidance. Referring to Wilson’s Model of Information Behaviour, Case, Andrews, Johnson, and Allard (2005) state that people’s motivation to seek information is affected by intervening variables. The serodiscordant couples in Allen et al. (2003) and Beyeza-Kashesya et al. (2010)’s studies had their motivation to seek information affected by their relatives’ and society’s expectations. Their relatives and society expected them to have children as husband and wife so they avoided information that contradicted these expectations.

HIV and AIDS Information

Information can be an effective tool in the fight against the HIV pandemic. Uganda reduced her HIV prevalence from 30% in 1992 to 8.3% in 1999 (Uganda National AIDS Commission, 2001) and studies conducted in the country have reported that effective dissemination of HIV and AIDS contributed to reduction of HIV prevalence rate (Albright & Kawooya, 2005a, 2005b; Low-Beer & Stoneburner, 2003). Information is also needed by people living with HIV to assist them manage their

condition. Information sought include causes and symptoms (Selman et al., 2009), medication information (Edewor, 2010; Huber & Cruz, 2000), treatment information (Huber & Cruz, 2000; Selman et al., 2009) wellness information (Edewor, 2010; Huber & Cruz, 2000), HIV and AIDS disclosure, dating and relationships, legal information (Huber & Cruz, 2000), progression and management of HIV and AIDS (Selman et al., 2009)

Albright and Kawooya (2005b) used semi-structured interviews to investigate the kinds of HIV and AIDS information people received, specific sources from which they received information, the period over which they received the information and the media they got the information from. The results of the study indicated that three categories of HIV and AIDS information were disseminated. These were general information about HIV and AIDS, preventive information; and information that emphasized "the responsibility of all in society to care for people with AIDS without blame or passing judgment" (Albright & Kawooya, 2005b, p. 107). Although Albright and Kawooya found evidence that provision of HIV and AIDS information contributed to the fight against the pandemic, they only speculated the reasons behind the success. They state that information provision was successful because of the use of socially and culturally sensitive channels of communication in addition to the formal HIV and AIDS networks.

In another study Albright and Kawooya (2005a) used case study approach to delve into reasons for the success of information HIV and AIDS provision in Uganda. Results of case studies of two organisations that provided HIV and AIDS information to people confirmed that a combination of informal and formal channels were used to transmit information to target populations. These results agreed with those of Low-Beer and Stoneburner (2003) where they reported that although Uganda's HIV and AIDS knowledge indicators were similar for other countries, the country had unique HIV and AIDS communication strategies. Low-Beer and Stoneburner state that communication about HIV and AIDS used personal and social networks, a shift from impersonal media.

Similar to the results of studies conducted in Uganda, Muchini et al. (2011) reported that HIV information programmes contributed to behaviour change in Zimbabwe. Muchini et al used focused group discussions with 200 men and women, and informant interviews to investigate people's perceptions of the causes of behaviour change in

Zimbabwe. Among the reasons given for the change of behaviour were transmission of HIV and AIDS messages using interpersonal means and cultural sensitive programming.

In Tanzania, Manda (2007) investigated the reasons why information provision was not translated into behaviour change in Babati District. Using a purposive sample of 131 respondents, Manda conducted face to face interviews, focus group discussions and in-depth interviews with key informants. The results of the study showed that HIV and AIDS information did not result into behaviour change because of lack of participatory approaches in the dissemination of information. The study also highlighted the effect of cultural and normative values on the effectiveness of HIV and AIDS to influence behaviour change. Specifically, the study reported that certain dominant cultural practices and norms influenced sexual and gender relationships more than HIV and AIDS information. Studies have shown that the major sources of HIV and AIDS information for PLWHA are AIDS newsletters, doctors, magazines, personal physicians, pamphlets, brochures, friends (Hogan & Palmer, 2005; Huber & Cruz, 2000; Veinot, 2009), HIV positive counselors (Hogan & Palmer, 2005), newspapers, books (Huber & Cruz, 2000), television (Huber & Cruz, 2000; Manda, 2007), radio, family members, non-governmental organisations (NGOs), Community-based organisations (CBOs), and schools (Manda, 2007).

HIV and AIDS information sources reported by Hogan and Palmer (2005), Huber and Cruz (2000), Veinot (2009) and Manda (2007) are similar to those used by PLWHA in Malawi. However, there are other factors that may affect or limit acceptability information sources and the information. "Within any given small world, there are a variety of ways in which individuals may behave in relation to the information available to them. For example, they might perceive the act of actively seeking for information to be costly or difficult, and thus avoid it. Or they may view information available to them as important, but may reach the conclusion that they can get along without it. Or, further, they may believe that the information comes from unacceptable social type, and thus conclude that the information, even if it is accurate, is itself unacceptable" (Burnett, Besant, & Chatman, 2001:538). Besides, Chatman (2000) as quoted by Burnett, Jaeger, and Thompson (2008) contends that in a small world, people tend to judge the authenticity of information based on the source. If information is coming from someone

perceived considered an outsider or from a source whose characteristics conflict with the norms or worldview of their small world it is ignored. Small world has routine and expected ways of doing business based on social norms and worldview (Burnett et al., 2001).

Methodology

Data was collected using in-depth interviews. Mutually disclosed serodiscordant couples were interviewed in their homes. The interview data was analysed using Max van Manen phenomenological approach to analysis of interview data to describe and interpret couples' descriptions of how they experience HIV and AIDS information. Sample for the study was drawn from a population of mutually disclosed serodiscordant couples attending HIV support groups and HIV management centres. Purposive sampling was used.

The sample size was determined using data saturation and some demographic data.

21 serodiscordant couples (42 participants) and 3 participants who had separated with their partners from Lilongwe and Dedza Districts were interviewed between in September and October 2013. Of the 21 couples interviewed, 10 couples had the female partner HIV positive and 11 had the male partner HIV positive. Two of the couples that had separated had the male partner HIV positive.

Results and Discussion

Information Needs

The types of information needed by serodiscordant couples were categorised into four major categories as follows:

Physical and Reproductive Health

- Nutrition
- Personal health information
- Sexual and reproductive health information

Emotional and Social Support

- Encouragement
- Skills training
- Information about business loans

Medical Information

- Information about HIV and AIDS, and serodiscordance
- Information about medication
- Information about opportunistic infections

Business Information

- Information about loans

Most of these information needs are consistent

with those identified in previous studies. Others studies have reported that people living with HIV need information on causes and symptoms (Selman et al., 2009), medication (Edewor, 2010; Huber & Cruz, 2000), treatment (Huber & Cruz, 2000; Selman, et al., 2009) wellness (Edewor, 2010; Huber & Cruz, 2000), HIV and AIDS disclosure, dating and relationships, legal issues (Huber & Cruz, 2000), progression and management of HIV and AIDS (Selman et al., 2009).

Availability and Accessibility

During the interviews couples were asked to describe the availability of HIV and AIDS information they need as serodiscordant couples. Although HIV and AIDS awareness is universal in Malawi (NSO, 2010) there is still a culture of silence among some major players in the fight of the HIV and AIDS pandemic. Some couples especially from the rural areas explained that the churches they go to never talked about HIV and AIDS. Couple #18 said:

If we talk about our village, when we go to church, they don't talk about these issues. Its prayers and prayers throughout. Its only prayers and not any talk about HIV and AIDS, that's what our Priests do, yeah.

In addition, couples stated that most of information available to them was not addressing serodiscordance. HIV negative partners expressed their desire to know the explanation for their mixed HIV status when other HIV and AIDS information stated that HIV is sexually transmitted.

I always want to know, why am I HIV negative and my husband is HIV positive when we always had unprotected sex (Couple P.08.1439.1)

In a study conducted by Ngunjiri et al. (2012), lack of knowledge about serodiscordance was identified as one of the major barriers to consistent condom use among serodiscordant couples in Kenya. Ngunjiri et al reported that HIV negative partners in serodiscordant relationships had misconceptions about serodiscordance. There was belief that the HIV negative status was due to immunity to the HIV virus.

HIV and AIDS Information as a Source of Distress and Encouragement

Couples' experience of HIV and AIDS information was a continuous oscillation from despondency to

hope. Informal sources of HIV and AIDS information had messages that were stigmatising and distressing. A female partner in couple P.08.1439.4 described how her husband continually told her that the only explanation for her illness was promiscuity. Although formal sources of HIV and AIDS gave other ways of how one could be infected with HIV, the woman was still distressed by information coming from her husband.

Couples described the contrast between information obtained from informal sources such as friends and that obtained from formal sources such as the hospital. Although information provided by formal sources of HIV and AIDS information did not provide the prognosis of serodiscordance, couples report being encouraged and accepted.

Poorly Translated

Couples described how they felt stigmatised by HIV and AIDS information coming from some formal sources. Couple P.08.1439.17 described the despondency that comes with the feeling that antiretroviral drugs are officially called *mankhwala otalikitsa moyo* (life prolonging drugs). This portrays the life of the couples as one that ended and is only being sustained by the drugs.

I don't know if it comes from the translation of English words. Most of the information that comes, if you listen carefully, is threatening. So because of fear, people stay away for fear of being associated with the fearsome group. I can give an example of ART, you hear they say you will be given life prolonging drugs, can you see that? So I was looking at it and said; Is LA a life shortening drug? It has the same purpose, life prolonging, so that people do not die. As far as I am concerned, the information should talk about immune boosting. People would be encouraged and say; Oh I am going to collect the immune boosting drug, we are going to get tested, they would be encouraged (Couple 17)

In other cases, when HIV and AIDS information was translated into the local language (Chichewa) the message was misunderstood by serodiscordant couples. In several cases couples reported that they stopped using condom because "when you are on ART the virus is sleeping" as described by couple 14;

Aaah I stopped using condoms..... I heard from some friends that when

someone is on ART the virus is weakened and it becomes useless. Then I said to my wife; 'I thought you are on ART? If you are on ART what is the problem'

Namyalo (2010) noted a similar problem with local languages in Uganda. Namyalo states that the terminological underdevelopment of local languages in Uganda affected the development of HIV and AIDS messages. Further, Namyalo argues that the modification and reconsideration of HIV and AIDS related terms in use created series of synonyms which contributed towards misinformation of the target audience.

Denial

Walker, Payne, Smith, and Jarrett (2004) suggest that denial is coping mechanism when people are faced with uncontrollable situations. Although denial does nothing to improve the controllability of the situation, it minimises the threat posed by the situation. Provision of health information to patients is essential to reducing uncertainty and unpredictability (Walker et al., 2004)

When couples were asked to describe their experience of HIV and AIDS information they 'bravely' stated that no information elicited negative emotions. However, after a series of probing questions couples started admitting the negative emotions that were caused by some HIV and AIDS information. From the descriptions couples' experience of HIV and AIDS information appeared to continually oscillate between despondency and hope.

Experience of Being Blamed

HIV and AIDS information associated HIV and AIDS with promiscuity. This made most HIV positive partners to explain the possible sources of their HIV status using HIV and AIDS information that was available to them. On the other hand, HIV negatives partners blamed their spouse of promiscuity.

When I considered my life style, I was very surprised with my HIV status. I have never been promiscuous in my life. But I suspect that that I got the virus from unsafe contraceptive injections I got. I always fight with my husband and he asks; 'where did you get the virus? It means you were sleeping around'

Incidences of blame for promiscuity were also reported by Gitonga, Ballidawa, and Ndege (2012) in their study of serodiscordant couples in Eldoret, Kenya. The study reported that couples' initial reaction was to blame the HIV positive partner for HIV infection. To address this problem, World Health Organisation (2012) recommends couple HIV testing and counselling. This ensures that the two partners receive the results and information together, as a couple.

Fear of Separation

Couples reported experiencing HIV and AIDS information with fear of separation. One couple which had just discovered that they were serodiscordant at the time of the interview confessed that they were struggling to stay together while confronted with HIV and AIDS information that said that HIV is largely transmitted through unprotected sex.

Learning about his HIV status was a distressing experience, you know he is positive and I am negative and my heart was troubled. That time our marriage was shaken and I wanted us to separate. (HIV negative female spouse Couple P.08.1439.18)

Yeah when I hear [HIV and AIDS] information on the radio I call my wife and I tell her; Do you hear what they are saying? This means that we should not separate because I am HIV positive, but we should strengthen our oneness. (HIV positive male spouse Couple P.08.1439.18)

Three women and one man reported having experienced separation from their spouse. Of the three women, one had her husband leaving after she insisted that they should consistently use condoms as advised at their counselling session. The husband was the one who tested HIV positive.

Another woman experienced a 3-month separation with her husband after she tested positive, and she came back after her parents talked to the husband. In the third case, her husband left her after she disclosed to him and she had not heard from him again. The man who experienced separation reported that he was convinced that he was infected by his wife. They went for VCT after suffering from syphilis and the husband was found HIV positive and the wife HIV negative. The wife left and never returned.

It distresses me; I am distressed when I hear such information because it reminds me what my wife did. She left her matrimonial home. It reminds me of that experience and I say ti myself; 'If my wife had followed what is said here, she would not have run away from me, should would have stayed'. Unfortunately she did not accept my illness and she did not heed information given to us. So when I hear HIV and AIDS messages I am reminded of our separation (Couple P.08.1439.10).

In this study, couples separated as a reaction to HIV test results. In addition, some reconciled after receiving information about serodiscordance from HIV counsellors. Couples that did not reconcile either did not receive correct information about their status or got additional information from another source which persuaded them not to act on information obtained from HIV counsellors.

Conclusion

Serodiscordant couples are a unique group of people infected and affected by HIV. These couples have a wide range of issues that require information for the partners to make correct decisions. While serodiscordant couples struggle with the need to understand their situation, HIV and AIDS information that is available does not adequately address issues surrounding serodiscordance.

The wider body of HIV and AIDS information state that HIV is sexually transmitted yet serodiscordant couples, who have sexual contact, have mixed HIV status. This to the couples is a puzzle that requires information to solve. On the other hand the mixed of the two married partners is source of questions about the faithfulness of the HIV positive partner. Overall, the results of this study highlight the need to understand how the target audience of HIV AND AIDS information experience that information. This will make information campaigns to be responsive to the needs of the people targeted.

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SUB-THEME: 4

***Conflict Management: The Role of Archives and
Records***

The Role of Records and Archives in Resolving Chieftdom Wrangles: Case Study of the National Archives of Zambia

By

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Abstract

The aim of the study was to investigate the role of records and archives in resolving chieftdom wrangles at the National Archives of Zambia. The study employed qualitative methods. Data was collected through document study and interviews of staff at the institution. The findings are reported and include the kinds of records and archives available on chieftdom boundaries and inheritance, consultation of these records and archives, the extent to which they resolve chieftdom boundary wrangles, security of these records and archives and the challenges faced in accessing these records and archives. The paper concludes by recommending for increased publicity of existing records and archives on chieftdom boundaries. Additionally, there is need for documentation and preservation of information on chieftdom boundaries where there is none to avoid information sink.

Keywords: *Records; Archives; Conflict Management; Conflict Resolution; Development; Land Wrangles; National Archives of Zambia*

2.0 Introduction

In societies marred by conflict, development can hardly take place. Where there is conflict, some people lose their lives while others get displaced. Even those that remain are reluctant to invest for fear that they may be displaced anytime. Thus, sustainable socio-economic development can only take place where there is peace and stability. The importance of records and archives in resolving such conflicts in any nation cannot be over-emphasised. Where records exist, it is easy to prove the boundaries and inheritance, making it easy to resolve conflicts. In the absence of records, it is very difficult to resolve conflicts. Records and archives can be used as tools to bring unity and development in chieftdoms where there are wrangles.

Records and archives are very significant tools for resolving social conflicts. Conflicts in society or between and among different societies are based on deficiency of information. Social conflicts are largely due to misinformation, wrong information or simply missing information (Nyamboga, and Kiplang'at, 2008) and breach of communication

between the parties involved (Okoye and Igbo, 2011). A history characterized by violence could also be recorded as a history of disinformation and prejudices (Nyamboga, and Kiplang'at, 2008). In Zambia, chieftdom wrangles have been widespread. Though it is often said that wrangles are desirable in shaping human ideologies and relationships, they undermine development efforts to a large extent. They result in some people losing their lives, others getting displaced, reluctance to invest, poverty, hunger, diseases and destruction of property. Government resources meant for developmental projects are channelled towards procurement of arms.

Access to right information is a panacea for resolving wrangles. Records and archives help individuals to look back in history on what was done, including where, why, when and how it was done. It is only by looking at what was done in the past that we can understand the present and be able to plan for the future. It is against this background that records and archival information is considered crucial in preventing and resolving wrangles in any given society as they provide evidence of the past. It is possible to resolve chieftdom wrangles only on the basis of existing and available records and ar-

chives. Records and archives serve any nation with a collective memory vital in promoting, peace, reconciliation, justice and social stability. According to Hamooya (2009), the value of records and archives can only be seen if they are used by not only the creator of records and archives, but also by other individuals and the society at large for a variety of current social and organisational purposes. Additionally, the desirable impact can only be made if records and archives are made available and accessible to the public. If this is not the case, then the nation risks structural and latent violence becoming open violence. Such a society then blindly unleashes its force on elements of the society that do not always have something to do with the real problems (Nyamboga, and Kiplang'at, 2008). Past records are also an important source of information upon which an authoritative history of various sectors of national life can be based. Throughout the ages, knowledge and experiences have been passed on from generation to generation through records and archives. Therefore, preservation of records and archives ensures the success and survival of future generations because they provide the foundation upon which to build on (Mulauzi, Wamundila and Hamooya, 2013).

There should be an institution mandated to safeguard and make not only available, but also accessible this kind of information. In the Zambian case, the National Archives of Zambia is in charge of management of public records and archives (Hamooya, 2009). There has been no study, especially in the Zambian context, that has investigated the role of records and archives in resolving chieftain wrangles. Consequently, this research, intended to bridge this gap.

3.0 Background

In Zambia, the Department of National Archives of Zambia under the Ministry of Home Affairs has been given the mandate to control and preserve the public archives and records of the Government, state corporations, missions and individuals. The mandate is derived from the National Archives Act Chapter 175 of the Laws of Zambia. This Act is meant to provide for the preservation, custody control and disposal of public records and archives in Zambia. In the Act, according to Hamooya (2009), public archives are those public records that are specified by the Director of National Archives as being of permanent value and have been transferred to the Department. Public records in the Act imply any records of the Government that in the first place, are in the custody of Govern-

ment, and secondly have been transferred to the National Archives of Zambia. The Act further states that public records also involve any records of a corporation, society, association, institution or organisation that are prescribed by the Minister by statutory instrument, and which are in the custody of such corporation, society, association, institution or organisation.

The origins of the National Archives of Zambia can be traced back to 1935 when the Southern Rhodesia Archives was opened. Northern Rhodesia had no organised archives until 1947. In 1946, the Northern Rhodesian Government negotiated with the Southern Rhodesian Government for extension of archival services to its territory (Simabwachi, 2013). In the same year, the Central African Council authorised the Southern Rhodesia Archives to extend archival services to Northern Rhodesia and Nyasaland. The authorisation of the merging of archival services was based on the political campaign after the Second World War for unification of various technical services of the three Central African countries for economic and security reasons. This was followed by Northern Rhodesia and Nyasaland passing the Archives Ordinances of 1946. The ordinances legally established the Southern Rhodesia Archives as the archives headquarters office for Northern Rhodesia and Nyasaland. Thereafter, the name of the Southern Rhodesian Archives was changed to the Central African Archives. H. E. Hillet became the first archivist of the Central African Archives. In 1947, an archival depot was opened at Livingstone by A. J. Saich, and it served as a transit centre for semi-current records, pending their transfer to the Central African Archives which was headquartered in Salisbury now Harare. The depot was in operation up to 1950 when it was temporarily closed owing to a staff crisis (Simabwachi, 2013).

However, in 1956 the archival depot was reopened and relocated to Lusaka. With the formation of the Federation of Rhodesia and Nyasaland in 1953, the administration of archives was taken over by the Federal Government. In 1958, the National Archives Act was passed which stated that each Federal Government of Southern Rhodesia, Northern Rhodesia and Nyasaland was the owner and disposer of its own property. The Central African Archives was then renamed as the National Archives of Rhodesia and Nyasaland. Later in 1963 the Federation of Rhodesia and Nyasaland was dissolved. This was followed by Zambia's attainment of independence in October 1964. The Zambian archives ceased to be a branch of the

National Archives of Rhodesia and Nyasaland, but became a fully fledged archival institution. The archival institution was now renamed as the National Archives of Zambia. In 1969, the National Archives Act was passed which stated that the legal and sole mandate for the care and preservation of Zambian records was entrusted with the National Archives of Zambia (Simabwachi, 2013).

4.0 Statement of the Problem

In the Southern African region, Zambia is known to be a haven of peace. According to Lumba (2013), Zambians, however, should not take the peace prevailing in the country for granted. There is need for all peace loving Zambians to guard jealously the peace that has been prevailing in this great nation since independence. This can be made possible by enhancing and promoting the core values that have held this nation together. Lumba emphasises that the word 'peace' in as much as it can be a five worded letter has a grave impact on many social and economic aspects of any given country. In the absence of peace, people are not able to exercise their full potential as misery takes its toll. Peace simply entails order, discipline and prosperity which are recorded when it is put at the centre stage of any given society (Lumba, 2013). However, the prevalence of wrangles in various chiefdoms in Zambia has been a major source of concern to individuals, families and the nation at large. Many of the chiefdom wrangles involve land and succession disputes. Land is becoming scarce daily due to population growth. This has resulted into wrangles as each chief would want to have a big share of land to own. In terms of inheritance, wrangles have become common in that everybody would want to be a chief even if they are not in the royal family. Chiefdom wrangles and disputes that have rocked several chiefdoms in Zambia undoubtedly present a serious threat to Zambia's development. More time and money is spent on resolving conflicts instead of development issues. They also result in loss of lives, displacement of people, increased violence, human abuse and mutilation, to mention but a few. In statistical terms, the number of disputes may be small, but in terms of financial loss and anguish for those involved these disputes can be extremely painful (Powell, 2005).

The rise in chiefdom wrangles could be attributed to the lack of documentation on chiefdom boundaries and inheritance or lack of knowledge on the existence of such records. Records and archives document essential administrative decisions and

are often missing links in most chiefdom wrangles. This study, therefore, investigated the role of records and archives in resolving chiefdom wrangles.

5.0 Objectives of the Study

The objectives of the study included the following:

- To investigate the kinds of records and archives available on chiefdom boundaries and inheritance
- To find out if records and archives on chiefdom boundaries and inheritance are consulted
- To find out the challenges faced in accessing records and archives on chiefdom boundaries and inheritance
- To ascertain the extent to which records and archives on chiefdom boundaries and inheritance resolve chiefdom boundary wrangles
- To investigate the security of records and archives on chiefdom boundaries and inheritance

5.1 Research Questions

The following research questions guided the study:

- What kinds of records and archives are available on chiefdom boundaries and inheritance?
- Are records and archives on chiefdom boundaries and inheritance consulted?
- What challenges are faced in accessing records and archives on chiefdom boundaries and inheritance?
- To what extent do records and archives on chiefdom boundaries and inheritance resolve chiefdom boundary wrangles?
- Are records and archives on chiefdom boundaries and inheritance safe?

6.0 Methodology

The research was carried out at National Archives of Zambia headquarters. This study was a survey in nature. The research design was centred on qualitative methods. Primary data was collected through interviews and document study. Document study involved consulting researchers log book, Government Gazette, District Note Books and Maps. Ten (10) members of staff purposively selected participated in the study. Content analysis was used to analyse data obtained qualitatively.

7.0 Findings and Discussion

Kinds of records and archives available on chiefdom boundaries and inheritance

Findings from the field revealed that the National Archives of Zambia has three types of records or archives on chiefdom boundaries and inheritance. These include the District Notebooks (DNBs), maps and Government Gazettes. This is what one of the respondents had to say on kinds of records and archives they have on chiefdom boundaries:

We have three types of records or archives that help answer issues to do with chiefdom wrangles. These are District Notebooks, maps and Government Gazettes.

Further investigation included scrutinising the information contained in each of the three types of records. The first type of records that researchers studied extensively were DNBs.

The institution has more than eighty (80) DNBs, covering all the provinces in Zambia. The DNBs cover the period from the 1890s to 1964. Entries were made in these notebooks by district officials on a wide range of administrative and historical subjects. Gann in Simabwachi (2013) noted that the district officials lived in close contact with the indigenous people; hence, they recorded their observations and what was orally told to them. District notebooks in which district information was entered formed useful sources of ethnic histories in writing tribal and cultural history. Gann stressed that the observations of the early administrative officials in Northern Rhodesia were of tremendous value in piecing together details concerning native societies. The DNBs in many cases contain the only written sources of ethnic histories. As well as recording tribal and cultural history, the DNBs are sources of the history of the administration. The findings revealed that information contained in DNBs on chiefdom boundaries and inheritance includes descriptions of boundaries of districts, names of chiefs and headmen, chiefdom and headmen boundaries, inheritance, land settlement and customs and law. This is why they are the most valued and most consulted collection.

Further, the district notebooks, according to Simabwachi (2013), were valuable resources in the publication of calendars of the DNBs. The calendars contained summaries of all entries that were made in the DNBs in chronological order. The calendars of DNBs were useful in verifying the

correct names which were corrupted by the colonial administrators.

The findings further revealed that the National Archives of Zambia holds maps of various kinds, including those that show provincial, district and chiefdom boundaries. The institution has among others, maps for Northern Rhodesia, Southern Rhodesia and Native Affairs. It is noteworthy that chiefdoms in Zambia were last demarcated in 1958 and the maps showing chiefs' boundaries were drawn in the same year. These maps were drawn by colonial masters. It was found that the 1958 maps are also widely consulted for any boundary dispute. This is evident from the following response:

When chiefs or subjects come here, they look at all the three kinds of records including maps. The chiefdom boundary descriptions contained in the DNBs are often confirmed by consulting maps for actual demarcations. Information on chiefs gazetted is also sort in government gazettes.

Researchers observed that the maps are accurate, intact and detailed. Thus, these maps are crucial for research into boundary wrangles in the country because they provide spatial grounding and evidence. Simabwachi (2013) submits that a map collection provides a valuable resource for research and provision of information necessary for state, business and private activities. They give visual evidence to support claims which can be manipulated in the write-up. In fact, these maps give very quick view of descriptions of boundaries presented in the District Notebooks.

The third kind of record on chiefdom boundaries and inheritance includes government gazettes. As already alluded to in the above response, appointed chiefs from various chiefdoms in the country are gazetted in government gazettes. It is, therefore, important that chiefs and their subjects consult these kinds of records to resolve or avoid wrangles.

7.2 Consultation of Records and Archives on Chiefdom Boundaries and Inheritance and the Extent to which they Resolve Chiefdom Wrangles

In the investigation of the accessibility and use of records and archives, the findings revealed that these records are consulted by chiefs and their

subjects more than six times in a year. Thus, in the past five years, the study revealed that 13 chiefs and 34 subjects visited the National Archives of Zambia to consult records on chiefdom boundaries and inheritance. This confirms the conclusion reached by Simabwachi (2013) in his study, that traditional rulers were frequent users of the National Archives in search of information that related to genealogy, boundary and succession disputes. Traditional rulers found them useful as they contained the only written records of their own succession. Individuals and chiefs who faced succession disputes used the archives to trace the procedures and lines of succession. Mumba in Simabwachi (2013) confirmed that a chief from Bene Ngumbo clan used the calendar of the District Notebook of Northern Province from the National Archives of Zomba to trace his genealogy. The following response also confirms that chiefs consult the records and archives to confirm boundaries and inheritance or resolve wrangles:

Recently, more than ten (10) subjects including Chief Choongo, Chief Chilyabufu, Chief Mukuni, Chief Kanongesha, Chief Chipepo and many others have been to this institution to consult records and archives.

In view of the above, it is imperative to consult records and archives on chiefdom boundaries and inheritance. As observed by Nyamboga and Kiplang'at (2008), conflicts are based on deficiency of information. Records and archives can enrich chiefs and their subjects with relevant information on boundary and inheritance issues. According to the International Council on Archives (2011), the fundamental purpose of archives is use. Records and archives on chiefdom boundaries and inheritance can be used as a medium of peace building. In case of disputes, records may reveal the true story because you may find that those who may be fighting were not there yesterday.

Findings further revealed that to a great extent, the records and archives on chiefdom boundaries and inheritance do resolve chiefdom wrangles. This is evident from the following response:

Although chiefs or subjects do not come back to report whether wrangles were resolved or not, some cases end up in court and the courts rely on this information to make a verdict to end such wrangles and these are usually reported in the press, including cases that get re-

solved without going to court.

It can thus be seen that the key to resolving a dispute speedily and successfully is to seek information as soon as possible. The cost for a dispute that goes to court is usually high. Accurately resolving the boundary and inheritance wrangles among people requires records or archives. The National Archives of Zambia can always be a place to reckon with in as far as chiefdom wrangles are concerned. Affected parties can consult records and archives to learn the truth which would prevent the need to go to court.

7.3 Challenges Faced in Accessing Records and Archives on Chiefdom Boundaries and Inheritance

The study investigated the challenges faced to access records and archives on chiefdom boundaries and inheritance. The findings revealed three major challenges as in the following response:

Individuals who come to consult records have complained that the only records they could consult are maps because the rest of the other information is in English, which they cannot read or can be accessed on the computer when they have no knowledge of computers.

As indicated above, accessing this information in English proves to be a challenge for those who do not know English. In addition to the above challenge, the study findings revealed that some pages of the DNBs are worn out or torn. In such circumstances, it is difficult for people to have complete information on an issue of interest.

The study further revealed that much of the information in the DNBs was written using reeds and the handwriting in which the information is recorded proves to be difficult in some cases to read. However, the challenge is partially overcome by use of digitised information which can be magnified. In the absence of that, it is hard to read these paper records.

7.4 Security of Records and Archives on Chiefdom Boundaries and Inheritance

An important factor in protecting records and archives is the provision of adequate security measures, to protect the people working in the records office, records centre or archival institution, and to protect the valuable records and ar-

chives housed in storage areas or repositories (International Records Management Trust, 1999). This study investigated the security of records and archives on chiefdom boundaries and inheritance. Findings of the study revealed that all the records and archives are safe as they are kept in purpose built repositories. The maps are kept in flat wide cabinets, specifically designed for maps while the DNBs and Government gazettes are kept on movable steel shelves. The repositories are well ventilated, clean, and locked with sophisticated garages. The institution has in place general rules as highlighted in the following response:

Researchers are required to pay subscription fees after which they are given what are known as readers cards as a form of identity. Before they are issued with any records or archives, verification of their membership is done to ensure that they are valid members. In addition, we have a researcher's book in which researchers indicate their details and research topics. No one is allowed to go with food or bags in the search room. Researchers are not allowed to photocopy records or archives on their own. We do not allow anyone to photocopy materials at risk of damage....

The findings further revealed that entrance to records storage areas is restricted to only four authorised members of staff. These are the people who provide reference services. According to ICA (2011), archivists have the responsibility to prevent unauthorized access and at the same time provide the widest possible use of archives by monitoring restrictions and promptly removing those no longer warranted. Researchers are not allowed to write on or mark any record or archive. In fact, it was observed that the institution only allows use of pencils and not ink in the search room. This is because a pencil can be easily erased unlike ink when accidentally scribbled on a record of archive.

Findings of the study also revealed that National Archives of Zambia fumigates these records once in a year to ensure their longevity. The fumigation exercise, according to Simabwachi (2013), involves applying a chemical called meth bromide on paper documents as a protection against insects. Other preservation measures include assessment of the scope and nature of deterioration within the collections, physical repair of damaged archival materials, reformatting of archival materials through microfilming and reprographing, ensuring appro-

priate storage equipment and environment that meet the standards of particular forms and formats of archives and facilitating training of members of staff in preservation of archival resources (Simabwachi, 2013).

In terms of the formats in which records and archives are stored, findings revealed that there are in two formats: digitised and paper form. According to Hamooya (2010), these records have been digitised to safeguard and ensure the preservation of the most valuable and perishable components of the archival materials; increase their accessibility; reduce the handling of fragile materials; and facilitate their future use by a broader number of researchers and interested parties. The digitized District Notebooks (one Province per DVD) can be bought at a price. One other advantage is that digitised records can be magnified.

When asked whether they have a back up for records and archives on chiefdom boundaries and inheritance, the following was a response:

We have a back-up for digitised records and archives only. We do not have a back-up for those in paper form. All digitized and indexed documents are recorded on digital repositories, on CDs and DVDs to be specific.

The researcher can read the documents in pdf format. It is not possible for the researcher to make additions or changes to the image or the database. A back-up system is in place in which the original scanned image is preserved. If the researcher insists on checking the original document, the District Notebooks are always accessible (Hamooya, 2010).

The importance of having a back-up in an electronic environment for records and archives cannot be over-emphasised. When there is machine failure or the file itself becomes corrupted, one should be able to access the information. If records or archives are lost or cannot be accessed, it may be costly to the organisation. The back-up should be kept on the external hard drive rather than on the same computer. In terms of paper records, there is need to make extra copies for valuable records or archives such as maps and DNBs.

The findings also revealed that retrieval of records and archives is not a problem at National Archives of Zambia. The institution has finding aids, includ-

ing accession lists, catalogues, descriptive lists and inventories as retrieval tools. Confirming the usefulness of finding aids at NAZ, Mkunsha in Simabwachi (2013) acknowledged that finding aids at the National Archives of Zambia were helpful in retrieving information on the Chieftainship in the Chibombo District of Central Province.

Observations

- In as much as the value and importance of records and archives to individuals and society at large have been stressed, they are in most instances under-utilized due to low awareness.
- There is no documentation or information on some chiefdom concerning boundaries and inheritance
- Most of the available records and archives are in English.
- It has also been observed that there have been calls to re-demarcate the chiefdom boundaries.
- Most chiefs do not have copies of information on their boundaries and inheritance at their palaces
- Most members of staff have little knowledge about computers making it difficult for them to be fully aware of the technical aspects of the digitized materials

Recommendations

- National Archives of Zambia should embark on awareness programmes through exhibitions, televisions, radio and newspapers on their functions and services.
- Information on chiefdom boundaries and inheritance, where there is none, should be documented and preserved to avoid information sinks.
- Valuable documentary evidence should be translated into local languages.
- Government should not entertain calls to re-demarcate chiefdom boundaries because this will tamper with the integrity of the available records and archives.
- In view of the wrangles that keep on coming up from time-to-time, it is imperative for Government to consider printing out the 1958 maps and distributing them to all chiefdoms in the country so that chiefs as well as their subjects are well informed on their chiefdom boundaries and inheritance.

Conclusion

Records and archives are fundamental in resolving chiefdom wrangles. They can contribute to peace building at all levels of time and space be it individual, institutional, organisational, national and global levels. Information based on records and archives has the potential to empower chiefs and their subjects to make informed actions whenever there are wrangles. It is practically impossible for any chief or subject to resolve wrangles in the absence of archives and records. In fact, the absence of evidential records in most cases permeates corruption and threatens rights. Archival institutions therefore, play a significant role by providing access to archives and records irrespective of time, location and remembrance of contemporary witnesses. In an effort to maintain peace and tranquillity, chiefs and their subjects should be guided by important information based in records and archives to resolve wrangles.

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The Custodians of South African Cultural Heritage: Ensuring the Preservation of Legal Deposit Through Education

By

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Abstract

The rapid development of technology has led to an increase in electronic publications as well as no considerable decrease in the production of printed materials, making legal deposit a multifaceted and dynamic area that requires special knowledge and skills for its keepers. Apart from the increase in publications, in democratic South Africa, the Bill of Rights of the Constitution of the Republic of South Africa Act 108 of 1996 gives everyone the right of access to information which is vital for development. The basic right to information of the Constitution aids social cohesion through underpinning the right of access to information for effective and timely decision making by individuals and groups. However, this right places more demands on both the records, in whatever form, and on their custodians. The importance of preservation of and keeping South Africa's cultural heritage safe and accessible is a critical factor in defining progress towards development, making preservation even more important. However, it imposes a great responsibility on the custodians.

One of the aims of the doctoral study was to examine the challenges faced by legal deposit staff, including their skills and knowledge in preservation management. The population of the study was professional library staff drawn from four legal deposit libraries and three Official Publications Depositories. The survey of legal depositories found that all respondents had degrees, but none had training in preservation management or archival related disciplines. Therefore, this hinders development as poor or no preservation results in a lack of access to accurate, relevant and timely information. The study puts forward practical ways in which staff can upgrade their knowledge and skills to preserve South African cultural heritage to facilitate access to information that is vital for social cohesion and development

Keywords: *Preservation; Legal Deposit; Cultural Heritage; LIS Education; Socio-Economic Development; Social Cohesion.*

Introduction

Legal deposit is a well-known system used to build and preserve a nation's cultural heritage. It ensures that sources of cultural and documentary heritage are collected, controlled bibliographically, preserved and made accessible for present and future generations (Behrens, 2000; Penzhorn, 2005). Therefore, if information is preserved properly and people are able to access it, they in turn can make informed decisions. Nkikko and Yusuf (2008) state that "information is one of the critical factors that define the progress of advanced countries". Raju and Raju (2010) emphasize that the public library has a critical role to play as a crucial catalyst in the growth of a democracy is access to information. However, irrespective of the fact that legal deposit is a significant contributor of information, according to Lor (2005) in many African countries it is ineffective. Having laws does not necessarily ensure compliance affecting preservation activities, adequate funding, skilled staff and access to the collections. Penzhorn, Snyman and Snyman (2008) state that: Legal depositories, having been designated to preserve the published heritage of a nation, have to have effective systems in place to be able to effi-

ciently manage and execute their functions and the people working with legal deposit have to be knowledgeable, skilled and dedicated to the cause.

This paper is based on two of the main research questions which were to find out how knowledgeable the staff were about the preservation of the legal deposit materials and the challenges the staff faced when preserving legal deposit materials.

Statement of the Problem

Libraries today are faced with proper functionality and status. Mason (2007) argues that "cultural institutions need to be robust enough to absorb the uncertain and complex aspects of social and cultural change, and yet fluid enough to evolve correspondingly to support and present this change". Preservation in library institutions and archives continues to change as a result of continual change of technology as well as climate change, amongst others. This makes keeping abreast of developments in the field even more important. Yet, most legal depositories in South Africa have dual functions, that of a public library as well as a legal depository. This duality complicates the precise role of public libraries, especially

with regard to legal deposit, because libraries often lack a clear focus for their activities and priorities (Kinnell & Sturges, 1996; Brophy, 2001). The dual role brings about the question whether staff working in South African depositories require dual qualifications in librarianship and archival management. Penzhorn (2007) found that staff complained that they had so much other work and not enough time or staff to concentrate on legal deposit. Although legal deposit libraries have plenty of work, Feather (2004) is of the opinion that:

Legal deposit libraries, with their obligation to take a copy of every item published in the jurisdiction in which they are located, can look forward to continuous and perhaps exponential growth as the output of books, journals, newspapers and other printed matter (to look no further) continues to grow despite the even more rapid growth in the output of electronic and audio-visual media.

Public libraries all over the world are faced with dwindling funding. Prior to 1994 the provision of South African public libraries used to be the local municipalities responsibility. According to the South African Public Library and Information Bill, 2012:

With the transition from minority rule to democracy, "libraries other than national libraries" became a provincial function listed in Schedule 5 Part A of the Constitution. Given that public libraries are a provincial mandate, provinces are required to budget for them from their provincial equitable share and own revenues (Department of Arts & Culture, 2013).

The South African Public Library and Information Bill is still a draft and has not yet been passed, and therefore, the major issue affecting the current funding problem. The Municipalities Structures Act, Section 84 does not list provision for public libraries; however, some municipalities continue to provide some funding based on "goodwill" (Department of Arts & Culture, 2007). However, many municipalities question this pre-1994 arrangement. As a result, the decline in funding affects multiple facets of legal deposit preservation activities, number of staffing, knowledge, skills and training of staff, storage facilities and bibliographic tools for accessing legal deposit collections because preservation is not seen as a priority.

Literature Review

The preservation and access of legal deposit is not a simple issue or procedure. It involves implementation and the enforcement of the relevant legislation in a country. Apart from the Legal Deposit Act 54 of 1997, there is the Bill of Rights of the Constitution of the Republic of South Africa Act 108 of 1996 as well as strategies set to achieve some aspects of the legislation like social cohesion. The strategy of social cohesion is based on a number of principles, including the constitutional democracy for nation building (Department of Arts & Culture, 2012). Social cohesion goals include empowering South Africans by improving the quality of education and skill development, amongst other goals, which all require access to the right and accurate information which legal depositories could provide. However, having Legal deposit law does not always assure proper implementation unless there is proper coordination between the stakeholders (Fenerci, 2007). Penzhorn (2007) emphasises that the right legislation and fully working processes form a firm foundation for a legal deposit system.

In legal deposit there are a number of role players, namely the government of the country, the depositors (publishers), professional associations, the depositories and their employees. Penzhorn (2007) points out that the "goodwill and trust and a working consensus among role players are also crucial if the arrangement is to be successfully implemented". The different stakeholders in the legal deposit function each play a different role in the process. Each stakeholder's role directly impacts on the effective and efficient management of the legal deposit system, as well as the extent to which legislation is adhered to (Penzhorn, 2007).

The Depository

In the majority of countries, the national library is the main institution responsible for legal deposit, but other types of libraries and institutions are also used as depositories, for example, public libraries, university libraries, parliamentary libraries, law libraries, regional libraries, libraries of government ministries and archives (Jasion, 1991; Larivière, 2000). Within the guidelines to legal deposit, Larivière (2000) states that the depository should keep all documents received, make sure they are preserved properly and made accessible. In a number of countries several institutions receive deposit material, however, most countries do not use public libraries as depositories.

In South Africa the National Library has the main responsibility for legal deposit like in the majority of other countries. However, it differs from other countries by using public libraries as depositories, as well as a parliamentary libraries, constitutional court libraries and archives as additional depositories.

United Nations Educational Scientific Cultural Organisation (UNESCO) adopted a public library manifesto in 1994 to guide the operations of public libraries and states that:

Freedom, prosperity and the development of society and individuals are fundamental human values. They will only be attained through the ability of well-informed citizens to exercise their democratic rights and to play an active role in society. Constructive participation and the development of democracy depend on satisfactory education as well as on free and unlimited access to knowledge, thought, culture and information.

However, Africa has many challenges with regard to its library and information services. Social, economic, political and cultural factors play a role in this and are reflected in the condition of the library and archives facilities in that country (Mazikana, 1995; Rosenberg, 2001). Preservation of library collections is also often a challenge due to the constant obstacles of limited funding, insufficient staffing and training, dependency on donor agencies, lack of expertise and preservation facilities, particularly in South Africa.

5.1 Preservation and Access

UNESCO (2002) explains that “preservation and access, of themselves, not only complement each other – but also raises awareness, as access demand stimulates preservation work”. Legal deposit libraries preserve their collections, not for preservation’s sake but to facilitate access to these resources for current and future use.

An adequate and effectual system warrants society access to a research collection of a country’s published material (IFLA, 2000). It is an element of a country’s cultural policy and is considered as the foundation of freedom of expression and access to information (IFLA, 2000). Access to reliable and timely information is crucial to achieve the United Nations Millennium Development goals. In addition Nkikko and Yusuf (2008) state that “information is a desideratum for the success of [New Partnership for Africa’s Development] NEPAD

in its various aspects and processes” which include the eradication of poverty, promote growth and sustainable development and empowerment of women.

5.2 Preservation Education and Training

Preservation advocacy is a key part of protecting collections by involving and convincing staff to think about how their actions affect the collections (Feather & Eden, 1997; Drewes, 2006). Ngulube (2003) explains that:

Education and training are concerned with the development of knowledge, skills, and attributes necessary for individuals to live meaningfully and to contribute positively to society. Training relates to specific processes and procedures. It should provide people with techniques in how to apply rules and standards. It covers how principles are applied, in a practical programme.

Several factors, internal and external factors, influence the legal deposit processes, including the education and goodwill of the depository staff and the other major role players. A study by Rehman (2003), with regard to curriculum design of information studies courses in America, East Asia and Arabian Gulf region, indicated that preservation and conservation modules are offered as electives and not core modules. However, the International Federation of Library Associations and Institutions (IFLA) has over the years offered *Guidelines for professional library/information educational programmes* and its past 2002 and most recent guidelines 2012 stipulate preservation and conservation as a core module. Drewes (2006) recommends that the preservation of library collections and archives is not the field for one but for everyone. She suggests that a successful step for many institutions would be to make preservation a part of every job description. This would reinforce, from day one, the importance of each individual to the well-being of the collection. The preservation of materials, irrespective of their format and media that they are captured on, to a great extent hinges on librarians and archivists with necessary skills and knowledge to deal with the resources at every stage of their use by society (Ngulube, 2003).

In Africa, there is lack of proper training of information professionals for preservation and conservation programmes. In South Africa, separate preservation courses are offered under records and archival management. Within the past ten years courses have included a basic certificate

course offered at the Further Education and Training Colleges on the other hand accredited courses include a higher certificate and honours at University of South Africa (UNISA) and a postgraduate diploma at University of KwaZulu-Natal (UKZN). There is a shortage of skilled and experienced preservationists and conservators (Mazikana, 1995; Mbaye, 1995). As a result of the lack of considerable archival training in Africa, many archivists and conservationists have received training from overseas (Khayundi, 1995; Mazikana, 1995; Rosenberg, 2001). Most of the training offered is of high quality, but does not always suit African conditions, although it does produce highly able archivists and other information professionals (Ngulube, 2003). The social, economic, political, climatic and technological environments in Africa are very different from those in the developed world. With the ever-changing developments of technology offering various ways of publishing, together with the lack of expertise in digital preservation, there is need for investment of considerable financial resources. This includes investment in equipment, computers as well as ongoing training of library staff.

Due to the complex nature of electronic materials and the size of the problem, various organisations have formed international and national coalitions to work together to find solutions to digital preservation. There is still need for research to identify strategies and solutions. These coalitions were formed to fund research as well as to bring experts together to collaborate and share information. Librarians and archivists have found that they cannot work on this issue in isolation but require expertise in other fields like information technology, media and science. Harvey (2005) states that:

Collaboration is seen increasingly as one of the keys to effective confrontation of what seem at times to be overwhelming threats posed to digital preservation.

UNESCO (2003) in their guidelines to digital preservation states that benefits driving a cooperative effort could include access to a wider range of expertise, shared learning, support, planning and development costs.

There are a number of concerns with collaboration. The main concern is that due to various stakeholders' involvement, attention can be diverted from the main objectives (Harvey, 2005). However, the benefits outweigh the disadvantages. A number of coalitions have been developed and

literature about digital preservation studies is now being reported with relation to developments in the world. Future preservation strategies need to be flexible from both a technical and a financial point of view (Verheul, 2006). The collaborations like the UNESCO and Preserving Access to Digital Information (PADI) are different from the others as they are primarily to educate, inform and lobby rather than to establish services to carry out digital preservation (Harvey, 2005).

Methodology

The study was conducted using a survey and used mainly quantitative techniques. The study employed the following data collection techniques which included review of literature, questionnaires and semi-structured interviews. The heads of the libraries where interviewed and a census of professional library staff (14 principal librarians and librarians) working in the OPDs and legal deposit sections of the libraries, were given the self-administered questionnaire. The population interviewed were selected using purposive sampling to help gain a deeper understanding about finance and the policies of the units of analysis. Data collected from closed questions of the questionnaire and interview schedule was analysed using SPSS and content analysis was used for the open questions.

Findings and Discussion

Both the questionnaire and interview schedule were used to ask questions regarding preservation policies, staff qualifications and skills. The questionnaire also focused on the environmental conditions of the stack rooms and issues surrounding priorities for improving the management of legal deposit. In addition the interview schedule solicited information regarding budgets/funding.

5.1 Preservation Policies

Currently, South African depositories do not have policies to guide preservation, develop conservation facilities or train and recruit staff. Questions were asked to determine whether the library had policies to improve preservation conditions, develop conservation facilities as well as train and recruit qualified staff. Preservation policies are important because they help to set standards that are required to achieve the vital goals of the organisation. They also define the responsibilities as well as guide staff to make decisions that are fundamental for legal deposit collections. Table 1

Table 1: Existence of library policies
N=11

Policy	No	Yes	Unsure	Non- response	Total
	%	%	%	%	%
To improve preservation conditions	90.9	9.1	0	0	100
To develop conservation facilities	81.8	18.2	0	0	100
To train & recruit staff	54.5	36.4	9.1	0	100

shows 10 (90.9%) respondents mentioned that their libraries do not have a policy to improve preservation conditions and one (9.1%) respondent said that they have a policy. Nine (81.8%) respondents said they do not have a policy to develop conservation facilities and only two (18.2%) respondents said they have a policy. Four (36.4%) have a policy to recruit and train staff, six (54.5%) do not have a policy and one (9.1%) was unsure whether their library had a policy or not. Yet, preservation policies provide frameworks for the present as well as the future and ensure that access to information is guaranteed.

This major flaw was confirmed by the heads of depositories during the interviews who confirmed that they have mission statements but not preservation policies. The mission statements provided by one depository clearly showed that the purpose, values and beliefs of the institution have nothing to do with preserving our cultural heritage but support the vision and goals of a public library only. Morrow (2000) emphasises that:

The preservation of the library collection will be found within the mission statements of most libraries in recognition of the fact that libraries preserve their collections not for preservation's sake, but to enable access and facilitate use and research.

The mission statement provided was not in line with section 7 of the Legal Deposit Act No. 54 of 1997 that stipulates the duties of places of legal deposit. This gap in policy and documentation was also pointed out by Penzhorn (2007) who found that there was a lack of policies to pursue non-compliant publishers as well as a lack of selection and disposal policies for legal deposit materials.

The Act makes provision for a Legal Deposit Committee whose duties include making recommendations to the Minister to improve and implement the Act. No current recommendations have been made

to the Minister by the Legal Deposit Committee, however, they responded to a call for help with the Cultural Laws Third Amendment Bill (Mpholefole, 2012:Regulations for legal deposit). The Bill was drafted to amend sections of a number of acts including Legal Deposit Act No. 54 of 1997. The section of the Bill concerning legal deposit aims to change OPD status amongst other things to being under the Public Finance Management Act 1999 (Act 1 of 1999). This would make OPDs national public entities and therefore would improve their financial status as they would be funded by the National Revenue Fund. Another aspect of the Bill included the creation of a Legal Deposit Committee Secretariat that will support the Legal Deposit Committee with administrative, communication and secretarial services. The lack of revised deposit legislation results in the loss of crucial documents due to the volatile nature of the material as well as a lack of knowledge on how to collect and preserve documents and hinders development. This Bill does not include any content with regard to regulations and policies for the legal depositories.

The Legal Deposit Committee has, however, through the National Library of South Africa, created a manual specifically for OPDs in 2004. The OPD manual has guidelines for best practice and encourages OPDs to set their own policies based on generic guidelines (Baker, 2004). Yet, all the OPDs involved in the study did not have any policies in place. The need for change or revision of legislation was mentioned when a legal depository head expressed concern that regulations stated that they had to preserve materials in the original format received. This meant that depositories would always be faced with space problems.

Without preservation, conservation, training and recruitment policies that create frameworks and standards all the different facets of legal deposit are affected.

5.2 Staff Educational Qualifications

Education and training plays a crucial part in preservation as it affects the way staff take care of and relate to the collections, therefore knowledge of staff skills was essential. Although all the respondents had university qualifications, this did not automatically indicate that they had training in the preservation of library materials, especially digital preservation that calls for on-going training. Two (18.2%) respondents had a Master's degree in Information Science. A majority of six (54.5%) had an Honours degree in Information Science and just three (27.3%) had a Bachelor's degree in Library and Information Science. Table 2 shows a comparison of the age of respondents and their highest educational level. Table 2 also shows that a majority of the respondents, four (36.4%) were within the age bracket of 41-50, and had an Honours degree in Information Science.

All had the appropriate background that is a university degree in information science prerequisite for preservation management. Results from the interviews confirmed that none of the staff work-

ing in the legal depositories had any training in preservation management or archival related disciplines. This was quite surprising because a small percentage 36.4%(four) of institutions had a policy to recruit and train staff. Nsibirwa (2007) had the same findings as well as Ngulube (2003) who revealed that the staff directly involved in preservation and conservation activities might not have been trained in major conservation processes. This was clearly indicated by staff in the current study who ranked staff training or expertise as the third highest major priority when asked to rank priorities for improving the management of the legal deposit collection (Table 3). Three of the staff also indicated the urgency of training under the general comments and concerns. This shows that staff are aware that they are not adequately qualified to handle legal deposit issues that require specialist skills in records and documents management or archival science.

5.3 The Environmental Conditions of the Stack Rooms

Proper buildings and storage provide security and conditions that prolong the life span of various

Table 2: A cross tabulation of age of respondents and educational qualifications
N=11

Educational qualifications	Age of respondents							
	41-50		51-60		over 60			
	Count	%	Count	%	Count	%	Count	%
BA Higher Diploma LIS	1	9.1	0	0	0	0	1	9.1
BA Information Education	1	9.1	0	0	0	0	1	9.1
BA Library & Information Science (B.Bibl [Bibliothecologiae])	1	9.1	0	0	0	0	1	9.1
Hons Library & Information Science (B.Bibl[Bibliothecologiae] Honours)	4	36.4	1	9.1	1	9.1	6	54.5
MIS	2	18.2	0	0	0	0	2	18.2
Total	9	81.9	1	9.1	1	9.1	11	100

(Source:Field data)

The cross tabulation of age and education (Table 1) indicates 81.8% (nine) are within the age bracket of 41-50 and the rest are above 50 years. Nsibirwa (2007) points out that a "majority of these respondents possibly studied their library science degree approximately 20 years ago when institutions in South Africa did not include preservation management in the curriculum". Though the IFLA *Guidelines for professional library/information educational programmes* (2002, 2012) stipulate that preservation and conservation should be offered as core modules for all LIS courses, in South Africa it is only offered under records and archival management programmes.

Table 3: Priorities for improving the management of the legal deposit collections
N=11

Priorities	Major priority	Moderate	Minor	Not a priority	Undecided	Non-response
	Count	Count	Count	Count	Count	Count
Increase funding	10	0	0	0	0	1
Increase capacity of storage space	7	3	0	0	0	1
Improve storage conditions (temperature & humidity controls, security)	6	3	0	0	0	2
Improve staff training or expertise	7	3	0	0	0	1
Improve finding aids	3	5	2	0	0	1
Automate description systems	1	4	2	1	1	1
Reformat collections (microfilm, imaging)	1	5	1	1	1	2
Develop policies/procedures for handling new media	6	0	2	2	0	1
Preservation/conservation of collections	9	1	0	0	0	1
Develop disaster plan	10	0	0	0	0	1

(Source: Field data)

deposit materials. The proper preservation environment for different cultural materials is crucial especially with the current climate change and effects of global warming. The materials require a high level of protection from fluctuating temperatures, relative humidity, light and improper storage and handling and respondents were asked various questions in relation to these conditions.

The study revealed that only 36.4% of the depositories had heating, ventilation and air conditioning systems (HVAC). Respondents who did not have HVACs (63.4%) were asked how cooling was achieved in the stack rooms. The study revealed that the staff of the 27.3% of the depositories (shown in Table 4) which did not have environmental control systems thought that they achieved cooling and ventilation by opening the windows of the stack rooms. They lacked knowledge of preservation by actions that did more harm than good. Opening windows exposes materials to the external climatic conditions, sunlight, dust, gaseous components and pests. In addition, collections naturally emit volatiles which can be considered a form of air pollution. These emissions increase with high temperatures and without HVACs or with ill-suited air purification systems worsen the environment.

The fact that preservation of legal deposit is an important aspect of keeping South Africa's cultural

heritage safe and making it accessible for constitutional democracy and development imposes a great responsibility on those who take care of it. Drewes (2006) observes that:

Institutional understanding of the value of collections, and the appropriate handling and care of those collections is a key component in their longevity. So how does the person responsible for preservation accomplish this

Table4: How cooling conditions are achieved in the stack rooms N=11

Achievement of cooling	Count	%
N/A	4	36.4
Not achieved	3	27.3
Open windows	3	27.3
Using rock and water system	1	9.1
Total	11	100

(Source:Field data)

goal?

In other words, there is a need to employ staff with certain qualifications and skills or train staff in order for them to contribute positively in protecting and taking care of the collections.

Conclusion and Recommendations

The study concludes that the level of expertise for the preservation of cultural heritage in South African depositories is basic. Staff evidently lack basic knowledge in preservation activities, especially environmental control. Yet, most of the depositories have no policy to train or recruit suitable staff. The study also established that South Africa lacks specialists in conservation and restoration. In addition, the study highlights South African depositories need to move away from the preservation paradigm of crisis management to proactive management, as is expected in the twenty first century (Lavoie, 2004; Conway, 2010).

Having the tools and support for preservation will not achieve the preservation goals without skilled and knowledgeable staff to carry out the activities effectively. At present few staff have the required preservation management training and techniques, and, therefore, the Department of Arts and Culture together with the Legal Deposit Committee should immediately identify appropriate courses and arrange bursaries to upgrade skills and knowledge to the requisite level. The Legal Deposit Committee (LDC) should liaise with LIASA about securing funding to upgrade staff skills and knowledge in preservation management, especially as LIASA has managed to secure funding from the Carnegie Corporation to develop a Postgraduate Scholarship Programme for public librarians working at Carnegie Model libraries in South Africa (LIASA, 2012). The National Library of South Africa (NLSA) has received a grant of R32 Million from Bill and Melinda Gates Foundation to strengthen libraries in South Africa by amongst other things train staff (NLSA, 2014). LDC could try and secure funding for preservation management from this grant and arrange for staff to attend UNISA and UKZN that offer preservation management training locally. The LDC should also join forces with the Library of Congress, UNESCO and IFLA-PAC who offer collaborative training.

Apart from having preservation management training, staff need on-going training and assistance through workshops, seminars and conference attendance. This continuing education and training will help to inform depository staff about good current practices for the preservation and access of legal deposit materials. The LDC can arrange with professional associations, like the South African Society of Archivists, to hold in-house training workshops. Rapidly changing developments in preservation, including the publishing of digital

material, the volume of publications being produced, new information carriers, deterioration of the quality of materials used, increased access and climate change all necessitate these on-going training initiatives. Besides looking at the technical details, legal depositories need to look at cost effective action that should be taken (Conway, 2010). Another pertinent factor is that each depository is different as they are not situated in the same geographical area, building or province. It is not a simple case of implementing standard technical procedures in a one-size-fits-all manner. Varlamoff (2005) equates it to raising children in which one size does not fit all.

Apart from legal depository staff being trained in preservation management, they are also required to understand the relevant legislation, particularly the Legal Deposit Act and its regulations. In addition, they need to understand other items of legislation affecting legal deposit including the PAIA and Copyright Act. Staff need to be well versed in how these pieces of legislation affect the preservation of and access to legal deposit materials. Penzhorn (2007) states that "a legal deposit system that functions satisfactorily can only be attained if personnel are knowledgeable, dedicated and motivated". The legal depositories with the development of recruitment policies need to re-examine their recruitment plans and take cognizance of the significance of preservation and conservation skills. With proper preservation activities, adequate funding, skilled and knowledgeable staff, South Africans will have proper access to the collections to empower themselves and hopefully improve their quality of life.

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An Assessment of Knowledge Sharing Strategies at the National Archives of Zimbabwe (NAZ)

By

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Abstract

The study assessed the effectiveness of knowledge sharing strategies to capture knowledge in the institution's knowledge assets at National Archives of Zimbabwe (NAZ). It was conceived against a background of performance gaps experienced by NAZ as a result of exit from service of experienced members. A survey research design was used on a purposively selected sample of 26 respondents. It was established that due to various attrition methods, knowledge is lost when experienced members leave service without sharing what they know with junior and new members. Consequently, it was recommended that NAZ develops a knowledge sharing policy to ensure that knowledge is shared, captured and retained within the organisation. Thus, it was concluded that effective knowledge sharing strategies are the basis for the capture, retention and exchange of critical job knowledge.

Keywords: *Knowledge; Tacit Knowledge; Knowledge Retention; Knowledge Sharing; Knowledge Assets; Explicit Knowledge.*

Introduction

Knowledge is becoming the most important factor of production next to labour, land and capital. As the foundation of industrialised economies has shifted from natural resources to intellectual assets, executives have been compelled to examine the knowledge underlying their businesses and how that knowledge is used (Hansen, Nohria & Tierney, 1999). The success of a company is now underpinned on how it can effectively exploit the knowledge, lying embedded in its knowledge assets. The most effective way to exploit embedded knowledge is to identify it, capture it and facilitate its access, which is what knowledge sharing is all about. Heritage institutions such as the National Archives of Zimbabwe (NAZ) have not been spared in the drive to exploit knowledge embedded in its knowledge assets as loss of knowledge have led to performance gaps in records and archives management.

Conceptual Analysis

It is imperative that the concept of knowledge be defined and distinguished from either data or information, for the purposes of clarity. Knowledge is a difficult concept to define. A formal definition of knowledge is lacking in knowledge management literature (Hsieh, 2007). The question of defining

knowledge has occupied the minds of philosophers since the classical Greek era, leading to the branch of epistemology being devoted to it (Alavi & Leidner, 2001).

Phaladi (2011) places knowledge definition into two categories, arguing that knowledge can be subjective or objective, depending on individual perceptions. From the objective stance knowledge is regarded as an object which is representative of the world, independent of human perception and exists in a variety of forms and locations. The subjective nature of knowledge is apparent in Polanyi's (1958) view that knowledge resides in the individual. Based on this definition, the two categories represent Nonaka and Takeuchi (1994) view of knowledge as being tacit or explicit. Thus, knowledge in the mainstream literature on knowledge management is generally divided into two categories tacit and explicit knowledge.

Phaladi (2011) defines tacit knowledge as the type of knowledge that has a personal quality, meaning it is hard to formalise and communicate; it is knowledge that resides in an intuitive realm. This type of knowledge is based on personal experience and is subjective in nature. Personal experience accounts for the ability to perform a function by an individual. The procedure to perform a function is stuck in the head of the worker

(Wamundila, 2008). Thus, tacit knowledge has a personal quality, meaning it is internal and moves with the source; hence, it is hard to formalise. Thus, Polanyi's famous definition that people know more than what they can tell. It is also action based. Tacit knowledge is defined as action based knowledge, entrenched in practice and, therefore, cannot be easily explained or described (Widen-Wulff, 2005).

Unlike tacit knowledge, explicit knowledge is not sticky, but fluid. It is fluid knowledge because it is capable of flowing around an organisation when the organisation's social and technical systems are linked by means of information and communication technologies (Coakes, 2003). It is fluid knowledge because it is easily accessible to anyone who is authorised to have that knowledge. Explicit knowledge can be expressed in words and numbers and shared in the form of data, scientific formulae, specifications, manuals and so on (Phaladi, 2011). It is evident from the two definitions that explicit knowledge, unlike tacit knowledge, is codified knowledge which is external knowledge and not held in the brain of the knower. Thus, it is easy to communicate and share, for what is needed is the provision of access to the stored knowledge.

Fombad, Boon and Botham (2009) define knowledge management (KM) as a set of systematic and disciplined actions that organisations take to obtain the greatest value from the knowledge available. The definition illustrates the fact that KM is not done in a haphazard manner, but follows a certain system or actions. The disciplined actions include providing opportunities for learning, encouraging the communication, sharing of knowledge, appropriate knowledge artefacts, managing the balance of people and technologies (Fombad, Boon and Botham, 2009). This shows that KM needs a conducive environment and enabling conditions for it to occur.

Knowledge sharing is the heart of knowledge management; it is the heart of KM because it ensures the transformation of individual knowledge to become organisational knowledge. According to Phaladi (2011), knowledge sharing is a people to people process, a process whereby individuals mutually exchange knowledge. Therefore, it is a two way process, consisting of both the supply and demand for new knowledge. This shows that knowledge sharing cannot be done in isolation, but through socialisation or interaction. Thus, it takes more than one person to share knowledge. It is in

the sharing of tacit knowledge that the complexity of KS is highlighted, as it is personalised internal knowledge. The complexity is in finding a way of communicating it to the rest of the organisation (Hussock, 2009). An organisation needs to develop a conducive environment where knowledge externalisation is recognised and rewarded to stimulate KS. Figallo and Rhine (2002) argue that three essentials of a sharing culture must be in place for KS to occur. These conditions are:

- Trust- what I share will not be exploited or used against me.
- Tolerance- what I contribute will not be criticised unfairly or bring personal attack.
- Reward- I will benefit from the exchange if I contribute to it.

It shows that KS is not an end in itself; there are other important enabling conditions necessary for effective sharing to take place. There are four primary contexts that can affect such successful KS implementation, including the relationship between the source and the recipient, the form and location of knowledge, the recipient's learning predisposition and the broader environment in which the sharing occurs (Ramesh Babu and Gopalakrishnan, 2008).

Knowledge retention refers to all systems and activities that capture and preserve knowledge and allow it to remain in the organisation system once introduced (Dewah, 2012). Of primary importance is the identification of the key knowledge areas that an organisation needs to retain. Experienced people, also termed knowledge assets, are usually valued in a company because they possess this historical perspective from which they can view current situations and make connections, something a newcomer does not have (McCormack, 2001). When senior employees leave without handing over guidance or organized procedures, the job performance of successors often does not equal that of the retiree or transferee as is the case in most organisations (Dewah, 2012). This shows the critical need to retain the technical knowledge in records and archives management from retiring or resigning employees so that organisational performance is not affected.

Background to the Study

The National Archives of Zimbabwe is one of the public sector institutions that have been hard hit by knowledge loss due to high staff turnover; from 2007 to 2012, over 35% has left the institution to

join other professions (Director's Report, 2012). To compound the issue is the fact that these were the institution's knowledge assets, the most experienced members of staff. Thus, staff turnover has led to loss of organisational knowledge, and which has in turn created performance gaps. It takes two years of experience for one to move from the position of junior archivist grade to senior, and a further four years to become a principal archivist. A principal archivist is promoted to the Chief Archivist Grade after attaining a master's degree qualification and serving one year and a half probation in an acting capacity. The institution has a total of five posts for chief archivists who are the heads of sections. To- date, only one post is occupied while the other four are vacant. Records and archives management is a highly technical field that requires years practical experience. Thus, staff turnover is a big blow for the institution for it takes time to nurture one to become an expert in the field. To exacerbate the situation, is the danger of failing to tap tacit knowledge lying embedded in the brains of the knowledge assets.

Once staff is recruited into the system and placed in a section, he/she rarely move to work in other sections. This creates a highly specialised staff that may not be aware of the functions and operations of other sections that make up the records and archives management system. The National Archives is composed of four different sections, namely Records Management Services, Research and Public Archives, Reference Library, and Technical which is composed of the Conservation Unit, Audio Visual and Reprography Unit that manages records in different phases of the life cycle concept. Thus, records and archives management is a specialised area as evidenced by the activities in the different sections of National Archives of Zimbabwe. The problem arises when an expert unexpectedly leaves employment leaving a position vacant; no one from within the sections can take over the position. A good example is the post of Reprographer, whose duties include migrating information from worn out media to microfilm reels, no one among the current staff is able to do this even though the post is no longer vacant. This clearly shows that tacit knowledge of the former Reprographer was not tapped before the member's exit from the institution. Similar challenges are also experienced in the editing of the Zimbabwe National Bibliography. According to Nonaka and Takeuchi (1994), socialisation strategies should be incorporated as mechanisms for transferring knowledge. Absence of staff rotation within sections stagnates tacit and explicit knowledge

inherent in knowledge assets and resources. Teece (2000) stated that it would be difficult to transfer knowledge within the organisation without mobility of experts. Thus, knowledge embedded in individuals, coupled with lack of rotation within sections, and has negatively affected knowledge transfer from those who have it to those who do not have it.

While knowledge sharing practices have received extensive examination in developed countries, they have received much less attention in developing countries. Successful knowledge sharing practices in western countries are not necessarily the same as those in developing countries as the cultural issues and religion dogmas are totally different (Almahamid, McAdams & Kalaldehy, 2010). The most significant and frequently cited authors in knowledge management field (the likes of Drucker, Nonaka, Levitt and March and Schein, Senge and Argyris) are from developed countries. Thus, there is a gap on local literature on knowledge sharing in the civil service.

To exacerbate the issue is the fact that literature on knowledge management is written by and for the commercial corporate sector which is aimed at creating competitive advantage and maximising profits, thereby not adequately addressing knowledge management in government departments which at most are not profit making entities. Thus, it becomes difficult to operationalise strategies developed for a commercial sector for the records and archives field. Binz-Scharf (2003) supports this argument by stating that knowledge based view of a firm is not an appropriate lens to study government agencies since the underlying theories are mainly centred on the concept of competitive advantage in private sector firms. Business rationales of organisational efficiency and financial profit strongly characterise the underlying motivation for much of the knowledge management literature and recommendations. With very few exceptions, the processes of KS in government agencies have received surprisingly little attention in the available literature (Binz-Scharf, 2003). There is no cut and dried approach to knowledge management for each organisation the approach, the techniques and methods used will differ (Van der Spek, 2005). Hence, the gap on the knowledge management literature on records and archives management field.

Statement of the Problem

NAZ was experiencing performance gaps because

of its failure to adequately facilitate KS among its experienced and junior members of staff before the exit of the experienced and knowledgeable members from the institution's service. Knowledge of the experienced members should be retained by the institution through its sharing, transfer and retention from those who have it to those who do not have it. Failure to tap tacit knowledge of knowledgeable and experienced staff has negative impacts on the departmental performance, as evidenced by the Reprographer who may seem to be facing challenges in the migration of information from worn out media to microfilm reels. Worn out media is declared closed from access, and this entails denying clients and citizens fundamental right to information. Hence, the questions, 'Are there any knowledge sharing practices in place to capture tacit knowledge in the institution's knowledge assets? If so, can the sharing strategies be improved to ensure exchange, capture and retention of this knowledge by the institution?'

6.0 Purpose of the Study

The study sought to assess knowledge sharing practices in records and archives management at NAZ and establish their effectiveness in ensuring transfer of knowledge among members, with a view of coming up with some recommendations to enhance their effectiveness.

The specific objectives of this study were to:

1. Identify knowledge sharing practices in records and archives management at NAZ.
2. Determine the efficiency of the knowledge sharing practice in transferring knowledge among members.
3. Identify the information and communication technologies (ICTs) used in the NAZ to enhance knowledge sharing in records and archives management.
4. Find out the extent to which National Archives encouraged knowledge sharing through learning.
5. Make recommendations on knowledge sharing practices that ensured transfer of knowledge.

7.0 Research Questions

The following specific research questions were addressed:

1. What were the knowledge sharing practices used at the National Archives of Zimbabwe?

2. How effective were these practices in enhancing knowledge sharing and transfer?
3. What were the information and communication technologies used at National Archives of Zimbabwe that enhanced knowledge sharing among staff?
4. To what extent was NAZ a learning organisation?
5. What recommendations ensured transfer of knowledge among NAZ employees?

8.0 Theoretical Framework

The study was based on Nonaka and Takeuchi's knowledge conversion model of 1995 (SECI model). It was chosen as the theoretical framework because of its general applicability. As evidence of its wide applicability, the SECI model has been used by Lwoga, Ngulube and Stilwell (2010) from Africa, Rice and Rice (2005) from Australia and Yoshinori (2007) from Asia. This shows that the SECI "knowledge matrix" has been one widely accepted and quoted knowledge management model. This matrix classifies knowledge as either explicit or tacit, and either individual or collective. Nonaka and Takeuchi also propose corresponding knowledge processes that transform knowledge from one form to another. They argue that the knowledge conversion process is a social process between individuals and not within a single individual. The SECI model argues that through socialisation, people share tacit knowledge through observation, imitation and exchange of experiences. This shows that knowledge sharing is a social process between interacting individuals. The acquired knowledge is externalised through articulation of tacit knowledge into explicit concepts. The knowledge is combined from explicit to explicit, through a systematisation of concepts drawing on different bodies of explicit knowledge. The externalised knowledge is then internalisation through a process of "learning by doing" and through verbalisation and documentation of experiences. Thus, SECI knowledge matrix means socialisation, externalisation, combination and internalisation of explicit and tacit knowledge.

9.0 Methodology

The study combined both interpretive and positivism research paradigms. Thus, it used both quantitative and qualitative research methodologies. Using one paradigm to address the complex issue of knowledge sharing at National Archives of Zimbabwe would have proved inadequate for the study. Therefore, the adoption of the two meth-

odologies was important. Using both methods had the advantage of enabling qualitative and quantitative research methods opportunity to complement each other.

The researcher used the survey research design which had the convenience of obtaining a snapshot of the population in a relatively short period of time, while other techniques may have involved a longer-term study and during which opinions and facts might have changed from the beginning of the study to the end (Rea and Parker, 2005). Through the use of the survey design, the researcher was able to save on time and money since only a sample of the National Archives of Zimbabwe personnel was included as respondents. It also enabled the study of geographically dispersed respondents in provincial wings of NAZ.

10.0 Population and Sampling Plan

The study comprised of a population of 73 NAZ employees, which included archivists, librarians, records managers, executive assistants, reprographer, commissioners and document conservator. The researcher used purposive sampling techniques to select a sample of 26 respondents. The sample included both women and men from professional and supporting staff categories, respectively.

In selecting the sample the researcher first segmented the population into mutually exclusive groups. This identification gave the researcher the opportunity to discover and describe in detail characteristics that are similar or different across the subgroups. Characteristics used to select subgroups for the sample included the rate of staff turnover in those groups, level of expertise used in records and archives management and the technical nature of their work, and how difficult it is to replace them with individuals with the same level of experience and expertise if they leave their posts. Within the subgroups, the researcher specified the characteristics of the population of interest and then located individuals who matched the needed characteristics (Christensen and Johnson, 2011). The sample included individuals directly responsible for records and archives management and members who complemented the direct responsibility of the professionals. The human resource officer was included in a way to draw understanding on the rate of staff turnover, to establish whether exit interviews were done at NAZ and to find out if members of staff were provided with motivation for knowledge transfer and also if

space and time for knowledge sharing and transfer was allocated. Thus, respondents were then selected purposively from the identified subgroups, based on the researchers' knowledge of informative individuals.

10.1 Data Collection Tools

The study used the triangulation approach in developing instruments for the research. Questionnaires, documentary analysis, observation and interviews were used as data gathering instruments. Questionnaires were used to collect comparable data from the respondents. They proved suitable for the research as they could be filled out at the respondents' convenience, as they were issued out during the hectic period of the NAZ annual stock take exercise held in March. The researcher conducted six face to face interviews with NAZ Deputy Director, Human Resource Assistant and four acting heads of sections, in an effort to find out if the institution management understands what knowledge sharing is and what is involved.

In a bid to triangulate information received from the questionnaires and from the interviews in relation to organisational climate in respect to knowledge sharing and transfer, the researcher, as a participant observer, noted that employee's behaviour at different levels to assess how NAZ promotes KS and KT. Of specific concern was how senior members interacted with juniors at tea breaks, lunch time and when they wait for the shuttle bus to go home. The researcher also observed the sitting patterns in the staff bus that ferries members to and from work. This made it possible for the researcher to record behaviours as they occur, comparing with what respondents had said with what they actually do (Marshall and Rossman, 2011). Observation proved important in elucidating participants' behaviours in relation to knowledge sharing.

The researcher consulted the NAZ Director's reports, quarterly and annual reports, and also visited the notice board as a way of assessing how NAZ management shares information with its members of staff. Data collected provided background information for the study.

11.0 Findings

Study findings were presented in an objective based approach. Thus, findings were presented under the five study objectives.

Identified knowledge sharing practices in records and archives management at NAZ

Through the use of questionnaires, interviews, observation and document analysis, it was revealed that NAZ mainly practised KS by way of circulars, telephone and through informal interaction. It was established that common knowledge transfer methods were induction, mentoring, observation of work processes by experienced members and consultation of procedures manuals. It was established that NAZ was not using workshops, conferences and newsletters as effective tools for knowledge exchange. Knowledge acquired from conferences hosted by archival associations was not being shared through conferences, workshops and newsletters. It was being filed away in the registry.

Determined the efficiency of the knowledge sharing practice in transferring knowledge among members.

Knowledge sharing strategies used at NAZ were not effectively facilitating the sharing of tacit knowledge from experienced personnel to junior members in the department, leading to serious knowledge loss challenges. Experienced personnel left without sharing their tacit knowledge on job processes. Circulars and memoranda were identified as the most effective knowledge sharing tools at NAZ. They are an effective method of knowledge transfer largely used by the administration when it wants to convey knowledge or information to other members. Telephone, face-to-face and informal interactions ranked second in terms of effectiveness. Conferences, workshops and newsletters recorded the lowest rankings. This can be attributed to the fact that they are rarely used by the institution as forms of KS. These are areas the institution will need to improve upon so as to enhance their knowledge sharing practices. NAZ was failing to facilitate the sharing and capture of critical knowledge in the records and archives field because it did not offer incentives or motivation for KS among members. Valuable knowledge was acquired through the number of years an individual spends in an organisation thus it was imperative that, the accumulated knowledge be captured and shared to secure it from risk of loss. To further support this, Dewah (2012) stated that performance gaps left by these experts compromise the quality of products and services in an organisation.

Identify the information and communication tech-

nologies (ICTs) used in the NAZ to enhance knowledge sharing in records and archives management.

Data collected revealed that NAZ used telephone, internet, Skype, website, fax and Facebook as KS tools. The telephone was the main communication tool in knowledge sharing, especially with members in provincial centres since they do not have internet connection. NAZ was not fully utilising Skype, internet, tonic and e-mail as tools for KS as it did not have a networked system. Absence of an intranet was affecting KS between members in and across sections and also with members in provincial centres.

Find out the extent to which National Archives encouraged knowledge sharing through learning.

The fact that most of the respondents ranked NAZ as fair in terms of it being a learning organisation, it showed that management was not actively encouraging learning among members. Observation revealed that knowledge acquired from the external environment, being archival associations, training and workshops is generated into a report which is submitted to the director. Information is never distributed to other members. There is no report back procedure or platforms for the externalisation of acquired knowledge. It is suggested that in order to reap benefits from KM it is important to consider the concept of KS (Bartholomew, 2005). Thus, acquired knowledge should be shared and not filed away in folders.

12.0 Recommendations

Based on the research findings and conclusions, the following recommendations are made for the improvement of KS practices at NAZ:

NAZ should develop a KS policy on how to implement mentoring programmes, phased retirement, succession planning and apprenticeship, encourage communities of practice and encourage a documentation strategy where critical knowledge is codified and made accessible to those who need it. Succession planning will help to proactively identify potential replacements for attrition incurred where continuity is a must for operational sustenance (Wamundila, 2008). The phased approach will give an opportunity for the extraction of tacit knowledge of the leaving members.

Experienced subject matter experts should be

identified irrelevant of position within the hierarchical structure (Dewah, 2012). These experts should be given a platform to share what they know, by way of practicals or presentation of papers in workshops.

Mechanisms should be developed for reporting back procedures for those who would have attended conferences in the external environment. This will facilitate knowledge sharing than to have knowledge acquired being filed away in the registry away from the people who may want to make use of it.

NAZ organisational culture should stress the value of knowledge sharing by rewarding those who would have made efforts to share what they know. The most important extrinsic motivators are personal recognition and reputation on one hand and compensation and promotion on the other (Rollet, 2003).

Informal meeting places are very important platforms for KS. Thus, NAZ must create common tea rooms for all members of staff, regardless of position, to facilitate informal knowledge sharing among members.

Provincial centres without internet should be connected to defeat geographical barriers in the KS process. ICTs help defeat distance in space and time among members.

13.0 Conclusion

The study concludes that knowledge sharing plays a crucial role in facilitating the exchange of knowledge on job processes between employees. Knowledge sharing strategies can be an effective vehicle for the dissemination of explicit and tacit knowledge which enhances work skills for junior members of staff. Knowledge sharing, therefore, assures an organisation that knowledge is retained at the exit from service of the experienced members of staff. If these knowledge sharing strategies are improved knowledge exchange may be improved for the better. Effective knowledge sharing strategies require a conducive organisational culture and structure, which should be backed by management support. Thus, management support is crucial for KS to occur. It is management that provides the resources, the time to share knowledge and motivation for knowledge holders to externalise what they know for the benefit of others. By and large, the study concludes that the effective implementation of knowledge sharing

strategies can reduce the knowledge challenges being faced by NAZ.

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SUB-THEME: 5

Social Media and Social Economic Development

The use of Web 2.0/Social Networking Tools by Librarians in Public University Libraries in Zambia

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Abstract

The study investigated the use of social networking tools by librarians at three public University Libraries in Zambia namely the Copperbelt University, the University of Zambia and the Mulungushi University. It used library professional members of staff with qualifications ranging from Diploma to PhD. Using a survey design with a mail questionnaire being the main data instrument, the study targeted library staff to collect data from professional librarians. Out of the fifty (50) questionnaires which were administered, 34 were returned representing a response rate of 68%.

The findings of the study revealed that social networking tools were rarely utilized by the librarians for the delivery of services to their clients. Various reasons were advanced for the non-utilisation of the networking tools, among others such as restrictions imposed by the Information Technology (IT) departments, bandwidth, lack of time and sheer lack of knowledge on how to use the tools. The paper concludes by making recommendations on the need to use social networking tools, in libraries. One of the key recommendations is that Web 2.0 technology must be embraced by libraries and its use be promoted among library patrons; the study also recommends that Librarians be trained in using various social networking tools as this will enable them to appreciate and adopt the technology; it is further recommended that Librarians and IT personnel must not work in isolation of each other, but instead collaborate whenever implementing services that involve use of the social networking tools; that different stakeholders in the universities must be brought on board from the beginning of project formulation up to the implementation stage in order to engage them to buy-in the project, and; that the bandwidth must be expanded so that it can cope with the activities of using the social networking tools in libraries.

Keywords: *Web 2.0; Library 2.0; Blogs; Wikis; Social Networks; Public University Libraries, Zambia, Academic Libraries.*

Introduction

The information age has ushered in diverse methods through which information services are provided. The provision of information services has evolved from using the traditional method of the book to modern ones which use the computer, the Internet and other related technologies. Among the latest technologies which are being used in information sharing are the social networking tools also known as the Web 2.0 technology. The social networking tools include YouTube, ewiki, video-casts, podcasts, Myspace, Facebook, Flickr, delicious, twitter, podcasts, blogs, among others. These tools have diversified the way in which information is created, managed and disseminated (Nesta and Mi, 2011; Arthur et al., 2006).

Social networking tools date as far back as the early 1990s (Jackson, 2010). According to Jackson, the social networks which started as online communities, have gradually been transformed and become part of the way in which library ser-

vices are provided. It is for this reason that many libraries are now using the social network tools to provide and disseminate information to their varied clients of the libraries (Dickson and Holley, 2010). Penzhorn and Pienaar (2009), give an example of the University of Pretoria in South Africa which is using social networking tools such as Facebook in advancing scholarly research activities of staff and students.

Social networking technologies offer new opportunities for both librarians and their patrons. Studies have been done that deal with the advantages extended by Web 2.0 tools. Examples of such studies include Avdinal and Gultekin (2010), Gavvani and Mohan (2008), and Seeman (2008) who have suggested that Web 2.0 heralds a breakthrough opportunity for empowering information seekers of all types. Some of the advantages advanced by the authors include community sharing and networking. For instance, people are creating ways to share everything that they have in common through online groups. Likewise

these groups focus on education, action and community-building, and advocate for a cultural shift toward widespread sharing.

The use of Web 2.0 technologies and applications, therefore, constitute a meaningful and substantive change in the history of libraries. The library holdings are changing and becoming more interactive and fully accessible. The library services are focusing more on the facilitation of information services through the Web 2.0 technologies. According to Jackson (2010), Web 2.0 is not just about searching, finding and utilising information as individuals, but is also about communities. Increasingly, research in the academic environment has shown that libraries are using Web 2.0 technologies such as blogs, Facebook, Myspace and others. The purpose of this study, therefore, was to investigate the use of social networking tools among librarians in the public university libraries in Zambia.

2. Statement of the Problem

The rapid growth of social computing (Web 2.0) applications and supporting technologies (e.g. blogs, podcast, wikis, social networking sites, sharing of bookmarks), both in terms of number of users/subscribers and in terms of usage patterns, leads to the fact that the phenomena are also increasingly being used in the educational field for learning purposes, including in the library environment. According to Jackson (2010) social networking tools have become an important driver of innovation in learning because they enable different types of learning and teaching settings.

It is a well known fact that the social networking tools are impacting greatly on the practice of scholarly research and inquiry of students and faculty Penzhorn (2011). A university library can and should play an important role in supporting its clients' use of these tools. Social networking tools, for example, offer a wealth of opportunities for the design and delivery of new and innovative services (Penzhorn and Pienaar, 2009).

Librarians face the challenge of implementing social networking tools to help researchers do what they already do better (Zaidieh, 2012). Librarians have to be responsive to the research needs of academic staff and of students so that they can identify and use technologies that will improve services to their clients. Although the subject of social networking tools is a relatively new one, literature has shown that much has already been published. However, there is very little literature

published on the subject, especially on Zambia. In the absence of documented evidence, it is very difficult to tell how wide spread the usage of social networking tools is in Zambia especially the extent to which public academic librarians in Zambia have fully embraced the use of social networking tools in their work. This study is, therefore, an attempt to establish whether or not public academic librarians do use social networking tools in their work. The study is expected to offer suggestions on how information service in libraries can be enhanced. Thus, the main objective of the study was to establish whether or not public academic librarians do use social networking tools in their work. Specific objectives included the following:

- To find out whether academic librarians are aware of the social networking tools.
- To identify the types of social networking tools being used by academic librarians.
- To determine the ICT knowledge and skills of academic librarians in public universities in Zambia.
- To find out what librarians use social networking tools for.
- To identify the impediments, if any, to using social networking tools in libraries.
- To make recommendations on what should be done to enhance the use of Web 2.0 technologies by academic librarians in public universities.
- To identify the perceived benefits of using social networking tools in public university libraries.

Methodology

Since this is an exploratory study, the survey design anchored on positivism approach was adopted. The study targeted respondents from the Copperbelt University, the University of Zambia and the Mulungushi University. The population of study comprised of 65 professional librarians from the three public Universities. In accordance with the standard set by the Zambia Library Association (ZLA), the study defined professionals as those librarians with qualifications ranging from Diploma up to PhD levels of education. The total population of library professionals at the three public universities comes to 65. In proportional terms, the University of Zambia had the highest number of 45 professional librarians followed by the Copperbelt University with 15 and the Mulungushi University with 5, respectively. Purposive sampling method was used to select the target organizations because the researcher knew before hand the names of the organizations. As for the library profession-

als, the researcher used a census to select the respondents for the study. The study, therefore, sampled 50 library professionals from the three University libraries broken down as follows: UNZA (30), CBU (15) and MU (05).

3. Data Collection Methods and Procedures

The researcher used a questionnaire as a data collection instrument because it was the most appropriate since the respondents were literate. Some of the variables covered in the questionnaire included the bio-data of the respondents, accessibility to computers and the Internet, IT knowledge skills, uses of Web 2.0 tools, constraints encountered in using the social networking tools in libraries and respondents perceptions about the introduction of social networking tools in libraries. Out of the fifty (50) questionnaires which were administered, 34 were returned. Results from the questionnaire were analyzed to determine the extent to which librarians used the social networking tools in their employment. The analysis employed quantitative analysis.

Research Findings

Out of the 50 questionnaires that were administered, 34 (70%) were returned and usable. In terms of gender ratio, the 34 respondents were equally distributed. The age categories of the respondents showed that those who were 25 years and below constituted 5.88%, and 29.41% respectively for those between 26-35 years. From the above data, it appears that the respondents in the age category between 36-45 years were more than those in the age category 25 years and below.

In terms of the professional qualifications, the survey showed that there were 8 (23.53%) Diploma holders; 11 (32.35%) Bachelors of Arts Degree holders; 11 (32.35%) Masters Degree holders; 2 (5.88%) PhD holders, and 2 (5.88%) for others.

Access to Computers and the Internet

Access to computers and the Internet is fundamental if librarians are to use the Web 2.0 in libraries. All the 34 respondents stated that they had access to computers and the Internet at their places of work, whilst only 21 (61.76%) had access to the computer outside their place of work. Access to the computers and Internet was not a barrier to using the Web 2.0 tools in public university libraries in Zambia.

Information Technology (IT) Skills Level Assessment

The Information Technology (IT) knowledge skills of the respondents were assessed in terms of being highly proficient, lowly skilled and having no skills at all. In general, the majority of the respondents (70.6%) indicated that they were highly proficient in the general use of Internet tools; the number of respondents who helped the clients use the Internet were 19 (55.8%); those with general computers skills, and those with skills to help on using the online access catalogue respectively were at par with 18 (52.9%). Respondents recorded least proficiency in advanced office productivity software use at 6 (17.6%) followed by those with knowledge and skills assisting users with special needs (people with vision impairment) at 5 (26.4%); those with the skill of using of files sharing programmes, and those with the skill of general technical troubleshooting respectively were at par with 4 (11.8%).

Table 2 below summarizes the responses

Frequency of Use of Web 2.0 Tools

In order to find out which social networking tools were highly used by librarians, the study asked respondents to indicate their ratings using a four-point scale of "Always", "Occasionally", "Rarely" and "Never". As shown in Table 3, the results indicate that MySpace and Facebook topped the list of

Table 1: Access to computers and the Internet

	YES	NO
Access to computers at the work place	34 (100%)	0(0%)
Access to computers outside the work place	21 (61.76%)	13 (38.2%)
Availability of computers in the library	34 (100%)	0(0%)
Access to the Internet	34 (100%)	0(0%)
Availability of the Internet in the library	34 (100%)	0(0%)

the Web 2.0 tools that were used "Always". Flickr and photosharing were the next in the group of highly used tools. As the results further showed, very few respondents either occasionally or rarely used the social network tools. In terms of frequency of usage of Web 2.0 tools, the results indicated that the majority of the respondents had "Never" used the tools; followed by those who had "Rarely" used the tools and, those who had "Occasionally" used the tools. There were very few respondents who had "Always" used the Web 2.0 tools.

A cross tabulation to establish if the uses of the social networking tools differed with one's age group revealed that those in the 26 years – 35 years age category used most of the social networking tools followed by 36yrs - 45yrs, then 46yrs and above, and lastly those under the age of 25yrs. Across all age groups, the highest social networking tools used were those of MySpace, Facebook, or some type of online community followed by e-wiki and Flickr which were both at par. The least used tools were the Podcasts, Netlog and the Videocasts as indicated in Table 4 below:

Distribution of Uses Made of the Social Networking Tools

When asked about activities and the use of social

networking tools, the majority of the respondents reported that they used the tools to communicate or link with their colleagues. There were very few respondents who indicated that they used the tools for work related activities. Comparatively, there were more respondents who "Occasionally" used the social networking tools followed by those who "always" used the tools and then those who "Never" used the tools as can be seen in Table 5 below.

Perceived Benefits of Using Social Networks in Libraries

The researcher asked the respondents to state their perceived benefits of using social networks in libraries. This was in order to establish how much respondents appreciated Web 2.0 technology. The results indicated that knowledge sharing recorded 32 (94.1%) respondents, giving it the highest frequency followed by communication with 27 (79.4%) and, outreach to the students 17 (50%). Others indicated teaching 2 (5.9%) as one of the benefits of using the social networks in libraries as shown in Table 6 below:

Need for the Library to Use Social Networking Tools

A follow-up question was asked concerning the

Table 2: Information Technology (IT) Skill Level Assessment

	Highly proficient	Proficient	Low skill level	No skill at all
General computer skills	16(47%)	16(47%)	2(5.3%)	0(0%)
General office productivity software use (basic use of word processing spreadsheets, database, presentations)	11(32%)	15(44.1%)	3(8.8%)	1(2.9%)
Advanced office productivity software use (formatting, troubleshooting, etc.)	6(17.6%)	16(47%)	8(23.3%)	1(2.9%)
General use of internet tools (basic e-mail, web browsing, etc)	24(70.6%)	4(11.8%)	1(2.9%)	1(2.9%)
Advanced use of internet tools (sending an email with attached files, using bookmarks, clearing cached files, using the internet to make phone calls, etc.)	12(35.2%)	16(47%)	4(11.8%)	2(5.3%)
General use of internet search tools (conducting basic searches, using online services, etc.	18(52.9%)	13(38.2%)	1(2.9%)	1(2.9%)
Using online database (using commercial databases to search and find content)	10(20.4%)	13(38.2%)	6(17.6%)	3(8.8%)
Participating in online chats, online discussion forums (posting messages to chat rooms, starting new discussions)	10(29.4%)	17(50%)	3(8.8%)	1(2.9%)
Use files sharing programmes (exchanging movies, music, etc)	4(11.8%)	14(41.1%)	10(29.4%)	4(11.8%)
Helping the clients use the internet	19(55.8%)	11(32%)	1(2.9%)	1(2.9%)
Help on using Online Access catalogs	18(52.9%)	9(26.4%)	2(5.9%)	1(2.9%)
Knowledge and skills assisting the users with special needs (e.g. people with vision disorders)	5(26.4%)	9(26.4%)	8(23.5%)	7(20.6%)
General technology troubleshooting (dealing with frozen computers, jammed printers, etc.)	4(11.8%)	11(32%)	12(35.2%)	6(17.6%)

Table 3: Frequency of Use of Web 2.0 Tools

	Always	Occasionally	Rarely	Never
YouTube or some type of video sharing resource)	0(0%)	8(23.5%)	14(41.2%)	13(38.2%)
ewiki (acts)	0(0%)	8(23.5%)	7(20.6%)	19(55.9%)
Videocasts	0(0%)	2(5.9%)	9(26.5%)	23(67.6%)
Podcasts	0(0%)	1(2.9%)	5(14.7%)	28(82.4%)
Myspace, facebook, or some type of online community	10(29.4%)	13(38.2%)	6(38.2%)	5(14.7%)
Flicker or some type of photo-sharing resource	2(5.9%)	6(17.6%)	6(17.6%)	19(55.9%)
Del.icio.us or some type of social bookmarking resource	0(0%)	4(11.8%)	6(17.6%)	23(67.6%)
Blog	0(0%)	6(17.6%)	13(38.2%)	15(44.1%)
Netlog	0(0%)	1(2.9%)	0(0%)	0(0%)

need to introduce social networking tools in their libraries, most of the respondents 16 (47.1 %) reported that it was a very good idea, 8 (23.5%) of the respondents answered in the negative whilst 10 (29.4%) stated that they were not very sure. However, those that answered in the affirmative expressed concern about the non-availability of the infrastructure, the equipment and to some extent the lack of knowledge about the social networking tools.

Constraints to Using Social Networks in Libraries

In terms of the constraints to using the social networking tools, 30 (88.2%) of the respondents indicated that poor bandwidth was the major constraint. Most of the social networking tools require that there is adequate bandwidth in place but that was not the case in all the three universities that were surveyed. Twenty respondents (58.8%) stated the lack of time as one of the barriers to using the social networking tools. This constraint was compounded by the low bandwidth prevailing in these institutions. Sixteen (47%) of the respondents identified restrictions from the IT departments as another major barrier to using the social networking tools. It was reported that most of the tools especially Youtube and Myspace were

Table 4: Uses of Web 2.0 Tools by Age Category

Age Category	You tube	Video	Ewiki	Podcast	MySpace, Facebook	Flickr	Deli-cious	Blog	Netlog	Total
Below 25yrs	0(0%)	0(0%)	0(0%)	0(0%)	2(5.9%)	0(0%)	0(0%)	0(0%)	0(0%)	2 (5.9%)
26– 35	4 (11.8%)	0(0%)	2(5.9%)	0(0%)	9(26.5%)	5 (14.7%)	1(2.9%)	1(2.9%)	0(0%)	22 (64.7%)
36-45	3(8.8%)		2(5.9%)		7(20.6%)	2(5.9%)	1(2.9%)	2(5.9%)		17 (50%)
Above 46		2 (5.9%)	4 (11.8%)	1(2.9%)	5(14.7%)	1(2.9%)	2(5.9%)	2(5.9%)	1 (2.9%)	18 (52.9%)
Total	7 (20.6%)	2 (5.9%)	8 (23.5%)	1 (2.9%)	23 (67.6%)	8 (23.5%)	4 (11.8%)	5 (14.7%)	1 (2.9%)	

Table 5: Distribution of Uses Made of the Social Networking Tools

Activity	Always	Occasionally	Rarely	Never	Total
To search for information for clients	10(29.4%)	10(29.4%)	6(17.6%)	7(20.6%)	33 (97.06%)
To communicate/ link with colleagues	11(32%)	19(55.9%)	0(0%)	4(11.8%)	34 (100%)
To conduct research	8(23.5%)	12(35.2%)	6(17.6%)	6(17.6%)	32 (94.12%)
To teach clients (orientation)	7(20.6%)	13(38.2%)	5(14.7%)	8(23.5%)	33 (97.06%)
To collaborate in research with teaching staff/colleagues	3(8.8%)	15(44.1%)	11(32%)	5(14.7%)	34 (100%)
Other	1(2.9%)	0(0%)	0(0%)	0(0%)	1 (2.94%)

constantly blocked by the IT departments. The limitations were done to conserve the available limited bandwidth. Other constraints identified as constraints concerned the lack of privacy 5 (14.7%). See Table 7 below:

5. Discussions

From the analysis of data, the findings of the study showed that on average most of the respondents were proficient in their IT skills. However, results also indicated that some respondents rarely made use of the social networking tools. The age category of users of the Web 2.0 tools was between 26 and 35 years. Most of the respondents attributed the non-use of the Web 2.0 tools to several factors which included: restrictions from the IT departments, the poor infrastructure in place, and low bandwidth. However, there was a general perception that the implementation of Web 2.0 technology would be beneficial to the respective libraries.

It was apparent from the research literature that social networking tools are increasingly the object of scholarly research. According to Jackson (2010), the technology has greatly impacted the way in which information is created and disseminated. The use of social networks by libraries in general is an increasingly prevalent and growing tool that is being used to communicate with more potential

library users, as well as extending the services provided by individual libraries. However, Makori (2011) writes that in Africa, there are very few university libraries that have embraced the use and application of Web 2.0 systems. Makori's study further states that it is regrettable that whereas the Web 2.0 is not new in Africa, many African university libraries have not yet adopted the concept. Likewise in Zambia, the current study seem to suggest that the use of social networking technology in public university libraries in Zambia is not very common. These findings are consistent with Lwoga's (2012) research findings whose study found that the use of Web 2.0 technologies to support learning and teaching was very low in Africa.

This study has revealed that the most common social networking tools used by the respondents were MySpace and Facebook. However, the overall poor usage of the Web 2.0 tools was attributed to constraints such as poor bandwidth; lack of time to spend on accessing the tools; restrictions from the IT departments especially for Youtube which was constantly blocked by IT departments in an effort to ration the use of available bandwidth. In general, the IT departments were inherently opposed to the idea of social software. As observed by (Secker, 2008) institutional departments have been cited to be inherently opposed to the idea of social software. The use of social networking tools

Table 6: Perceived Benefits of Using Social Networks in Libraries

	Frequency	Percentage
Outreach to students	17	50.0%
Knowledge sharing	32	94.1%
Communication	27	79.4%
Other	27	79.4%

Table 7: Constraints to Using Social Networks in Libraries

	Frequency	Percentage
Poor bandwidth	30	88.2%
Restrictions from IT departments	16	47.0%
Lack of time	20	58.8%
Lack of privacy	5	14.7%

in libraries has its own challenges as stated by Arif and Mahmood (2010). In the context of a developing country such as Zambia, other challenges identified concerned the poor infrastructure in place, inadequate equipment and the lack of knowledge and skills about the social networking tools amongst the librarians.

Librarians admitted that there were a number of perceived benefits in using the social networking tools in libraries. This admission is shared by Elisa (2007) who carried out a study on the understanding of the importance that social networking has had on public and academic libraries. Respondents identified benefits of knowledge sharing, communication and outreach to library patrons. Others identified teaching as another benefit to using of the social networking tools in institutions of learning. Many libraries, especially academic ones, are engaged in library instruction, information literacy, etc. which are offered to users through social networking tools.

6. Conclusion

Social networking tools have changed the way patrons interact with the library; they have given libraries new options for marketing their services; they can be used as avenues of change for libraries; they can be used effectively to advocate for libraries. However, it should be pointed out that not every library will benefit from the same social networking tools. Therefore, individual libraries need to experiment to see what works for their library.

Going by the responses received to the survey, it appears that social networking tools are hardly utilized for the purposes of information service delivery to the library patrons. Different reasons have been advanced as constraints to using these tools such as restrictions from the IT departments, poor bandwidth, lack of time and sheer lack of knowledge on how to use the tools. In order to address these problems, it is important to create awareness amongst librarians about the im-

portance and the role that social networking tools may play in facilitating information service to the clients.

There is also need for the librarians, the IT people and the library users to collaborate with one another in order to reach a common ground on how best the social networking tools can be utilized in information service delivery.

However, given the small sample size of the responding university libraries and librarians, it is difficult to predict whether the low usage of the social networking tools is the trend in the rest of the several other libraries in Zambia that never participated in the survey. However, what is certain is the fact that social networking tools in the world, including Zambia, have become very popular. Therefore, if this popularity is to be transferred into the field of librarianship, the profession will be faced with an opportunity of training the librarians in the use of the tools.

7. Recommendations

Social networking tools are the enabling tools for anytime, anywhere accessibility of information resources. The social networks filter out the relevant information and save the time of the users. The social networks also help in bridging the gap between libraries and their users. The librarians need to be where their patrons are in order to provide information to them all the time. Therefore, the importance of using social networking in libraries cannot be over emphasised. The study provides the following recommendations for the public universities librarians in Zambia:

- Librarians should contribute to the use of social networking tools in libraries by bringing the technology into libraries and for the use among their users. It is the responsibility of the Zambia Library Association in collaboration with LIS schools in Zambia to ensure that the curriculum in these respective schools is revised to include the social networking tools.

- There is a greater need for human resource development in the libraries to equip personnel with knowledge skills for utilizing various social networking tools. This will enable librarians to appreciate and adopt the technology. Again the Zambia Library Association need to put in place measures that will ensure that librarians in Zambia undergo refresher course trainings from time to time thereby introducing them to latest technologies in the field of the profession.
- Librarians and IT personnel must not work in isolation but instead collaborate whenever implementing services that involve using the social networking tools. Both Library professionals and computer managers must work together in matters that affect them so that projects that involve collaboration are dealt in synergy.
- Different stakeholders in the universities must be brought on board from the beginning of project formulation up to the implementation stage in order for them to buy in the project. The different stakeholders must include policy makers (principal= officers), Library professionals, IT managers including students must sit together in order to achieve the common objective of enhancing the quality of learning in their respective universities.

8. Areas for Further Studies

This study represents an initial effort in this line of research in Zambia. Additional research in this vein might reinforce these findings especially by widening the study to cover many other librarians in other libraries. It would also be interesting to get the views of the library patrons on the use of social networking tools in libraries. This later study will establish the patron's opinions on the use of the social networking tools for the creation of information and the way it is disseminated.

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Social Media Use in Kenya: An Impetus or a Deterrent to Socio-Economic Development?

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Abstract

Social media is conceived as a tool for interaction within the information society. With many social media platforms globally, the importance of social media in today's socio-economic development cannot be disputed. It offers unique opportunities that are advantageous to socio-economic development, but it also presents real dangers. Nevertheless, social media is growing explosively. Many developing countries are now embracing Web 2.0 tools, among them social media for the provision of information services. This has been considered as a strategy for developing countries for critical high improved network communications, leading to better, efficient and effective socio-economic development. With proper and effective social media, there would be high and improved economic productivity, better governance, education and quality social life. This paper, seeks to address and discuss social media and the opportunities it presents as well as challenges encountered. The paper also provides recommendations.

Keywords: *Social Media; Web 2.0; Socio-Economic Development; Information; Kenya*

Concept of Social Media

Social media is conceived as a tool for interaction within the information society. With many social media platforms globally, the importance of social media in today's socio-economic development cannot be disputed. Social media offers unique opportunities that are advantageous to socio-economic development, but it also presents real dangers. Nevertheless, social media is growing explosively. This is because it is viewed as key for development in developing and developed countries. There is increased provision of information and services that are available through social media. Many developing countries are now embracing Web 2.0 tools, among them social media for the provision of information services. This has been considered as a strategy for developing countries for critical high improved network communications, leading to better, efficient and effective socio-economic development. This means that with proper and effective social media, there would be improved economic productivity, better governance, education and most importantly quality social life. In Kenya, the growth of small scale enterprises has been witnessed with the establishment and growth of social media. In schools, colleges and universities, social media has influenced the building of an academic and research community by proving communication tools for knowledge sharing.

"Before the web came along, there were only three ways to get noticed: buy expensive advertising, beg the mainstream media to tell your story for you, or hire a huge sales staff to bug people

one at a time about your products. Now we have better option: publishing interesting content on the web that your buyers want to consume" (Scott, 2010).

Over the years, there has been a tremendous growth with many social media platforms globally, creating major impacts to the users. As a result, the social media of today is diverse and difficult to understand by different users. In spite of this and in response to its ever-increasing penetration rate, it has attracted yet many people and institutions, creating fierce competition. In the Kenyan context, social media has continued to change and plays a key role in how people behave, create and share content using Web 2.0 technologies among them social media.

In present times, many social networking sites have emerged and have eased the burden of communication and interaction in the society. People are able to share common interests which affect business transactions.

Mark Dyke (as cited by Wright & Hinson, 2009) defines social media by saying, "Social media are the means for any person to: publish digital creative content; provide and obtain real-time feedback via online discussions, commentary and evaluations; and incorporate changes or corrections to the original content". Carton (2009) says, "Social media are really just technologies that facilitate conversations." In our view, social media is not just about human conversations; it is also about a user interacting with information. It is about sharing these interactions in form of information. We

define "Social media" as technologies that facilitate interactions between human beings and information with the intent of creating and sharing ideas.

Use of Social Media in Business

Social Media and Customer Service

Social media plays a major role on customer service delivery. These services provision on social media must always be integrated with the organisation's traditional services and other support services or functions. With this regard, "Social media has changed the face of customer service and support forever. Every company must be prepared to respond effectively yet without giving away the store" (Wollan, Smith, Nzou, & Catherine, 2010).

Social networking sites in Kenya such as LinkedIn, Facebook, twitter, YouTube and WhatsApp among others, have allowed organisation customers to have a louder voice as and when they carry out their business transactions. This is witnessed as a result of the emerging growth of technologies. It has allowed customers to inquire, give feedback, buy products and get services and even poke the very same companies they buy from. Many organisations view this particular scenario as good and bad in the sense that it allows them to get in touch with their customers easily yet putting organisation's reputation at risk.

Wollan et al. (2010) argue that, "before social media, customers had little choice but to go through the customer service channels that a company established: the phone, e-mail, its web site, and so on. Its processes for requesting service or filing complaints (or compliments) were rigid." This means that customers were unable to air their views for the company, especially launch complaints. Their views or complaints were very much limited, hence their ability to spread damaging feedback about the company was well protected by company to avoid censorship and bad publicity.

In Kenya, bank customers for instance prefer using social platforms rather than emails or phone calls. Due to this, banks in Kenya use such platforms to convey products and services, market information as well as respond to customer needs. "... customers are able to quickly raise their issues through social media, and these websites have become important platforms for banks to build relationships with their customers" (Standard Digital, 2014).

Social Media Marketing and Sales

With the establishment of Web 2.0 tools and the internet, advertisers have alternatives for promoting and marketing their products and services. In the traditional media, social and economic development was hampered due to ineffective technologies. With new technologies in place, Web 2.0 among them social media and the internet, has become the standard for advertising, marketing and selling products and services in most parts of the country.

According to Steven, Hairong, and Joo-Hyun (2005) "as advertisers scramble to find alternatives, rich media are quickly becoming the standard by which the sophistication of the internet advertising is being judged." They argue that rich media ads contain content created with new technologies which are used to deliver high aural and visual impact.

These technologies are integrated alongside social media platforms. Most of these technological tools enable social media to become both a social and an economic giant. It is these tools that attract and draws the attention of users to engage in business transactions besides socialising, knowledge and information sharing. As a result many enterprises and consumers have recognised the web as their major online market.

With the ever-increasing usage of Web 2.0 tools, again enterprises have varied experiences. Over the years, there has been a downturn and upward change in online commerce. Purushottam & Amit (2005) argues that, "This change in the fortunes online retailing has stimulated businesses to analyse their approaches to online advertising in the hope of increasing their effectiveness." Stafford (2005) adds that "the potential exchange of products and/or services for value is implicit in the concept of e-commerce; goods and services are targeted to audiences and offered for sale via the network."

Social media has brought new life of liberation on how businesses do marketing across the country. It is perceived to be a better option as compared to main-stream media which has always been very expensive to the extent that advertising on Television, Radio or on the local dailies is costly especially for business start-ups. To this end, Social Media is tailored at improving information and promoting products and services online.

Social Media and Good Governance

The use and availability of social media in the present world has helped enhance democracy and good governance. A country that enjoys political goodwill means that it embraces good and quality governance, and enjoys maximum democratic environment. All these put together are ingredients of socio-economic development. There is no country that will be able to develop itself socially and economically without political stability. What is clear is that social media has helped better advance socio-economic development through the social platforms by first ensuring and involving the community. This very same platform acts as a catalyst for change. Change of bad governance to good governance, change of how communities and societies engage and interact with each other, change of the economy and business conduct.

In Kenya Social Media has been used to promote open governance, transparency and participation. Examples of social media used to promote transparency include: Ushahidi, Facebook, twitter, WhatsApp, etc. These platforms facilitate information sharing triggering actions for problem solving.

Social media then provides some level of public trust. This is contrary to the existing institutions such as commissions and courts which over the years have been enjoying limited trust. In the same view, Maina ; Musungu (as cited by Makinen & Kuira (2008) notes that "In contrast to institutions like parliament and the courts, which have never enjoyed much public trust, the media have been trusted as a democratic institution" Because of such issues it's assumed that social media has influenced political activism. In 2013, for instance, Kenyans rallied themselves online in a protest against heft pay rise by legislators. Westgate mall attack also enlisted forums on social media. All these were concerted efforts to help unite Kenyans. The overwhelming power of social media brought Kenyans from all walks of life together to address common issues affecting them.

In business circles, Hanan (2013) indicates that, "...it was the use of social media that acted as the catalyst for change in an already unpredictable environment. The use and availability of social media easily created connections between prominent thought leaders and activists to ordinary citizens, rapidly expanding the network of people willing to take action." By social media, communities and

groups, governments and organisations are able to carry out their transactions much better since they can not only reach multiple people but also potential investors.

After the postelection violence of 07/08, it was the usage of social media that promoted peace and became an enabler to the return of investors. The change social media has brought has enabled people to do business recording a growth in socio-economic. Businesses can market and advertise their products. Web 2.0 tools have facilitated increased sales of products and services to neighbouring towns and countries hence improving socio-economic development.

Social Media and Research

From a research perspective, "Social media continues to have a tremendous impact on how people behave, how they research, play, converse, form communities, build and maintain relationships; and how they create, tag, modify and share content across any number of sites and devices" (Kietzmann, Silvestre, McCarthy, & Pitt, 2012). Social media plays a very important role in academic research in Kenya. In essence it allows not only groups of individuals but also researchers to converse and share ideas. It has provided tools to create, modify and share information to large audience. For instance, the use of Institutional repositories and eLearning platforms has aided research in many higher learning institutions.

In response to these, businesses continue to grow with the availability of social media technologies. For example; a combination of business models including content-sharing sites, wikis, social networking sites and microblogs among other technologies available in the country have provided competitive advantage to numerous businesses.

To the business owners, these platforms enables them to not only target consumers but also aim at retargeting services to those who would want more information services. Through this consumers are able to complete their purchase subscriptions. All these achievements are promotions and adverts made on social media. These developments have greatly impacted the research community by serving as a sound research agenda role whereby the value of social media sites is directly proportional to that of its users.

"The evolution of Web 2.0 has shifted the power online, from the static corporate content of the

past to dynamic interaction driven by the active participation of consumers” (Kietzmann et al., 2012). Researchers and other consumers are able to create, modify converse with other researchers in similar fields. They are able to share content and research among networks. This way, information flow is faster and it facilitates effective decision making by organisations for competitive socio-economic developments.

Social Media and Communication

Social media is a form of media. People use these sites to create, modify and share content and current affairs. Hence it has greatly impacted many organisations. This is because social media continues to ever-increase, taking many different forms “which vary in terms of their scope and functionality” (Kietzmann, Hermkens, McCarthy, and Silvestre, 2011). Subsequently, there has been a rise in social media which has democratized corporate communication. However, with massive investment in ICTs in the country, many businesses have been transformed through social media as a communication channel. Therefore, SMEs continues to grow through increased social media networking.

In many organisations in Kenya, social media has taken a new trend. “Social media are being utilized on an ever-increasing basis by corporations and other organizations” (Wright & Hinson, 2010). With the availability of Web 2.0 technologies in these organisations, social media is increasingly used for communications. Linke and Zerfass (2013) agree with the view that “Corporations have acknowledged these trends, and increasingly use social media platforms for communications.” This denotes that social media has established a new communications practices in several many organisations and these has been witnessed with the installation of fiber optic cables for speedy data transmission.

Furthermore, social media is being used as an alternative of getting and sharing information. For instance, during the post-election violence, short text messages (SMS) were used to communicate during and after the main-stream media ban. “People used mobile phones to communicate and circumvent the media blackout” Ramey (As cited by Makinen & Kuira, 2008). People used smart phones not only to communicate but also to do business. Tools like Facebook, twitter, WhatsApp, YouTube, Maps, weblogs provided information on the likely violence spots and markets.

Using #WeAreOne hashtag, Safaricom, Kenya's largest mobile-phone company, partnered with Kenya Red Cross to launch a fundraising drive using M-pesa mobile platform. The social media campaign helped raise approximately \$750,000 in donations. In 2011, similar partnerships by these two organisations raised around \$11.5 million for Kenyans facing severe famine through the Kenyans for Kenya campaign. These and other social media adopted initiatives have resulted to socio-economic growth.

The Competitive Business Advantage and Global Economy

Every organisation and their employees must know how to take advantage of social media and Web 2.0 tools to improve their organisations and also help leverage the available information into a competitive advantage for the organisations. It helps them increase sales, increase market share and also importantly create business. The Kenya for Kenyans, ‘Beyond Zero’ campaigns, We Are One and ‘Occupy Parliament Reloaded’ initiatives serve as the best examples of the effect that social media platforms can have to the socio-economic development. Companies and groups of individuals have developed business tailored social media applications.

iBizAfrica and other home grown platforms serve as examples of innovations which plays a pivotal role in facilitating competitive advantages. Many companies in Kenya are increasingly employing social media strategies to engage their consumers more effectively and bringing them closer as they widen their target market to have a global reach.

Transformation of An Industrial Economy and Business Enterprises

Information and knowledge are key ingredients in creating wealth – from the agricultural, industrial, social, political, education, to the information economy. “The social sector, too, can benefit from social technologies. Nonprofit organizations and other sector players can use social technologies to gather information, crowdsource labor and solutions, raise funds, expand their volunteer network, build support, educate the public, engage supporters, improve collaboration and communication, and establish organizational structures” (McKinsey Global Institute, 2012).

Technology has largely driven organisations to change the way they operate and the way they

manage. Organisations can engage the clients directly and vice versa. As much as they need social media and Web 2.0 tools they are also driven by the information systems that helps them make informed decisions, manage organisations effectively and efficiently henceforth remaining relevant in the current business set-up.

Kenyans have previously used social media to find fuel during shortages of fuel. #findfuel hashtag was used. The same social media was used during postelection violence to find food outlets and to find if it was safe to access such commodity. These situations made Kenyans learn how to use social media and its potential value to make an impact to the society and contribute to economic growth.

Social Media and Challenges Technologies Injustices

Many people can access new technologies in most parts of the country, but this fact does not mean technology justice. Many technology injustices remain unaddressed. For instance, many people could have access to a mobile phone. But the cost of using this phone is extremely expensive such that many can't afford to utilize social media. On the other hand, the level of connectivity is weak or not there especially upcountry. However, in most places the availability of electricity is a nightmare to facilitate phone recharge or power availability and as a result most people are not able to use the available technology to access and exchange or share information beyond the most basic level to promote socio-economic development.

Trace (2012) points that technology is needed to increase productivity and income in most developed and developing countries as well. Importantly these technologies do exist; all that needs to be done is a change on how social media is accessed. He argues that there needs to be a change on the rights to access to the social media and how these rights are distributed. It's important that this kind of barriers are removed so that people from all walks of life can use social media technologies even just for the most basic services.

Social Media Platforms Privacy and Security

Privacy and security concerns arise because of social-networking sites that are on the rise. Their popularity has grown tremendously, with access by millions worldwide. However, this appearance has caused uproar in many quarters over its priva-

cy and security concerns. Many Kenyans are worried of their personal information online yet many others are ignorant.

According to Almeida (2012) in his paper on Web 2.0 technologies and social networking security fears in enterprises, says that, "Until recent years, when applications were launched only from desktop computers and servers inside the corporate network, data security policies were relatively easy to enforce." In his view, "today's organizations are grappling with a new generation of security threats. Consumer-driven technology has unleashed a new wave of Internet-based applications that can easily penetrate and circumvent traditional network security barriers." Organisations use Web 2.0 and social media networks to get things done. They use these technologies to allow customers to interact with the organisation as well as the information therein.

Web 2.0 Technologies Restriction Through Policy

Many organisations have embraced web 2.0 usage by employees. Still others have deemed it necessary to control some social media sites usage by employees. They have managed to do this through policy formulation. They do this because of organisation security concerns. Almeida (2012) argues that, "organizations restrict social media usage through policy, technology and controlling the use of user-owned devices." He point that "while blocking access to social media provides better security, it is widely accepted that it is never feasible nor sustainable in the face of emerging use in the 21st century. Instead, we are living in a future where organizations must plan and design environments with less control of employee activities." While this provides a sense of security to the organisation, it is not proper to restrict social media and Web 2.0 technologies.

Inappropriate Social Media and Web 2.0 Usage

Social media and Web 2.0 tools possess serious challenges to the organisation if inappropriately used. Any inappropriate use of these platforms may lead to company reputation, brand and customers confidence loss. "Organizational leaders are facing real consequences when adopting Web 2.0 technologies, but they recognize a growing demand for employee usage." (Almeida, 2012). Kenyan companies are on a delicate balance with the view of communicating to their online custom-

ers and at the same time protect their image from malicious attacks.

Reputation Dangers of Social Media

In as much as social media presents reputational benefits, there appears to be a major down side of the very same reputation – risk. Social Media platforms reach millions of people worldwide who have access to the internet. These platforms are used for communication every second, day and night. As such it provides greater promotional opportunities to the business world. However, leaves huge gaps of uncharted risks. The information blogged or posted on social media can be about anyone or any organization and may poorly reflect an organisation's reputation. Since this information is real-time, facts may not be verified immediately; hence, may go unchecked. Removing an offending post may be very difficult and impossible to achieve. This justifies why some public and private sectors are reluctant to invest in social media for their operations.

According to Miami Daily Business Review (as cited by Merrill, Latham, Santalessa, & Navetta, 2011), "Employees who disparage coworkers, management, clients, vendors or even the company itself, whether intentionally or not, can damage a company's reputation. Ironically ... employees who praise their company's products or services can unintentionally get their employer in hot water, too." This clearly indicates that if social media is badly used, different behaviours find their way being exhibited on company's branded social media which ends up gravely damaging the organisation's otherwise good built reputation online or offline.

Legal Risks of Social Media

"The legal risks associated with social media should be carefully considered prior to engaging in a social media strategy. The main risks include: employment, privacy, security, intellectual property and media risks" (Merrill et al., 2011). The same factors affect organisations in Kenya and form greatest setbacks of companies adopting the application of social media in their transactions. Such are the legal and ethical issues associated with the internet. This phenomenon has rendered many organisations from engaging itself on matters to do with social media. Below we briefly discuss some of the legal worries of social media highlighted above:

Employment

There are many cases where employees have lost jobs due to their conduct on social media. There are also cases where applicants have been rejected based on the information found online. All these are happening due to numerous investigations of existing employees and potential employees. This is a danger because it may discriminate hiring based on social media research. It does violate civil and human rights. At the end, these acts may not only affect the socialability of the individuals but will adversely affect the economic well-being of the involved organisation as well, especially in this world of technology. Monitoring communications on participants in social media platforms amounts to privacy legal dangers. However, largely, social media application in organisations renders its security at risk by cybercriminals. In most cases, Kenyan organisations may not have proper security controls including legal backing that would help reduce the risks.

Security Issues

"Social media sites pose potentially increased security risks, and if a security breach arises from social media activities, the organisation may face liability. Security breaches may occur because of malware downloaded onto an organization's website through the use of social media" (Merrill et al., 2011). This implies that, organisations may suffer huge lose from clients to infrastructures. For instance, this can happen when employees can download malicious applications from social media sites through organisation computers. This would corrupt the organisation computers and subsequently its information systems leading to loss of vital information.

"Spam, Social Engineering and Malware attacks are on the rise, with cybercriminals using social media as a rich source of targets. And the risk is to the business as the bottom line may be affected due to lost revenue, tainting of the reputation and brand, loss of intellectual property, and increased costs to repair the damage" (SANS Institute, 2012). The social media profiles provide key entry points for potential organisation attackers who would indeed pose really dangers to the organisation. Since there are many online clients who rely on these sites, they would be tricked to unknowingly use such sites to providing confidential information that would eventually be used for personal gain by malicious 'look-alike' social networking sites.

Intellectual Property and Media Risks

Many organisations don't understand about copyright issues and its legal implications. This is so dangerous to the organisations particularly in online platforms. Organisations that host content that belong to someone else or a different organization on its website would lead to copyright violation. This can be done by its employees either knowingly or unknowingly but nevertheless would cost the organisation a fortune. This is an economic deterrent of the social media usage. This is an organisational challenge and sensitisation of intellectual property is needed to aid the understanding of legal implications of intellectual property.

Defamation

"Defamation is yet another common claim that may result from social media activities, and companies need to be aware that they face potential liability for defamatory statements made by their employees about competitors, and for defamatory statements made by the public on the companies' third-party social networking pages" (Merrill et al., 2011). Those engaged in online activities need to be aware and courteous. Although the constitution of Kenya is clear on defamation, many people have not yet embraced its importance probably because of social media law scantiness.

Privacy

Organisation need to protect the privacy of its employees and more so clients as it's a concern for many Kenyans. These are people who usually join its social media platforms. They use platforms such as LinkedIn, Facebook, twitter and WhatsApp to provide personal information to the organisation with the aim of getting assistance. Therefore, organisation needs to safe guard members' privacy and as well conform to the existing guidelines, privacy regulations and other online terms of use. Organisation internal policy must be at the centre stage as it is likely that the organisation may conflict with existing guidelines, privacy regulations of third-party sites. Hence causing a legal problem that would eventually affect its socio-economic activities.

Operational Dangers of Social Media

According to Merrill et al., (2011), "When employees access social media platforms at work -- even those employees who are designated

as social media spokespersons for the organization -- they risk endangering the organization's networked computers by unknowingly acquiring malware, viruses, and spyware. Social networking sites, particularly Facebook and Twitter, are a favourite playground for those with bad intentions." Still, "organizations depend on its workers to use technology to perform their job responsibilities and there is a need to trust these workers to protect company sensitive data" (SANS Institute, 2012). With the emerging technologies, hackers have capitalized on the use of social media in Kenya just like the rest of the world. They are browsing and using social media in large numbers targeting the organisation's confidential information. Social media and Web 2.0 sites make it very easy for people with bad intentions to get into organisation systems and penetrate malicious codes to unsuspecting social media users through their profiles.

Conclusion

Social media plays a major role in socio-economic development in many organisations in Kenya by providing platforms that facilitates promotion of products and services. All this makes great benefits with reduced costs making a considerable contribution not only to participating organisations but a major contribution towards the country's Gross National Product (GNP). Social media is rapidly spreading in Kenya from the Web to mobile technologies raising major concerns on security, ethical and moral issues in relation to application of social media and other ICTs. These issues are expected to continue as long as there is going to be emerging new technologies.

Much as there are different uses of social media in education, business, politics and society, organisations operate in difficult circumstances, which include inadequate clear policies governing social media and effective training for social media users. Nevertheless, social media alone cannot comprehensively bring about socio-economic changes into the country. Organisations need to integrate these platforms with their management information systems to advance their socio-economic developments.

Recommendations

- Formulation of Social Media Policies and Procedures.
- Enhance effective and efficient use of Social Media technological tools.
- Adequately address Social Media ethical and

moral issues

- Retributive actions of social media platforms offenders.
- Clients group formation for informed discussions and information sharing
- Evaluation and monitoring online information seeking behaviours of Social Media users.
- Improve skills and training for organisation employees to help mitigate internal dangers because of social media usage.

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SUB-THEME: 6

***Knowledge and Information for Persons with
Special Needs***

Re-positioning Library and Information Services to Cater for Patrons with Special Needs: the Zimbabwe University Libraries Perspective

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Abstract

Experiences of Zimbabwean university libraries regarding service provision patrons with special needs are explored. Nine out of the thirteen university libraries consulted responded to the self-administered questionnaire sent via electronic mail. The major categories of patrons with special needs that were identified include mobility impaired patrons, hearing impaired patrons, visually impaired patrons, patrons who need to improve reading skills, learning new languages and older adults. Challenges faced include lack of appropriate infrastructure making it difficult for patrons with disabilities to access library facilities. Obsolete information and communication technology appliances and lack of appropriately trained staff were also noted. Staff training, providing more resources specifically for library patrons with special needs, development of policies governing service provision of this group of library patrons are recommended.

Key Words: *University Libraries; Library Patrons with Special Needs; Specialised Library Services*

Background and Context of the Study

Zimbabwe is a landlocked country located in southern Africa with a land area of 390,757km². A national census held in August 2012 revealed that the Zimbabwean population stood at 13,061,239. Of this total population, 6,280,539 were males whilst 6,780,700 were females (Zimbabwe National Statistics Agency 2013). The same report reveals that in 2012, there were 30,539 (17,163 males and 13,376 females) students with disabilities out of a total of 945,920 students (509,851 males and 436,069 females).

A recent snap survey conducted by one Zimbabwean newspaper found out that most public and private buildings in the country were poorly accessible to people with disabilities as they did not have most of the basic facilities expected of such buildings as stipulated under the constitutional provisions of Zimbabwe (Chiwanga, 2013). The same report claimed that 10% of the Zimbabwean population consists of persons with various forms of disability and that most institutions of higher learning as well as schools had buildings that people with disabilities find difficult to get into.

A study carried out by Chiparausha, Mapako and Makarau (2010) buttresses the observation made above as they report that university buildings, including important offices, were inaccessible to students who are physically challenged. They further report that brailled textbooks or reading materials

for the visually impaired students were in short supply in the tertiary institutions, and tertiary education institutions lacked expertise to serve students with disabilities.

In Zimbabwe the Disabled Persons Act DPA (Chapter 17:01) of 1992 prohibits discrimination against the disabled in relation to opportunities (Chiparausha, Mapako & Makarau, 2010). According to Choruma (2006:10), the act takes a human rights-based approach to disability as it "places specific obligations on the part of the government to remove whatever physical and social barriers that prevent or hamper the full integration of people with disabilities into society, and ensure that they are accorded the same rights and opportunities as any other member of society".

There are sixteen universities in Zimbabwe; these are Africa University (AU), Bindura University of Science Education (BUSE), Catholic University in Zimbabwe (CUZ), Chinhoyi University of Technology (CUT), Great Zimbabwe University (GZU), Gwanda State University (GSU), Harare Institute of Technology (HIT), Lupane State University (LSU), Manicaland University of Applied Science (MUAS), Marondera University of Agricultural Science and Technology (MUASt), Midlands State University (MSU), National University of Science and Technology (NUST), Reformed Church University (RFU), Solusi University (SU), University of Zimbabwe (UZ), Women's University in Africa (WUA), Zimbabwe Ezekiel Guti University (ZEGU) and Zimbabwe

Open University (ZOU). However, GSU, MUAS and MUAAT are still in their infancy and are currently operating as colleges of the NUST, MSU and UZ respectively. The study focussed on the libraries of these universities.

Literature Review

Samson (2011) stated that past studies on disability have revealed that despite being a minority group, the needs of people with disabilities are an important component of a society that values democracy and inclusivity. The responsibility to address these special needs is the job of every institution and system especially the education system which provides one of the most basic services to society. Despite this expectation there are, however, still lots of challenges that disabled students face in trying to access higher education. Commenting on this, Burgstahler (2002) and Hill (2013), states that people with disabilities face more challenges in trying to access higher education than other groups. Burgstahler (2002) even goes on to say that they also fare poorly in comparison to the non-disabled students. And yet it is in this kind of environment that libraries have been found to meet the physical requirements necessary to ensure physical access for all; even well beyond the requirements of the legal instruments enforcing accessibility issues (Hill, 2013). However, understanding of how to best serve the research needs of this sector of the population remains a challenge to many (Samson, 2011).

Facilities for the patrons with disabilities include reserved parking, compliant ramps, railings, flattened landscapes, accessible furniture, elevators, multiple entryways and assistive technology (Samson, 2011; Guder, 2010; Irvall & Nielsen, 2005). These facilities and tools coupled together with a relevant service that speaks to as much a variety and unique needs as there are a variety of disabilities and differences in the severity disability cases will ensure equal access for all.

As Samson (2011) observed, most of the libraries in the developed world now have a library professional designated to collaborate services for patrons with disabilities that include an outreach service for patrons with disabilities and other minority groups.

It must also be acknowledged that making library services more accessible to patrons comes with a cost (Irvall & Nielsen, 2005). This is usually in the form of providing assistive technologies and alter-

native formats that cater for those who cannot use what is available. It also alludes to specially-architected spaces and expensive renovations to old buildings necessary to accommodate differently abled people. Then there are costs of maintenance and hiring and training of the staff needed to operationally and managerially run the unit.

Irvall and Nielsen (2005) suggest that there must be a special service for library patrons with special needs. They propose that there must be home delivery service for patrons who are not able to come to the library, outreach services to patrons residing in care facilities, a reading service for patrons with reading difficulties and scheduled consultations for patrons with reading disabilities. The visually impaired patrons would be provided with reading material in large print, information on audio format, braille, whilst the deaf or hearing impaired persons would be supplied with information in subtitled and/or sign language videos, via text telephones and/or email. It would be helpful for libraries to provide information written in an easy-to-read text and in audiovisual format for patrons with reading difficulties. Cognitively disabled patrons would benefit more if information is available in an easy-to-read format and audiovisual format. Mayo (2000) also suggest that bookmobile, books-by-mail and talking books programmes as some of the special services that can be provided specifically for library patrons with special needs.

Governments have also put in place legislature to ensure that the rights of minorities especially people living with disabilities are preserved. In the United States, the Americans with Disabilities Act (ADA) was passed into law by US Congress in 1990 for that reason (Deines-Jones & Van Fleet, 1995; Pack & Foos, 1992). The same also applies to the Assistive Technology (AT) Act of 2004 which was meant to make legally binding for institutions to provide technologies and services whose aim was to sustain and or increase the functional competences of people with disabilities (Green, 2008)

Deines-Jones and Van Fleet (1995) pointed out that the attitude of library staff towards patrons with disabilities is an issue that must be addressed. Green (2008) indicates "poor attitudes towards individuals with special needs" as one of the reasons for non-use of assistive technologies in libraries. Library personnel are expected to provide a climate of excellence when providing service to patrons with disabilities and they are expected to display knowledge of their job with re-

gards to service provision for patrons with disabilities. Patrons with disabilities must not be treated as victims and neither should they be stigmatised.

Literature has also revealed that it has been noted with concern that in some cases library services specifically meant for patrons with special needs will be available but such availability will not be known by the expected beneficiaries (Holmes 2008).

Research Methodology

Questionnaires were constructed for the collection of data from the university libraries. The questionnaires comprised of various forms of questions; some were fill-in questions, some required 'yes' or 'no' answers, whilst other questions solicited independent input of the respondents. Questionnaires were sent by email to 13 university librarians for completion. Nine out of the thirteen university libraries to whom questionnaire were sent responded to the questionnaire. This marked a 69.23% response rate.

Major Findings

Library Patrons with Special Needs

Out of the nine libraries that participated in the survey, only one respondent indicated that their library had no patrons with special needs. This could probably be attributed to the age and size of the institution; the university was established recently and has a student population of less than 500. The remaining eight institutions indicated

they had patrons with special needs in varying population sizes. Six libraries had patrons with special needs ranging between 1 and 10 whilst two other libraries each had between 11 and 20 patrons.

Categories of Patrons with Special Needs Being Served

The Zimbabwean university libraries studied showed that there were nine categories of patrons with special needs they were serving. The categories are; mobility impaired patrons, hearing impaired patrons, visually impaired patrons, old age patrons (above 65 years), patrons in need of improving reading skills, patrons learning new languages, patrons in need of improving computer skills, the albino, and the dwarf.

Table 1 below shows the categories of library patrons with special needs and the number of libraries serving each category.

Facilities for Patrons with Special Needs

Various facilities were reported to be available for enhanced service provision to library patrons with special needs. Table 2 below shows the findings from the university libraries that participated in the study.

Policies Governing Library Service Provision

The research revealed that effort had been made to standardise service provision for library patrons with special needs. Government legal frameworks

Table 1: Categories of library patrons with special needs in university libraries

Category	Number of Serving Libraries
Mobility impaired patrons	7
Hearing impaired patrons	3
Visually impaired patrons	7
Homebound patrons	0
Older adults 65 years and above	3
Patrons who need to learn to read and write	0
Patrons who need to improve reading skills	2
Patrons who need to learn new languages	3
Patrons who need to learn computer skills	4
Albino	2
Dwarf	1

Table 2: University library facilities available for patrons with special needs

Facility	Number of Libraries with Facility
Braille library	2
Audiovisual centre	4
Large print collection	1
Special training of patrons with disability	1
Special needs librarian	2

detailing service provision to the same group of library patrons were known and in some cases adopted by some university libraries so as to ensure that the rights of this special group of library patrons were upheld. Table 3 below summarises the prevailing situation regarding use of policy document regarding service provision to patrons with special needs in university libraries.

Challenges Faced When Serving Patrons with Special Needs

University librarians consulted reported that they were facing a number of challenges when serving patrons with special needs. Librarians reported that the major challenges were: unavailability of, and obsolete infrastructure to facilitate access to library resources by patrons with special needs, lack of staff, lack of skilled staff, negative perceptions towards patrons with special needs and lack of funding to support programmes earmarked for library patrons with special needs. Figure 1 below shows the level of prevalence of each cited challenge.

Solutions to Challenges Faced

Despite facing various challenges in service provision for patrons with special needs, librarians had come up with a number of solutions to the challenges. Here are some of the solutions that university librarians had come up with:

In order to get feedback on levels of satisfaction and get more ideas, librarians had resolved to conduct periodic and ad hoc meetings with patrons

with special needs.

Upon observing that this group of library patrons expected more from the libraries, especially patrons with disabilities, librarians had managed to lobby their respective universities to establish disability services units. Six universities had already established or were in the process of establishing such units or centres. The centres do not only provide library services but other university services and facilities for students with disabilities.

Librarians indicated that they had embraced an 'on-going' approach to improve service provision to patrons with special needs by continually conducting refresher training aimed at ensuring that their staff members are skilled and had positive attitudes when serving this group of library patrons. Two libraries had each sending at five library staff members for special training to be able to effectively serve patrons with special needs.

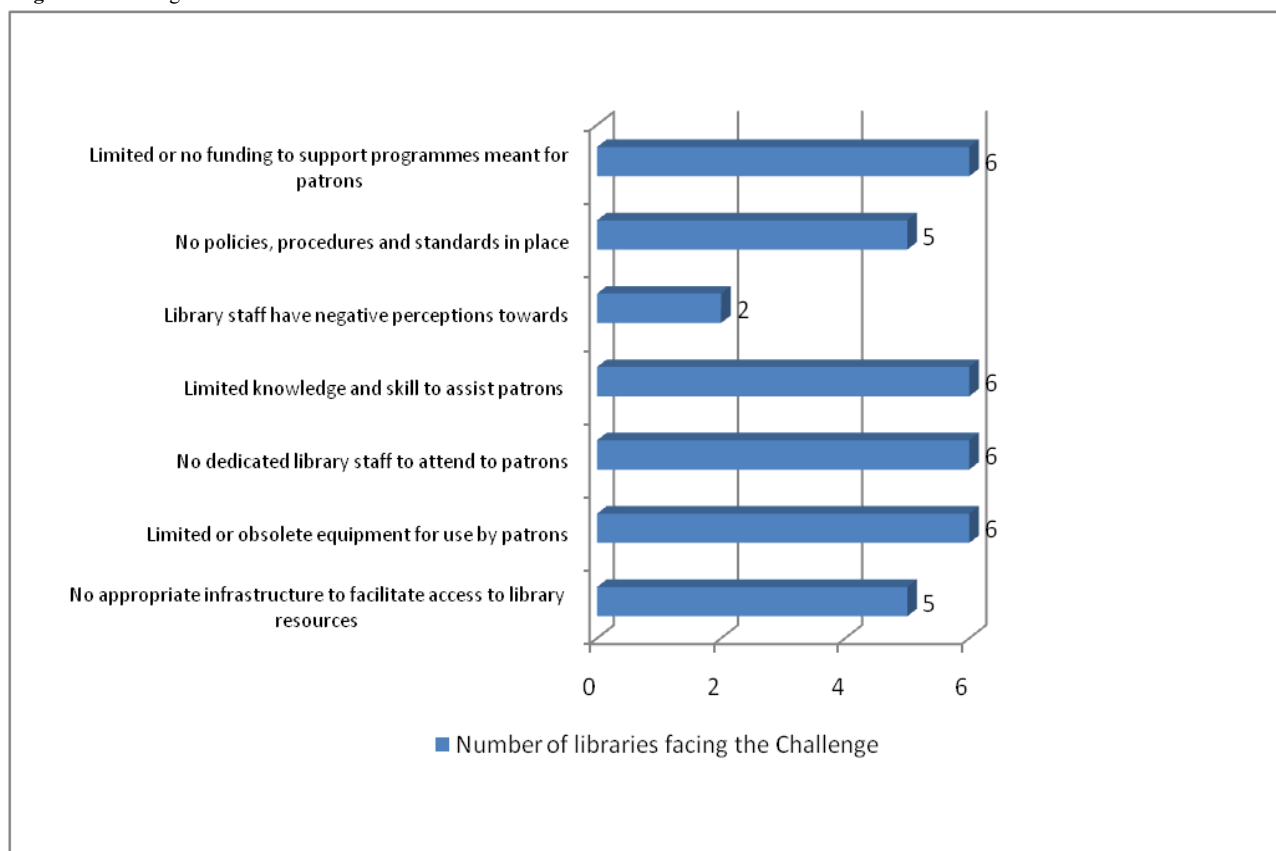
Two libraries had set up library units within the reader services sections of their libraries to cater for patrons with disabilities. One library that did not have a disability services section or staff dedicated for such indicated that they had resolved to encourage patrons with disabilities to come with an assistant whenever it was possible and this had significantly held in cases when they had library patrons with visual impairments.

Some assistive technologies had also been acquired in some libraries so that library patrons with special needs, particularly those with disabilities, could use library resources more beneficially. To

Table 3: Policy documents governing library service for patrons with special needs

Document type	Number of Libraries using the instrument
Library policy document	6
University approved document	1
Library Association document	1
Government policy	4

Figure 1: Challenges Faced



that effect, the following had been achieved:

3 libraries had set up specially designed rooms;

2 libraries had acquired computers with text enlarging software for patrons who have visual impairments;

2 libraries had specially designed library web pages for the benefit of patrons who have visual impairments;

2 libraries had acquired systems with speech input and synthesis for their patrons;

2 libraries were providing scanning equipment for patrons;

2 libraries now had assisted reading software on their library computers;

1 library had come up with specialised productivity programmes for the patrons with special needs; and,

1 library had come up with a marketing, promotion and awareness programme specifically targeting

patrons with special needs.

Discussion

It is important to note that there are various categories of patrons with special needs that are anticipating a service from university librarians. As the results show, the categories range from those with disabilities, those with cognitive challenges, other with some skills deficiency and older adults. Zimbabwe's university librarians have not only managed to identify these categories but have also taken further steps to provide speciality facilities and services for them. Audio-visual centres, special collections, targeted training and dedicated staff have been introduced specifically for this category of library patrons.

Librarians in university libraries have also taken cognisance of the importance of policy frameworks to protect the patrons, promote service to such and to govern service provision to this group of library patrons. This is why one finds university libraries in Zimbabwe embracing the Human Rights Act, Education Act and policy frameworks such as 'all-encompassing' collection development and client services policies.

It would rather be unfair to conclude the discussion without mentioning that serving university library patrons has its own challenges. Lack of resources, limited funding, lack of specially trained and experienced staff, lack of infrastructure and negative perceptions to this sector of university library patrons are some of the major challenges faced. Despite this toll order, university librarians have managed to come up with helpful solutions to the challenges. Zimbabwe university librarians have in many cases taken an advocacy role in support of university students with special needs, special units have been set up for the patrons, staff members have been appointed to specifically serve the patrons, some staff training has been going on so that university library staff sharpen their skills for better service provision, modern technology, especially ICTs have been embraced for the benefit of the patrons.

Recommendations

Even though there is great work that university librarians have done to serve patrons with special needs, the authors suggest that:

- Each university should have a special services unit comprising of Braille, audiovisual and assistive technologies facilities for patrons with special needs. Currently some of the libraries do not have these.
- Universities should facilitate training for library staff for improved service to patrons with special needs.
- Policies should be developed and/or revised such that anyone has equal access to library resources. Policies within the libraries or at national level?
- Government, universities and society at large should channel more resources towards improvement of library service for patrons with special needs.

Conclusion

It is important to stress that library patrons with special needs are a special category that requires the special attention of university librarians and society at large. University librarians in Zimbabwe have done a lot for the patrons and more work still lies ahead in order to fully consolidate this special service. Collective effort amongst all stakeholders will assist university librarians to achieve set goals thereby ensuring that library patrons with special needs benefit as much from current library and

information services as any other library patrons.

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Promoting Effective Friendly Information and Service Delivery to Persons with Disabilities in Uganda

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Abstract

Notwithstanding numerous calls and attempts to consider persons with disabilities (PWD) by the government of Uganda and other civil society bodies, PWDs are still significantly undervalued compared to their peers without disabilities. According to the Uganda Population and Housing Census Report (2002), four out of every 25 persons in Uganda are persons with disabilities. Despite the National Policy on Disabilities 2006, the Access to Information Act 2005 and many other legal provisions to cater for people with special needs, PWDs are still hugely excluded in society especially education and employment. The study found out that Isolation, Negative attitude and practices against PWDs, continuous absence sufficiently trained people in Special Needs Education among others are some of the most salient challenges PWDs are facing in Uganda. The study suggests some recommendations to be considered.

Key Words: *Persons with Disabilities; Impairment and Special Needs Education.*

Introduction

PWDs are largely marginalised in Uganda. Despite the existing ambitious disability legislative framework, very few legal provisions are respected, implemented and translated into real programmes and actions. This means that PWDs continue to face diverse social and physical barriers, which restrict their full participation in society. PWDs face challenges of physical access to schools, work places, roads, public and private facilities. For example, public and private buildings are inaccessible to people using crutches, wheelchairs or other assistive or walking devices. Within the educational sector, there are countless stories of pupils and students who can't access some of the Institutional facilities because the schools cannot cope with simple yet fundamental issues of accessibility. Therefore, children with physical disabilities often end up in special schools, drop out or not go to schools at all.

As a consequence, PWDs are less likely to socialise, receive education, access health care, travel, or enjoy their right to work. This translates into illiteracy, poverty, discrimination, segregation, poor health and a heavier burden of care for otherwise would be self-reliant persons. The situation of women with physical disabilities is even worse because of the double burden imposed by gender disparities and disability-related discrimination.

Uganda has various laws in the education, health, employment and transport sectors. It is also a signatory to International Legal Instruments like the UN Convention on the Rights of Persons with Disabilities which, among others, seeks to promote the right of access to the physical environment. Uganda also observes the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities which call for recognition of the overall importance of accessibility in the process of equalisation of opportunities in society.

But despite numerous calls and attempts to consider persons with disabilities (PWD) by the government of Uganda and other civil society bodies, PWDs are still significantly undervalued compared to their peers without disabilities. Universal access means ensuring that all people have equal opportunity to find out about and use the full array of services provided by community. This includes accessible informational (print and none print) assessment of skill levels, needs for support services, access to information about local education and training services, job search, as well as placement assistance. Universal access usually begins with assessing the physical accessibility of the building. According to the Uganda Population and Housing Census Report (2002), four out of every 25 persons in Uganda are persons with disabilities. Despite the National Policy on Disabilities 2006, the Access to Information Act 2005 and many other legislations catering for people with special needs,

a lot needs to be done. PWDs are vulnerable by virtue of their impairment and negative societal attitudes arising from stigma, ignorance, superstitions, neglect and lack of awareness (Yokoyama, 2012). As a result, PWDs have inadequate access to services, information resources as well as limited participation in the socio-economic development process. (Uganda, 2006).

The Special Needs Education (SNE), under the Ministry of Education and Sports addresses issues of children with learning difficulties. The programmes play a key role in training teachers and other professionals in special needs education and rehabilitation. Therefore, poor access to education leads to high proportion of PWDs to remain illiterate and unskilled. Issues relating to PWDs are not well highlighted in education and training curricula at all levels. Overcoming the lack of expectation of PWDs is a necessary element in facilitating the systems change that needs to occur in Uganda. The Information access rate of people with disabilities is far below that of other majority groups, and ironically there are many qualified and willing people with disabilities who want to access information and actively participate in the labour force.

Geography of Uganda

Uganda is located in Eastern Africa, west of Kenya and east of the Democratic Republic of the Congo. It is in the heart of the Great Lakes region, and is occupied by three of them, Lake Edward, Lake Albert, and Lake Victoria. While much of its border is lakeshore, Uganda is landlocked with no access to the sea. The country occupies a total area of 236 040 km² of which 199 710 km² is covered by land and 36 330 km² is covered by water. A total of 10,000 km² of Uganda's surface is forest, Uganda Wildlife Authority (2010).

Definition of Disability

Defining disability is tricky and debatable. Though arising from physical or intellectual impairment, disability has social implications as well as health ones. A full understanding of disability recognises that it has a powerful human rights dimension and is often associated with social exclusion, and increased exposure and vulnerability to poverty. Disability is the outcome of complex interactions between the functional limitations arising from a person's physical, intellectual, or mental condition and the social and physical environment. It has various magnitudes and is far more than an individual

health or medical difficulties.

On this foundation, the working definition of disability adopted in this paper is '*enduring impairment that results in social and economic difficulties, individual denial, and limited opportunities to participate equally in society*'.

The World Health Organization (WHO), in the context of its health experience, defines disability as "restriction or lack (resulting from an impairment) of the ability to perform an activity in the manner, or within the range, considered normal for a human being".

The term "disability" is now used by many disabled people to represent a complex system of social restrictions imposed on people with impairments by a highly discriminatory society. Disability, therefore, is a concept distinct from any particular medical condition. It is a social construct that varies across culture and through time, in the same way as, for example, gender, class or social cluster Kato (2000).

The Persons with Disabilities (PWD) Act 2006 also defines disability as "a substantial functional limitation of daily life activities caused by physical, mental or sensory impairment and environmental barriers resulting in limited participation".

Methodology

The study utilized a cross-sectional research design, employing qualitative and quantitative methodologies. Data was collected through a review of documents, and field interviews with PWDs. A sample of 19 PWDs was covered through interviews.

Findings of the Study

Disability Demographics in Uganda

According to the Uganda Population and Housing Census Report 2002, 16% of the population are persons with disabilities. Statistics further indicate that the prevalence of disability has been gradually increasing and the increase is higher among older persons (18%) compared to children (2%). The most commonly observed disabilities are loss and limited use of limbs (35.3%), spine injuries (22.3%), hearing difficulties (15.1%), seeing difficulties or Blind (6.7%) and mental retardation. The same census results also showed differences in prevalence rates by region. The Northern Re-

gion has the highest incidence of disability (4.4%) while the Western Region has the lowest (2.9%). Eastern and Central regions have rates of 3.6% and 3.1%, respectively.

The latest National Household Survey 2005/2006 estimated that 7% of Uganda's population had a disability. Physical impairments accounted for the highest form of disability (34%), followed by visual impairments (22%) and hearing difficulties (15%). The same report still highlights other forms of impairments. They include; mental, speech and learning disabilities.

State of People with Disabilities in Uganda

Specific observations of this study indicate more mental disabilities being associated with urban areas while physical disabilities are more associated with the rural settings. The living standards in both settings and activities could partly explain the differences. For instance, WHO estimates 10% of the world population is of PWDs. This puts the number of PWDs in Uganda to about 3.4 million according to the current population projection of 34 million people.

At least 4 out of every 25 persons in Uganda have a disability (Current estimate of about 4.8m PWDs). The report also indicates that the prevalence rate was higher than 1.1% obtained in the 1991 Census. The prevalence rate increase with age where among children below 18 years was 2% and 18% among the older persons, Uganda Population and Housing Census Report (2002). The Northern Region experiences the highest disability prevalence rate at 4.4% followed by the East at 3.6%. Central region experiences 3.1% while the Western Region experiences the least rate of prevalence at 2.9% (Uganda, 2006).

Disability in Uganda is wide spread and cuts across all social settings. Therefore, it requires a combined effort to meet the needs of all persons with Disabilities.

Challenges Faced by PWDs in Uganda

The respondents reported they're encountering the following challenges;

Isolation, Negative attitude and practices against PWDs. There are excessive attitudes and prejudice against persons with disability in many societies in Uganda. Communities often discriminate against and marginalize PWDs because of negative beliefs, norms and customs. This is mainly due to the limited understanding by the communities of the causes of disabilities as well as of the rights, potentials and abilities of PWDs.

Absence of sufficiently trained people in Special Needs Education. Most of the Schools in Uganda lack the well trained educators to handle PWDs. Learners with special needs require trainers in mainstream schools to handle such cases. But the absence of appropriate training and resources is disheartening yet; colleges of education rarely have an Autism specialization within their schools.

High costs of PWDs' instructional material and equipment in schools and colleges. The deaf, blind and deaf-blind find it extremely difficult to access services, including educational information, due to lack of appropriate and affordable medium of communication. Besides, the schools lack the funds to acquire the instructional materials and equipment to support the learning of these pupils. Worth noting is that the families of such people are on the breadline. This makes it difficult for them to afford training facilities for their children.

Discrimination: Treating PWDs different ways, usu-

Table 1: Common Disabilities in Uganda

No.	Impairment/Disability Type	% Population
1.	Loss and limited use of limbs-CP, club foot, Polio, Spinal Bifida, hydrocephalus/ Metacephalus.	35.3
2.	Difficulty in hearing – Deaf, hard of hearing.	15.1
3.	Difficulty in Seeing –Blind, Partial sightedness.	6.7
4.	Difficulty in speech and Conveying messages	3.9
5.	Mental retardation and Illness	3.6
6.	Others –Covering intellectual Disabilities	9.6

Source: National Policy on Disability in Uganda: 2006

ally bad, like during employment because of their disability, gender instead of who they are as individuals. This has been one of the major issues affecting PWDs in Uganda.

Limited capacity building: Most PWDs lack knowledge and skills to effectively participate in and benefit from development. Similarly, caregivers and service providers have low capacity to render adequate services.

Inaccessibility: Most PWDs are adversely affected by the conventional design of infrastructure and other facilities. These often act as barriers that hinder their access to and utilisation of these facilities and services. PWDs have less access to services like health care, inaccessible transportation and public buildings, and limited social support. For example, women with mobility difficulties are often unable to access health care facilities around the country. Students with Disabilities also find it very difficult to access school facilities.

Education and Disabilities

Education, the basic tool for any individual's empowerment, is being denied to most disabled persons. In the developed countries, educational establishments are physically inaccessible to disabled people. This is not true with the developing countries. For example in Uganda, the entire education system does not favour the PWDs. In some cases, the law itself stipulates that disabled children must attend special schools, where a "safe environment" is more important than academic achievement, World Vision Uganda (2007). Elsewhere, the obstacle to attendance is lack of transport, both in urban and rural areas. This is particularly true in developing countries, where most disabled children receive no education at all.

Disability limits access to education and employment, and leads to economic and social exclusion. Poor people with disabilities are caught in a vicious cycle of Ignorance, poverty and disability, each being a cause and a consequence of the other. Due to a variety of societal barriers, persons with disabilities are over-represented among the poor, are more likely than non-disabled persons to be excluded from education, productive employment and decent work, health services, economic and financial resources, infrastructure and participation in all aspects of society (ILO, 2004).

Despite the fact that every child, whether disabled or not, learns at a different rate (and this differ-

ence should be incorporated into mainstream provision), traditionally, education authorities have provided special education within special schools, rather than mainstream provision that unlocks the potential of all children in an integrated environment. Worth noting is that non-recognition of Sign Language has meant that, in the developing world particularly, deaf children have no access to education, Information or are victims of poor communication.

Ignorance and prejudice are undoubtedly the greatest obstacles to disabled people trying to gain education and employment. To every human being, the opportunity to engage in useful work is often vital to self-esteem and the enjoyment of other aspects of social participation. But the increasing numbers of disabled people's cooperatives indicate that assumptions about disabled people's capacities are usually incorrect. The World Federation of the Deaf notes that, in addition to the lack of technical assistance and necessary interpretation services, prejudices in general are one of the main factors making it difficult, or impossible, for people with hearing impairments to become fully integrated into the labour market.

Information and Communication for PWDS

One respondent lamented that lack of information is a great problem for the majority of disabled people and is often under-rated as a cause of discrimination. According to him, physical inaccessibility and lack of provision for people with visual, hearing and intellectual impairments drastically impedes disabled people's ability to learn about the world and their opportunities to take part in and to shape that world.

According to one of the respondents, disabled people's needs are not considered in general information-giving. For instance, tourist information does not usually include details of which facilities are accessible; advertisements for cars do not consider their suitability for elderly or disabled drivers or passengers. Most written material is not also available in Braille or on tape. This lack of accessible information is not just isolating, it is potentially fatal.

The Inclusion of PWDs within the Education and Information Sector in Uganda

In recent years, information provision for PWDs and special learning needs has changed: it is now inclusive rather than segregated. The shift is from

working within a narrow definition of special education and information access, with clearly identified and categorized disabilities, to involving a much broader and larger target group of learners and information seekers who are in need of special information within the context of development.

Uganda has a vibrant information sector relative to some other African countries including a fast growing authorship and publishing industry. This coupled with increased ICT tools has greatly promoted the information access for PWDs. Worth noting is that the focus of several disability policy frameworks and a number of NGOs is to improve the quality of life of the individual PWDs living at home and those going to work and school. This is done through imparting of rehabilitation skills and knowledge on disability, at community level and equipping some PWDs with assistive devices (deaf and blind). As for the physically disabled, the rural structures are much easier to access than the urban centres. It's also easier for PWDs to access information in rural areas as they are regularly helped by their relatives to access such facilities.

In addition, training has been a key activity targeting many different groups, including facilitators who work on a voluntary basis and act as local village disability consultants. Others trained, also include medical personnel, artisans, primary school teachers, community development and health assistants (Uganda Society for Disabled Children Annual review 1997- 98). This training has been important in helping to understand PWDs and dealing with the stereotypes among the relative and friends. The trained people have been very instrumental in helping PWDs to access the information they need, one respondent applauded.

However, the numbers of PWDs who are very willing to access information canter and other information facilities are still low. Four respondents attributed this to the Inaccessibility to convenient places (toilet facilities). Most of the rural toilets are in a very sombre state. In the newly released report by Foundation for Human Rights Initiative (FHRI) it is cited that poor toilets as one of the reasons for the high dropout rate among school children with physical disabilities in and a hindrance for many other PWDs to access public places. The report reveals that most schools and other public places in rural areas use pit latrines, which are usually dirty. Going to the toilet becomes an ordeal that PWDs dread, and the humiliation makes many of them to stay home instead of visiting public places. Children with disabilities hate

going to school and they end up staying home. *"Many pit latrines have narrow doors and steps and are therefore impossible for a physically disabled people to access with or without a wheelchair. Their only option is to crawl on the floor,"* one respondent sadly reported.

The situation is not so much different in Institutions of higher learning. As a result of the affirmative action programme, Makerere admits 64 students with different disabilities, historically the blind and the deaf and more recently the little people, deaf-blind, and albinos.

According to one student of Makerere University with a disability, it is next to impossible to access basic university facilities that any other student can freely access. The faculties do not have single wheelchair-accessible toilets. He notes that *"the discomfort in being carried up and down on a daily basis is no help to any student in a wheelchair, like me, to focus on their studies"*. *"In my fourth year now but I enter the class in the morning and leave in the evening – meaning that I do not go out for lunch or for bathroom breaks throughout the day. Although the library is now accessible for me, it is far. I usually go to the library on weekends – with a huge workload to cover"*. The student notes that these are just a few of the many challenges that PWDs face in Institutions.

But with the online information now readily available to all users from any point on campus, students with physical disabilities are now better off than those with visual impairments and hearing difficulties. *"Now days, I can access the library online from my room, get textbooks in soft copies, and have a special office designated to address issues of students with disabilities"* noted another student.

At Kyambogo University, only one faculty, Faculty of Special Needs Education, has a ramp and can be accessed by persons using crutches or wheelchair. Most buildings in the University, including the Senate building are inaccessible.

Every year, government provides sponsorship to 4,000 students under the merit sponsorship scheme, of which 64 are students with disabilities. The public universities where they are admitted employ guides for disabled students. However, the challenges these 64 people meet in information access are still enormous. PWDs still lack the appropriate enabling environment to access information and other services. This is where the

government is still getting it wrong.

Disability Legal Framework

Uganda has various laws in the education, health, employment and transport sectors. It is also a signatory to International Legal Instruments like the UN Convention on the Rights of Persons with Disabilities which, among others, seeks to promote the right of access to the physical environment. Uganda also observes the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities which call for recognition of the overall importance of accessibility in the process of equalisation of opportunities in society. The Government of Uganda has adopted a number of laws and policies pertaining to people with disabilities, including their right to productive and decent work and basic services. The main ones are listed below.

The Constitution of Uganda, 1995. Article 21 prohibits discrimination against people with disabilities. Uganda is one of the few countries in the world to recognize sign language in its Constitution.

The Persons with Disabilities Act, 2006, makes provisions for the elimination of all forms of discriminations against people with disabilities and towards equal opportunities. Also provides for a tax reduction of 15 per cent to private employers who employ ten or more persons with disabilities either as regular employees, apprentice or learner on a full time basis.

The Local Government Act, 1997, Parliamentary Elections Statute, 1996, and the Movement Act, 1998. These laws aim to increase the representation of disabled people in the public sphere. The Local Government Act, for example, provides for representation of disabled people at the various Local Council levels. In addition, Section 37 of the Parliamentary Elections Statute provides for five seats in Parliament for representatives of persons with disabilities.

Traffic and Road Safety Act, 1998, prohibits denial of a driving permit on the basis of disability.

Uganda Communications Act, 1998, provides for the promotion of research into the development and use of new communications techniques and technologies, including those which promote accessibility of hearing-impaired people to communication services.

Workers' Compensation Act, 2000, provides compensation to workers who are injured or disabled through industrial accidents.

The National Council for Disability Act (No. 14), 2003, monitors and evaluates the rights of persons with disabilities as set out in international conventions and legal instruments, the Constitution and other laws.

The Business, Technical, Vocational Education and Training (BTNET) Act, No. 12, 2008, promotes equitable access to education and training for all disadvantaged groups, including disabled people. National Policy on Disabilities, 2006, provides a human rights-based framework for responding to the needs of persons with disabilities.

The Equal Opportunity Act, 2006, and the Employment Act (No. 6), 2006, both prohibit discrimination of persons in employment based on disability.

The Universal Primary Education Act, 1997 makes it financially possible for families to send their disabled children to school by providing free primary education to four children in every family, including disabled children.

The Uganda Vision 2025 and the Poverty Eradication Action Program (PEAP), provides a long-term development framework and initiatives aimed at sustaining rapid economic growth and tackling poverty. This is set to hugely benefit the disabled persons.

The Universities and other Tertiary Institutions Act, 2001 (as amended), Section 24 (2) (b) of the Universities and other Tertiary Institutions Act provides that it is the function of the university to disseminate knowledge and give opportunity of acquiring higher education to all persons including persons with disabilities who wish to do so without discrimination.

UN Convention on the Rights of Persons with Disabilities, 2008

Article 24 (5) requires States Parties to ensure that PWDs are able to access general tertiary education, vocational training, adult education and life-long learning without discrimination and on an equal basis with others, and that States Parties shall ensure that reasonable accommodation is provided to PWDs.

Analysis: Although there are numerous legislations

catering for PWDs in Uganda, the implementation process seems to have failed. PWDs continue to be isolated and discriminated in society and this has left them more vulnerable to poverty, Ignorance, ignorance and disease. PWDs must be given the same opportunities as any other, as regards access to all facilities. This puts a duty on the State to make all facilities at all level accessible to all PWDs including children and the elderly.

The Institutional Framework for PWDs in Uganda

Ministry of Gender, Labour and Social Development

The disability situation in Uganda is an overall responsibility of the Department of Disability and Older Persons under the Ministry of Gender, Labour and Social Development headed by a Commissioner under the political supervision of a State Minister.

The Department for Disabled Persons of the Ministry of Gender, Labour and Social Development has the primary responsibility for registration, vocational rehabilitation and coordination of employment for persons with disabilities.

The Employment Exchange Service within the Ministry facilitates the placement of disabled persons to employment, and provides vocational rehabilitation and resettlement services. One mobile unit exists for vocational rehabilitation of women with disabilities, providing training for women with disabilities around the country. The Employment Exchange Service also operates sheltered workshops. The Service has been decentralised to cater for all employees, including disabled persons Semakula, (1999).

The Ministry of Gender, Labour and Social development coordinates the Uganda Community-Based Rehabilitation Programme since its establishment in 1992. At the community-level, the Community Based Rehabilitation services encourage local employers to facilitate resettlement and selective employment of people with disabilities. This is done in consultation with the National Union of Disabled Persons of Uganda (NUDIPU).

In 1998, the Government appointed a Minister of State for Disabled Persons. A Department for Disabled Persons was also created under the Ministry of Gender, Labour, and Social Development. Sadly

to date, these bodies and positions have been allocated limited funding to undertake or support any initiatives (Yokoyama, 2012).

Ministry of Education and Sports

The Ministry of Education and Sports is in charge of disability issues relating to education in collaboration with the Uganda Institute of Special Education (UNISE). It is responsible for providing a disability-friendly environment as well as services for children with special needs. The Ministry of Education's Special Education Department (SED) has responsibility for disabled persons undergoing schooling or any kind of training at its various institutions. Besides the MGLSD and Education Ministry, all other government ministries are responsible for mainstreaming of disability in all their activities. The Ministry of Health for example has the Disability Prevention and Rehabilitation section.

At the District and Sub County levels, disability issues are also provided for in the Local Government Act (1997), and are handled under the Department of Community Development. The position of District Inspector of Schools in Charge of Special Needs Education also exists in the District Local Government structure.

Uganda National Institute of Special Education (UNISE)

UNISE was established in 1991 by the Government of Uganda. It is a national institution of higher learning with specialised programmes to address professional teacher development, research, and a number of advocacy activities in community service, design and development of educational materials and resources for persons with barriers to learning and development. The mission of UNISE is the inclusion of learners and adults with disabilities and special education needs in society and their recognition as productive members of their communities.

UNISE focuses on training teachers and community workers to work with, and support persons (adults and children) with different categories of disabilities. It offers: a one year Post Graduate Diploma in Community Based Rehabilitation; a two year Bachelor's Degree in Special Needs Education and Inclusive Education; a two year Diploma in Special Needs Education and Inclusive Education; a two year Diploma in Community Based Rehabilitation; a two year Diploma in Mobility and Rehabilitation; a three month Certificate course in Man-

agement of Special Needs; Proficiency courses in Braille, Sign Language, Speech and Language Difficulties; Evening Programmes - Post Graduate Diploma in CBR, Ordinary Diploma CBR, Certificate in Management of Special Needs education (SNE) and Inclusion; and Distance Education in SNE and Inclusive Education.

Uganda Human Rights Commission

Uganda Human Rights Commission in 2004 also established a Vulnerable Persons' Unit to address issues raised by vulnerable groups including PWDs. The issues raised by people with disabilities for the attention of the commission centre on education, transport, employment and accessibility to basic services.

National Council for Disability

In order to promote, protect, mainstream and monitor the rights of persons with disabilities, a National Council for Disability was established through the National Council for Disability Act, 2003. The objectives of the National Council for Disability are to: A) promote the implementation and the equalisation of opportunities for persons with disabilities; B) to monitor and evaluate the impact of policies and programmes designed for equality and full participation of persons with disabilities; C) advocate for and promote effective service delivery and collaboration between service providers and persons with disability; D) advocate for the enactment of laws and the reviewing of existing laws with a view to complying with the equalisation of opportunities as stipulated in the United Nations Standard Rules on the Equalisation of Opportunities for persons with disabilities, the Constitution and other laws and international legal instruments.

Organizations of Persons with Disabilities

These are establishments formed and managed by PWDs themselves. They have been identified as;

- The National Union of Disabled Persons (NUDIPU)
- The National Union of Women with Disabilities of Uganda (NUWODU)
- Uganda Foundation for the Blind
- Uganda National Association of the Blind
- Uganda National Association of the Deaf
- Disabled Women Network and Resource Organization
- Uganda Disabled Women's Association

Organizations for persons with disabilities:

These are fraternities formed and managed by people without disabilities but providing services including advocacy for PWDs. They have been identified as;

- Uganda Mental Health Association
- Uganda Parents Care for the Mentally Handicapped
- Uganda National Action on Physical Disability acts as an umbrella organization of/for people with disabilities.
- Uganda Parents' Association of Children with Learning Disabilities (UPACLED)
- Legal Action on Persons with Disability (LAPD)
- Spinal Injury Association (SIA)
- Epilepsy Support Association of Uganda (ESAU)
- National Association of the Deaf Blind (NADB)

4.0 Accessibility Considerations for PWDs

This study recommends that;

People with disabilities and their families should be consulted in education sector design, monitoring and evaluation.

Ensuring buildings are accessible to PWDs; Private building owners should be induced to put talking lifts and incliners to allow for PWDs to access the building. The same should be done to all public buildings.

Taking account of the transport needs of people with disabilities and their families to give them access to all services.

Ensure that accessible information regarding reproductive health issues, amongst other health issues, is available, and ensure that extra attention is paid to women with disabilities' needs and rights.

There is also need to increase advocacy for dissemination and enforcement of policies for PWDs, and for mainstreaming disability in all educational programs; develop a communication and advocacy strategy, and a guide on how to mainstream disability in all education programs in the country;

Federation of Uganda Employers Associations should encourage its member organizations to institute disability sensitive employment policies. In addition, Government should respond by instituting policies aimed at encouraging employers to employ disabled persons with qualifications.

Establish a bureau to specifically address the policy issues pertaining to employment of PWDs.

Advertise job opportunities widely in various me-

dia. Include a specific clause encouraging disabled people with qualifications to apply.

Disabled students should be provided with career guidance services early enough during their educational career to facilitate their employment prospects.

Lastly, identify and train focal persons and peer educators to address unique needs of PWD at service outlets; include disability issues in the training curricula for education practitioners at all levels.

5.0 Conclusion

Whereas Uganda has made tremendous strides in making the policy and legal environment supportive to accessibility to PWDs, achieving real change for PWDs is hampered by inadequate implementation and enforcement of these policies and laws. Lack of deliberate strategies to target PWDs with services at service delivery level combines with geographical and physical barriers, communication gaps, and insensitivity among health and education service providers to constrain access of PWDs to community services.

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University Library Infrastructure for Persons with Special Needs: The Makerere University Library Experience

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Abstract

In implementing the affirmative action policy, Makerere University admits all the blind and visually impaired students, the deaf as well as other disabilities. The Library has to provide information services to this category of users in the same way as it does for others. The author shares the experience of expanding the library physical and virtual space using Makerere University's internally generated funds. The first building of Makerere University Main Library was opened in 1959, extended in 1972 and doubled its space in 2011. Both the growing number of students and advances in ICTs led to the need for the construction of a new library building extension, which is connected to the old building by a bridge. The recent extension made it possible to cater for ICT facilities previously difficult to fit in the old architecture. The paper focuses on the new as well as the expanded facilities and services that cater for the special needs of various categories of library users. For example, modern libraries provide space for discussion, which was lacking in the old building. Group study rooms with Wi-Fi connectivity have been set up and one is devoted to library users with disabilities. Jaws and Magic software to support the blind and the visually impaired, furniture appropriate to the different disabilities and a lift were put in place. Mothers' space for expectant library users and staff was set up. The Library is the first unit to provide such a facility at Makerere University. A feedback about these facilities and services will also be reported. Indeed, the new library building extension provided various opportunities which attracted Development partners to support the effort of librarians and donated modern ICT facilities and furnishing of the new building extension. The importance of an inclusive academic library provision and the challenges of maintaining the expanded infrastructure will be presented. Various lessons learned will be shared.

Key words: *Library Services for Special Needs; Library Users with Disabilities; Academic Libraries and Special Needs; Library Infrastructure; Affirmative Action and Libraries; Library Building and Equipment; Makerere University Library.*

1. Introduction

Makerere University was founded in Uganda in 1922, making it one of the oldest public Universities in Eastern, Central and Southern Africa region. In 1949, it became a University College of London, then later a University of East Africa catering for Kenya, Uganda and Tanzania until 1970 when the two countries established their own national universities; and finally, Makerere became a national University of Uganda.

Makerere University's vision is "*to be the leading institution for academic excellence and innovations in Africa*"; while its mission is "to provide innovative teaching, learning, research and services responsive to national and global needs" (Makerere University Strategic plan, 2007/08-/2017/18). Makerere University's motto is '*We build for the future*', and it has indeed continued to build and rebuild what was destroyed during the civil wars and turmoil of the 1970's and 1980's. For example, various buildings have been constructed, multi-disciplinary and ground-breaking research has been published, various scientific innovations have been reported, support from Development partners has increased and the periodic webometrics ranking of Universities show that Makerere has

steadily been improving. The improvements have attracted students from both within and outside Uganda; hence, Makerere has continued to build for the future of Uganda and beyond.

Between 2009 and 2012, Makerere University's full-time student population had steadily grown from 33,469 to 37,262 students respectively. By June 2013, the overall undergraduate student enrolment was 49,691. Of these, over 120 were students with disabilities admitted to Makerere under the Uganda Government affirmative action policy. The growth in student population has resulted into an increase in demand for library services. Consequently, Makerere University Library (Maklib) has had to reposition itself to ensure that it provides library services that are responsive to the ever changing user needs (Musoke, 2008; 2010).

The growing number of University students, the increase in study programmes coupled with paradigm shifts in for example curriculum and research, the increase in research and the rapid ICT developments have all changed the routines of traditional academic librarianship. The changes are very demanding in a Ugandan environment where shortages of infrastructure and facilities are very common due to decreasing budgets. These changes and demands, therefore, need an innovative

librarian who, by using various initiatives and networks, would try to meet the never-ending needs of University library users by providing an inclusive library service and maintaining quality library facilities and space using the available human and financial resources.

Maklib comprises of the Main Library and ten branch/college libraries. Two of the branch/college libraries are off campus serving the College of Health sciences and the Agricultural research institute. The eight branch/college libraries are situated at the Main campus in the various colleges. These are relatively small and mainly handle the book bank issues (recommended text books), provide some guidance to students and staff on e-resources usage, collect materials for the institutional repository, etc. For Makerere to continue excelling in its provision of quality higher education, it has had to maintain its Library and information services as one of the key priorities in its previous and current (2007/8-2017/8) Strategic plans (Musoke, 2008; 2010).

It has been acknowledged widely that persons with disabilities and other special needs have been greatly left out of many technological developments in the information age as well as physical infrastructure. Such persons have to cope with academic demands and seek for information resources both print and electronic. All University students expect to access library and information resources and services in the same quantity and quality. Maklib has tried to address that expectation, and indeed a Library is most suited to spearhead equity in information provision to the less advantaged in a University setting.

This paper, therefore, highlights the affirmative action policy in admission to Uganda's Tertiary institutions, and other supportive laws and policies for persons with special needs. Furthermore, in response to the needs created by the supportive laws and policies as well as demands from technological developments, the paper reports the extended library space and increased information services at Maklib for all library users but with specific focus on University students.

2. Information Provision for Persons with Special Needs

This section has two sub-sections, focusing on definition of terms as well as the laws and policies

supporting the special needs category of academic library users.

2.1 Definition of Terms

Special needs is a term used in clinical diagnostic and functional developments to describe individuals who require assistance for disabilities that may be medical, mental or psychological (Wikipedia, 2014). The term 'special needs' has many definitions ranging from food allergies, learning disabilities, cognitive impairment, development delays, psychiatric problems to terminal illnesses. The designation of 'special needs' is important for gaining understanding of the needs to be able to provide appropriate services. In the United States, for example, it is considered that such persons need more services than those without special needs. In the United Kingdom, the term 'special needs' is a short form of 'Special Education Needs' and is a way of referring to students with disabilities (UNESCO, 2014).

In this paper, the term 'special needs' will be used to refer to mainly persons with various disabilities, namely, the blind and visually impaired, the deaf and those with other hearing disabilities, different types of physical disabilities (including mobility and albinism) and chronic medical problems (sickle cell, epilepsy and asthma). To a less extent, pregnant students and staff will be included in this paper as they have special needs that Maklib has attempted to address.

2.2 Laws and Policies Supporting Persons with Special Needs in Uganda's Public Universities

In section XVI on the Protection and Promotion of Fundamental and other Human Rights and Freedoms as well as section 35 (1) on Affirmative action, the Constitution of Uganda gives support to disability, women and other marginalized groups. To implement this policy, Makerere University started admitting Students with Disabilities (SWDs) in 1993 under a quota system. Since the scheme started, all the SWDs were admitted to Makerere University only, until 2006/7 academic year when the other three young public universities (Mbarara, Kyambogo and Gulu) admitted some SWDs. However, all the blind and visually impaired students were admitted to Makerere University.

The table shows, among other things, that 143 students with disabilities were studying at Makerere University between 2003/4 and 2006/7 academ-

Table: Students with disabilities who were studying at Makerere University between 2003/4-2006/7 academic years

Type of Disability	Academic year				Total
	2003/4	2004/5	2005/6	2006/7	
Blind/Visual impairment	8	6	10	9	33
Deaf	3	4	4	5	16
Other disabilities	26	32	21	15	94
Grand Total	37	42	35	29	143

ic years representing below 1% of the student population (34,515 in the academic year 2006/7). The small number of SWDs does not mean that they should be ignored by any serious academic library. Libraries are mandated to cater for all users' needs.

In the current (2013/14) admission, there are sixteen blind and visually impaired students, eleven with hearing disabilities, twenty-seven with physical disabilities and ten with chronic medical problems (sickle cell, epilepsy and asthma) making a total of 64 SWDs in public Universities. Of the 64, Makerere University admitted 39 (16 females and 23 males), Mbarara 4, Kyambogo 15, Gulu 4 and Busitema 2. The trend was similar in the previous years for SWDs who are currently in their second, third, fourth and fifth years of study in public Universities. Given the facilities needed, Makerere University admits all the blind and visually impaired students. Makerere University, therefore, currently has over 120 SWDs. Such a special category of students has to be catered for if Maklib is to provide an inclusive service to all library users. Support to SWDs and other Library Users with Disabilities (LUWDs), therefore, is not only a University priority, but a national and international policy on human rights. Support to marginalized or disadvantaged groups is, as already indicated, in the Constitution of Uganda and in the Universities and other Tertiary Institutions Act of Uganda, which govern Makerere University's policies. Consequently, Makerere University Admissions policy is in line with the Ministry of Education policy on admission of students with disabilities in institutions of Higher learning. It is also stipulated in the policy that the blind and low vision students should be given priority over the other categories. That is why Maklib's plans and activities give this category a priority over the others. Furthermore, according to the International Convention and World Declaration on "Education for All", to which Uganda is a signatory, all institutions of higher learning must provide support to disability and provide the necessary educational requirements.

Furthermore, the above laws and policies provide similar guidelines for the admission of qualifying female students to public Universities. Once admitted, female students have special needs that Maklib has also endeavored to cater for.

3. Facilities and Services for Persons with Special Needs at Makerere University Library

Libraries are a key factor to ensuring quality teaching, learning and research. Academic libraries are expected to provide information services to all categories of students and staff. This section reports Maklib's efforts in improving access of LUWDs to timely and relevant information materials, resources and facilities. It has four sub-sections, namely on facilities and services to the blind and visually impaired, facilities created by the expansion of the Main Library space and facilities, services to pregnant women and other female library users, and evaluation of facilities and services to persons with special needs at Maklib.

3.1 Maklib Facilities and Services to the Blind and Visually Impaired

In 2001, Maklib initiated, as a project, the information provision to Library Users with Disabilities (LUWDs). This included workshops to sensitise and train SWDs and librarians on information provision to LUWDs. The training for LUWDs include basic computer skills – keyboard familiarity, windows and JAWS keyboard shortcuts; use of Microsoft word processor to be able to type course work; internet access – identification and retrieval of relevant information resources; and use of the new software (updated versions of Magic, JAWS and OpenBook) and new equipment. The training is usually divided in three groups: the blind and low vision, the deaf, and the other disabilities. Each group is trained in one session per year, but the training on request is also conducted by library staff.

One staff was sponsored for attachment to Universities with such facilities in South Africa. On return, the staff was able to train others as well as providing support to the LUWDs.

Given the trends in technology, most of the equipment that facilitates independent study by the blind are built around new technology. Maklib searched various adaptive software websites, and in close consultation with the Uganda National Foundation for the Blind, was able to identify and procure some appropriate equipment and software. The blind and visually impaired being the first priority, Maklib procured adaptive software packages, which work with existing applications on the ordinary computer but facilitate access to information by the blind and visually impaired. Three categories were procured, namely, software for the totally blind – screen readers, software for the partially blind or low vision – screen magnifiers, and software for read text. Specifically the following were procured:

1. JAWS (Job Access with Speech), which was one of the most widely used screen reader. The software, that came with a multiple user license, was installed on the hard disk.
2. Magic, which is a screen magnifier, made to enlarge text of any kind to the level that suits the user. They are for the visually impaired, specifically persons with low vision and those with colour and/or light challenges.
3. Open book, which is a read text software package, installed on a hard disk. The user scans any text of a hard copy, which gets transformed into a softcopy but the user accesses it by using the speech software.
4. A scanner and three computers to support the software.

To maintain a quiet environment, it was necessary to separate the 'talking' software from the rest of the students and set up a Laboratory for LUWDs where the blind could go with their guides, while the physically handicapped were free to use this or the general students' computer laboratories. University examinations for the blind and visually impaired were held in this laboratory. Furthermore, tables and seats were reserved for all LUWDs near the entrance of the Main Library to ease access.

By 2006/7, the software and equipment purchased in 2001/2 were overdue for upgrade and replacement respectively. There was also an increased demand for service by the LUWDs. The upgrades and replacements were catered for in subsequent

budgets, while the new Main Library building extension, that had started, catered for various needs of LUWDs.

- The most recent acquisition to cater for increased demand was the Embosser for braille
- machine procured by Makerere University. The Embosser is a printer for the blind,
- connected to a computer or Laptop, it prints out text/print in Braille form. For example, after
- typing or scanning print materials such a book, pamphlet, magazine, journal, handout, etc,
- the embosser can be commanded to produce Braille copies.

On delivery of the equipment, both the blind persons and the library staff were trained on how to use the Embosser. Library staff were also trained in simple software management, equipment maintenance and other basic skills. Subsequent training is done regularly by Library staff to ensure that all blind students benefit.

The adaptive software and equipment for the blind use the ordinary hardware, that is, computers but among others, the PC must contain a sound card. Most of the software can easily be suppressed and the computers turn to ordinary status to be used by non-blind people. This flexibility increases the use of computers by all LUWDs in their designated computer laboratory.

In appreciation, the Uganda National Foundation for the Blind Executive Director commented that *"Makerere University is one of the few training institutions in this region that is promoting independent study by and for the blind... credit indeed be accorded to this Library"*.

As all other specialised library equipment not available in Uganda, lack of after sale support and/or maintenance of these equipment has been challenge.

In addition to periodic software upgrades/licence renewals and other equipment replacements, Maklib plans to procure Ultimate Talking Dictionary and talking calculators in the next financial year budget.

Maklib will also continue training staff to be able to get a pool of librarians equipped with skills to assist LUWDs and to manage the new IT facilities for LUWDs. There is also need to train secretarial/

clerical staff who will assist in editing the scanned materials after optical character recognition for missed out or badly recognized characters. Furthermore, Maklib website will continue to be updated regularly and link to relevant sites.

3.2 Facilities Created by the New Main Library Building Extension

Library space is one of the quality assurance issues according to national and international standards. Before 1959, Makerere University Library was housed in the present Main Administration Block. In February 1959, the library moved to the present premises. The 1959 library building has been extended three times, with the current new extension which was opened in 2012.

Over the years, there had been a lot of pressure for space at Maklib, resulting from the growing number of students. It has also been noted that many students entirely depend on Maklib for reading space as their crowded residences do not provide an appropriate alternative. Consequently, Maklib space and facilities get stretched and strained due to demand and constant use, which lead to tear and wear and the need for regular repairs or replacements. This makes it inevitable to reserve or designate facilities for LUWDs.

The introduction of ICTs requires certain infrastructure to be catered for in the architectural design. Hence, the growing number of library users and advances in ICTs led to the need for the construction of a new library building extension, which is connected to the old building by a bridge on level 3. The new extension, that doubled the physical space of the Main Library, therefore resolved the space issues at Maklib.

The new Main Library building extension, however, had been designed without ramps and special toilet facilities for LUWDs. Maklib negotiated with the architect to address the problem. Consequently, ramps were constructed at the entrance of the building and the parking yard. In addition to ramps and a lift, the footpath connecting the Main University road to the new Library building entrance was re-designed and an adjacent passage without steps was constructed to ease accessibility of LUWDs to the Library.

The new building extension was opened in 2012 by the President of Uganda and the Vice-President during the celebrations to mark Makerere@ninety, Uganda@fifty as well as the Carnegie Corporation

of New York (CCNY) Centenary celebrations. CCNY donated the ICT equipment in the new building extension. During the occasion, the President of Uganda congratulated Makerere on the achievement and thanked the leaders for being innovative and self-sustaining as the building was constructed using Makerere University's internally generated funds. Inspired by the state-of-the art facilities, the Vice President expressed his optimism that whoever stepped in the library would come out better informed, knowledgeable and wiser. He encouraged Ugandans to go back to Makerere University to do research and register for higher degrees to be able to maximally use the increased library resources and facilities.

The developments at Maklib were reported by the Ugandan media with such headlines as "Unstoppable: Maklib on the way to re-discovery", "Discover the new Makerere's library", "Who really uses the Library?" etc. The developments were also reported at an international level in a poster session at the 78th World Library and Information Conference organised by IFLA at Helsinki, Finland in August 2012, and in a paper (Musoke & Namugera) presented at IFLA in 2013.

The improved services and facilities include:

Library space has doubled by adding 8,000 square metres; hence, Maklib now has 16,000 square metres of space at the Main Library alone, addressing the shortage of library space that was almost leading to chaos especially during the examination period. The expanded library space now comfortably accommodates all students and their special needs.

The new extension had provided more toilet facilities for all users; in particular, library users with disabilities have, for the first time, got toilet facilities built according to international standards. Each of the five floors of the new extension has a special toilet for LUWDs.

The new extension is a place for quiet reading, noisy group study area, meeting and eating place in the canteen, workshops and seminars, presentation opportunities, a place to discover what colleagues or peers are researching, ICT facilities for different categories of library users are provided on every floor, the whole building has LAN extension, and there are OPAC terminals in different places, etc.

ICT facilities for library users with disabilities have

been strategically located on the ground floor, just after the security gate and the Information desk. Hence, the facility, that had been set up in the old building, was moved to this new and more accessible location with new computers and furniture, and next to the lift. As already reported, the computers have Jaws and Magic to support the blind and visually impaired. The furniture in this unit is flexible to enable the physically handicapped to use. In addition, the LUWDs in wheel chairs are free to go in and do not have to change seats if they choose not to. The librarian at the Information desk also provides support to LUWDs whenever needed.

The old building is continually being re-modeled and improved to match the new extension and the new ICT developments, provide modern furnishing, introduced potted plants to give the library some 'life', etc. Re-organisation of the existing space in the old library building has opened up more space for all library users.

After the opening of the new library building extension in 2012, more re-organisation of space was embarked on. An adhoc space re-organisation committee was set up in March 2013 and submitted its report in May 2013. The recommendations of the committee and related space re-organisation activities were completed by August 2013 before the new academic years started. One of the recommendation of the committee was to label the slots reserved for LUWDs in the parking yard.

3.3 Facilities and Services to Pregnant Women and Other Female Library Users.

In addition to students with disabilities, the Affirmative action policy in admission to public universities in Uganda is also extended to qualifying female students. This is in line with the Constitution of Uganda provisions and the World Declaration on "Education for All" as outlined in section 2.2 of this paper. The supportive laws and policies have improved the number of female students admitted to Makerere University greatly. For example, by June 2013, the female student population was 47% of the overall undergraduate student enrollment of 49,691 (23,523 females and 26,168 males).

During the planning for the extension of the library building, we convinced the architect to devote space for pregnant library users and staff. Such women need 'space' different from ordinary library users' space. Consequently, a Mothers' space,

where expectant library users and staff take a break, was set up in the new Main Library building extension (level three) to provide a conducive reading environment. It is the first such facility at Makerere University. It has comfortable sofas and was painted with cool colours to provide a relaxing environment. Some of the users' comments are:

"the place is beautiful and comfortable for expectant mothers... I am very grateful for this innovation" (Phd student)
"when I get tired, I come to the Mothers' space to relax... actually to nap, and this rejuvenates my body, mind and spirit" (Academic staff)

In addition to the Mothers' space, Library Management decided to procure 'women friendly' library furniture, particularly tables. About 10% of tables have 'screens' to give female library users freedom to sit when putting on mini skirts. This is something many young library users have welcomed and keep commenting about at various fora.

Maklib Gender Sentinel site committee also provides various support to women e.g. through exhibitions of women authors' works, women leaders and provision of literature relevant to women and gender.

3.4. Evaluation of Facilities and Services to Persons with Special Needs at Maklib

After several years of service, academic librarians at Maklib have carried out research at different times and with different focus to find out whether the facilities and services to library users with special needs are appropriate and sufficient, among other things. The studies include:

Musoke Maria and Namugera Lydia (2014): Librarians' contribution to social change through information provision. A study was carried out about the Mothers' space and how this and other MakLib services have affected social change. During the International Women's day week, which is celebrated at Maklib, a short questionnaire was distributed to one hundred library users in five days and 67 responded. The findings of this study will be reported at the forthcoming IFLA conference in Lyon at a joint session of the Social Sciences Section and Women Interest Group;

Naluwoza Monica (2014): Inclusiveness: the

provision of information service to persons with disabilities at Makerere University library. Data was collected from fifteen SWDs who all appreciated the service. The findings of the study will be reported at the forthcoming QQML conference in Istanbul, Turkey in May.

Lydia Namugera (2013): Users awareness, perceptions and utilisation of Makerere University Main and selected branch libraries. This was a Master's degree research work that provided interesting findings about the various services including those provided for LUWDs.

4. Challenges and Lessons

Several lessons were learnt. For example:

- i. While creating quality library space in poor countries' academic institutions is challenging, **maintaining the quality** of the created space is even more difficult. Once the building is constructed and furnished, the attention moves to other demands. The librarian has to become more innovative to ensure that a budget line for maintenance is not struck off the budget.
- ii. Besides maintenance, **increased space and facilities for persons with special needs come with their own challenges**, which require a firm budget line. For example, staffing issues (number, level, skills), more surveillance equipment, etc. So, it seems like the needs never end!
- iii. The inevitable procurement of **specialised library equipment & software from abroad**; and **lack of local or regional after sale support** make the operations and maintenance of such equipment and software problematic.
- iv. From the various post occupancy evaluation activities, it has become evident that **all new library buildings should have facilities for persons with special needs**. Hence, the proposed new buildings at the College of Agricultural research institute and the Medical Library will be advised to include such facilities in the architectural design.

With adequate support, Maklib will be able to address the challenges and the lessons learned and continue to deliver the needed service to

persons with special needs.

5. Conclusion

The paper has shared the experience of Makerere University librarians who successfully mobilised funds from local sources that enabled them to add 8,000 square metres of new library space with modern ICT and other facilities for persons with special needs, that are not found in other libraries in the country. Extending library space, without donor support, and winning various competitive grants from Development partners which have successfully been implemented have led to the reconstruction and transformation of Maklib. These are some of the major achievements in the last ten years of the current Library leadership, which has continued to 'build for the future' of Uganda and beyond. These developments have enhanced Maklib's premier position in Uganda in the provision of library and information services to persons with special needs.

The lessons learned include innovative Library leadership, support from University administration and supportive laws and policies enhance the provision of information services and facilities to persons with special needs. Once quality space as well as services and facilities are created and/or extended, various other demands from persons with special needs, other library users, library staff and other stakeholders, however, engage the Library administration usually requiring more funds which may not be easily available after the capital expenditure on the building.

Maklib will continue soliciting for support to address the financial and related challenges to be able to maintain and sustain the quality library services and facilities to persons with special needs. Support in form of collaboration will continue with relevant organisations in Uganda (e.g. Makerere University Guild office for Disability, National Union for the Disabled and the Uganda National Foundation for the Blind) and abroad. In addition, the collaboration with the Directorate of Gender mainstreaming and strengthening the activities of the Maklib Gender Sentinel site to remain sensitive and responsive to gender needs in library provision will also continue.

Maklib will also endeavour to maintain the equitable provision of Library and information services to all students at Makerere. The facilities and services at Maklib target all persons with special needs but particularly the blind and visually impaired who

need the various adaptive facilities, and who according to the Ministry of Education policy, are recommended to be given priority over the other categories. As most facilities for LUWDs are lacking in most Ugandan Universities, Makerere University admits all the blind and visually impaired students and most other applicants with disabilities in Uganda, thereby extending University education to this usually marginalized group of students. Maklib then provides information resources and facilities to support their academic work.

Above all, Maklib will sustain the training of librarians to be able to manage the information resources for the persons with special needs. In addition, persons with special needs will continue to be trained in the use of new resources and facilities.

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Knowledge and Information For Persons With Special Needs: The Case of the University Of Malawi, Chancellor College

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Abstract

The journey from past societies on every continent where people with disabilities or special needs, were treated as subhuman, outcasts or untouchables to the present day, has been long and difficult. While there is still a lot to be done to level the ground for such people so that they are at par in every field that with all other people, there is so much that has been accomplished. People with special needs are found in institutions of higher education, colleges, institutions and Universities and are specialising in many professions previously thought out of reach for them. The University of Malawi, Chancellor College has been admitting small numbers of people with special of special needs for over thirty years. Recently the numbers have been increasing but there are many challenges that need to be addressed. Among such challenges are the unavailability of adequate, relevant and modern technologies, the absence of user friendly infrastructure such as lifts in tall buildings and the shortage of appropriately qualified human resources to help people with special needs. This paper is a baseline exposure of the situation at Chancellor College.

Keywords: *Special Needs Education; Persons with Disabilities; Physical Challenged; Malawi; Education; Infrastructure; Human Resources; Modern Technologies*

Introduction

Chancellor College of the University of Malawi has been the most prestigious higher learning institution in Malawi since Malawi attained independence in 1964. Until recently when other constituent colleges of the University of Malawi such as the Polytechnic increased their numbers of faculties, only Chancellor College had five faculties which included Education, Humanities, Law, Science and Social Science. Chancellor College's largeness was, for many years, reflected not only in the wide range of courses offered, but also in the size of facilities such as the Library(which still remains the largest in terms of space, stock and human resources).

It was Chancellor College which produced the first graduate with a special need- a blind man in the late 1970's. This paper is a baseline study of Chancellor College as an institution that offers higher education to people with special needs. The primary focus is on the library and ICT services which are the sources of information and knowledge.

Why Knowledge and Information for People with Special Needs?

There is hardly a country in the modern world which has not waken up to the truth that people with special needs are people like anybody else. This 'cliché' "disability is not inability" has become universal truth. Among people who over t

he ages have had names referring to them change – the lame, the handicapped, the physically challenged have come some of the most fascinating artist, athletes and scientists. However, despite the realization that people with special needs are as human as other members of the human race, there is still great disparity in making available to such people adequate appropriate facilities to make the acquisition of information and knowledge less of a challenge. One of the countries that have done their best to cater for physically challenged people is the United States of America. In addition to the Rehabilitation Act of 1973, it has the Americans with Disability Act of 1990(ADA). It is the Civil Right Law affecting more American than any other and was created to eliminate discrimination including access to private and public services, employment, transportation and communication (ALA: ASOLA, 1996). Such legislation sets a framework for the provision of library and information services. The following passage portrays what one would easily consider to be an ideal of library service provision to people with special needs:

Libraries must not discriminate against individuals with and shall ensure that individuals with disabilities have equal access to library resources. To ensure such access, libraries may provide individuals with disabilities with services such as extended loan periods, waived late fines, extended reserve periods, library cards for proxies, books by mail, refer-

ence services by fax or e – mail, home delivery services, remote access to the OPAC, remote electronic access to library resources, volunteer readers in the library, volunteers technology assistants in the library, American Sign Language (ASL) interpreter or real time captioning at library programs and radio reading services. (ALA, 2001).

The list of services mentioned above is not exhaustive. You could add to them books and other materials in braille version, large print books, and special software to enable those who are visually impaired to type using ordinary letters of the alphabet, articles which can later be printed in braille form. Escalators or lifts could also be added to the list to take users with mobility difficulties from the bottom to any higher floors and back. Entrance or exist doors wide enough for those who use wheelchairs to easily pass are very essential. It is against this background that the situation at Chancellor College with respect to library services is now presented.

The Situation Regarding People with Special Needs in Malawi: A General Background

Since its independence in 1964, Malawi has struggled to promote the welfare of the people with special needs. Quoting a 2004 SINTEF health research report, Victor Makhambulo Jere (2008) says only 20% of PWD (People with Disabilities) have access to schools and only 26% to work place and vocational training is available to only 5% of these who need it.

Education of special needs has been mostly provided by churches in their special centers which have suffered serious resource challenges. With this picture in mind, it is a marvel that some special needs people make it to University. Whatever information such people depend on is information that has been transcribed into Braille.

The Chancellor College Case

Chancellor College has been admitting very limited numbers of special needs students per year for more than thirty years. The first of these was a man by the name Godfrey Kantsemo, a student who was blind. There were no special facilities to cater for students with special needs. Godfrey Kantsemo used a tape recorder to record lessons which could be transcribed into Braille. As for library services, books could be borrowed on his behalf by friends who also assisted him with the

reading of books aloud to him. With respect to mobility around the campus, Godfrey walked alone with a stick or a friend held his hand whenever need arose. Goodwill from friends or fellow students rather than planned provision of necessary facilities or human aid, was the name of the game.

Over the years the situation has been pretty much the same as that of Godfrey Kantsemo. However, in 1995, the former College Librarian of Chancellor College, Dr Augustine Msiska, allocated a room in the Library where students mainly with visual impairment could work. This has helped to cut down the distance from where books are shelved to where special needs students study. Library staff can be contacted more easily to bring books that are required and collect them after use; the facilities in the room include a telephone extension and four computers that were bought with a grant from the Scottish Government. The computers are equipped with a special software called "Jaws" which enables students with impaired vision to type letters on the keyboard which pronounce themselves with loud sounds when they are touched. The special room also has a brail printer so that the work typed in ordinary letters can also be printed in Braille.

As for staff, the Ministry of Education has seconded to Chancellor College two members of staff who have undergone special needs education. These men assist special needs students with various tasks, including the transcription of their work into Braille. College records indicate that since the admission of special needs students started, the College has produced sixteen holders of bachelor's degrees. The current number of special needs students is 27 which is by far the largest number of such students to be present at College. This is in part due to the tireless campaigns of the associations of special needs people as well as the Malawi Governments effort to ensure that people with disabilities are not left out in any development endeavour.

Library services for people with special needs are at a very low level nationwide. A vast amount of useful information is left outside the circle of people with special needs. At a workshop on Libraries and Access to Information for People with Disabilities, held at the Hippo View Lodge in Machinga District from 27-29th September, 2010, a representative group of people with special needs (as seen in picture below) pointed out a number of weaknesses in the provision of library services to them in academic, public and special libraries. The



weaknesses included the poor design of library buildings leading to inaccessibility by people with special needs and unavailability of information materials such as audio-books.

Conclusion

The importance of libraries in the process of education for any type of people cannot be overstated. Libraries play a catalytic role in the lives of people with portion in society (ALA, 1996). While the situation in developed countries such as the United States of America regarding library and information for people with special needs and information for people with special needs has gotten close to the ideal situation, in developing countries such as Malawi the situation leaves a lot to be desired. The situation at Chancellor College requires serious intervention from the Government of Malawi, the University of Malawi and other stakeholders. The library building is not a friendly place for people with movement and site disabilities. The lift which was installed in the 1970's went out of service many years ago. Efforts to get it repaired or replaced have not borne fruit. There is need for audio – books and Braille versions of such books as those which are on the reserve shelf. The number of qualified special needs helpers (teachers) needs to go up from the current two.

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SUB-THEME: 7

***Information Literacy for Socio-Economic
Development***

The Role of Information Literacy on Socio-Economic Development: A Survey of Tertiary Institution Students in Bulawayo, Zimbabwe

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Abstract

Information literacy (IL) advances the living standards for people and enables informed decision-making which translates to socio-economic development. The purpose of this study was to investigate the role of IL in socio economic development among students in Zimbabwe. The objectives were to find out how students obtain IL skills; examine the importance of IL to students; examine the relationship between IL and Information Communication Technologies (ICTs); examine the relationship that exists between IL and socio economic development and find out the challenges faced by students in obtaining IL. A survey was conducted in Bulawayo and 191 students were sampled. Data was collected through questionnaires and interviews. Findings revealed that most students acquire IL through lectures and this enabled them to make informed decisions related to socio-economic development. The study recommended that authorities in tertiary institutions should ensure enough ICTs to enable IL acquisition.

Key words: *Information Literacy; Socio-Economic Development*

1.0 Introduction

Information Literacy (a term accredited to Paul Zurkowski, coined in 1974) is used to describe a number of initiatives in higher education that seek to meet the broad demands of the information society. Information and information literacy skills are needed by any society in order to enable decision making socially, culturally politically, economically, technological and in any other sphere of life. Skills to locate, access, evaluate, and use information are vital for individuals' lifelong education, whether at school or in daily activities in the remote rural community or in the urban setting in as much as skills to save and preserve information are equally important (IFAP, 2012). Across the world, educators in primary, secondary, tertiary and professional education contexts have been developing strategies and policies for designing learning opportunities that will enable learners to take advantage of the information and communication infrastructures available to them (Bruce,

2004). This allows students to be information literate in order to meet their information needs for the rest of their lives and not just for academic purposes only.

Information Literacy (IL) encompasses knowledge of one's information concerns and needs, the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand. It is a prerequisite for partaking effectively in the information society and is part of the basic human right of lifelong learning. Therefore, IL includes the ability and willingness to understand the value of information, recognize entrepreneurial opportunities in the sector and select appropriate information sources, and translate information into knowledge to be used productively and tactically for developmental purposes. It is a vital part of decision making in every area of life and not only in education. It allows one to determine what information is needed, how much of it is needed, how to get it

effectively and efficiently, analysing the information as well as its sources then selecting and storing the desired information for use in order to accomplish the desired aim. Thus it is a vital part for students in order to meet their information needs thus contributing to socio-economic development.

In this information age, Information Literacy requires one to be aware of and respect legal and ethical issues that relate to use of and access to information. This is especially for students who come across a lot of information as they work at developing themselves. Issues of information access and use lead to copyright issues and plagiarism issues. Today, IL is inextricably associated with information practices and critical thinking in the Information Communication Technology (ICT) environment (Bruce, 2004). ICTs bring challenges of their own when it comes to access, production and sharing of the information and thus the more the necessity of developing information literacy among students at early stages of their education. IL advances the standard of living for people as they are able to make informed decisions concerning their personal growth. This translates to socio-economic development, which is the procedure of social and economic development of a nation or society and it in turn contributes to national development.

Information Literacy (IL) has always been critical for the survival of human beings and for ensuring sustainable development. According to Moeller *et al*/ (2011), since the dawn of human civilization in every sphere of human activity, access to information, the creation and application of new knowledge to others have contributed to the evolution of societies and economic welfare of people. Currently, information literacy skills play a key role in development and the dissemination of information. The situation has created a challenge in terms of knowledge and skills that people should possess in order to handle and use information effectively for socio-economic development. IL has grown and gained power and recognition all over the world both academically and professionally. The significance attached to IL has led many tertiary institutions to initiate IL programmes that will equip students with enough knowledge and skills in sourcing and effective utilisation of information for their personal development. This is the case in Zimbabwe with most tertiary institutions offering courses on information and communication skills.

IL is very important to every society as it enables

people to understand various issues and become enlightened and active members of society. For developing countries like Zimbabwe, IL is very significant as it enables the citizens to be empowered with necessary information which is vital for socio-economic development. For that reason most tertiary institutions offer Information and Communication Skills courses that ensure that by the time students leave the institutions they are information literate and ready to be absorbed into the information age. Thus information literate people can participate in national development process and be able to combat challenges that may be affecting them in society. Becker (1964) in Kasanda (2013) noted that IL is important and necessary as it acts as a social instrument or tool for developing human resources and information of human capital needed to bring about the desired development.

1.2 Statement of the Problem

Information Literacy is a skill that enables an individual locate, identify, evaluate and use the information to perform any given task with ease at any given time. It is a life-long skill desired by many people because anyone with such skills is able to adapt to any environment with ease. Those without IL skills are not usually able to survive the pressures of life relating to the need for information, especially in academic circles where research is crucial for success. In most cases poverty and high unemployment levels could be easily eradicated in Zimbabwe if people were information literate. IL has a part to play in education since it is vital to socio-economic development and success in various areas of life. For students to be able to compete on the global scene they must have information literacy skills which are fundamental for competency in a world where change and escalating digital information is the norm. Since IL is very crucial to effective learning in the 21st century, students should be equipped with such IL skills which will help them to be able to intellectually feed themselves to take decisions in life (at school, work, in society) and to meet every challenge and opportunity that life brings thus ensuring socio-economic development. In Zimbabwe, as one of the African countries with a literacy rate of over 90%, there is need for developing IL skills that could help people, students in this case, in their daily lives and help counter the effects of poverty, unemployment, functional literacy, insignificance and other challenges characterising today's life. However reality is such that even if most institutions offer courses on information literacy, not all students have the information and commu-

nication course as part of their curriculum. This translates to the fact that some students are still information illiterate and some finish school without IL skills and this affects their prospects of development in life. With regard to the above, this study aimed to investigate the role of Information Literacy among students in Zimbabwe in enabling their socio-economic development.

1.3 Purpose and Objectives of the Study

The purpose of this study was to investigate the role of information literacy in socio-economic development among students in tertiary institutions in Zimbabwe. The study was guided by the following objectives:

- To find out how students obtain information literacy skills.
- To examine the importance of information literacy to students.
- To examine the relationship between information literacy and Information Communication Technologies (ICTs).
- To establish the relationship that exists between information literacy and socio-economic development for students and,
- To identify challenges faced by students in obtaining information literacy.

1.4 Scope of the Study

The study focused on students from two (2) tertiary institutions in Bulawayo, Zimbabwe. These were the National University of Science and Technology (NUST) and the Bulawayo Polytechnic College. The study sampled 191 students. Four (4) lecturers who teach courses that have to do with information and communication skills were targeted as well as two (2) librarians from each institution's library.

2.0 Review of Scholarship

Literature related to information literacy was examined. In conducting literature review, researchers intended to be well acquainted with the problems and issues associated with IL and socio-economic development.

2.1 Information Literacy and Information and Communication Technologies (ICTs)

Bawden (2001) states that literacy involves the ability to use a language in its written form and therefore a literate person is able to read, write

and understand his/her native language. While literacy is about being able to read and write, Information Literacy requires more than the ability to read and write. This is because information is now delivered in a variety of media through ICTs and the internet. In this information age information is becoming essential in socio-economic development thus raising the need for ICT literacy as well. ICT literacy is an important part of IL. Correia (2002) states that recent developments in ICTs have made it easier for individuals to access information. The author goes on to say that this is so because the impact of the internet and other digital resources enable people to use more methods and sources than before to satisfy their information needs. Bawden (2001) brings out the significance of the all-encompassing multi-literacies as critical tools of the Information age.

According to UNESCO (2008) Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand: it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning. Information literacy skills enable a person to locate; access, retrieve, evaluate, interpret and act on information. Alexandria (2006) in Lau (2013) goes on to say that IL is a tool that empowers people from all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. These sources just emphasize that in this information age IL is a must for every individual.

Doyle (1994) defines an information literate person as one whom:

- Recognises the need for information.
- Recognises that accurate and complete information is the basis for intelligent decision making.
- Identifies potential sources of information.
- Develops successful strategies
- Accesses sources, including computer based and other technologies
- Evaluates information
- Organises and integrates information for practical application
- Integrates new information into an existing body of knowledge
- Uses information in critical thinking and problem solving.

Therefore, information literacy allows a person to

participate in community involvement and development as well as to make informed decisions on any challenges that they may come across.

ICTs can be used to produce and communicate such needed information. In this information age, networked computers and communication systems are becoming part of the daily life of a significant part of the population worldwide (Correia, 2002). However due to the challenges such as economic underdevelopment; lack of resources, technological structures, education and training opportunities and skills – there is now a separation into people with access to the ICTs and those without thus creating the digital divide. The same digital divide has a negative impact on the adoption of IL.

Development is gradual growth toward advancement and power (Zahedi, 2003). Development has economical, political, social, technological and cultural parts. Development can be on an individual, community or even national level. Considering factors such as culture, economy, hygiene, education, etc., leads to a broad but unified concept of development (Bahramzadeh, 2003). Taken as a whole, development is all actions that lead society toward an organized system of individual and collective living conditions relating to desirable values (Sharif al Nasabi, 1996). With that in mind socio-economic development is best advanced by people who are aware of their need for information, and thus can recognize, find, access, evaluate relate and make use of the needed information for a particular problem in their lives.

2.2 Information Literacy Activities

There are various IL activities that can be used to equip students with IL skills. IL can be achieved in class, in libraries and in any other form of training given to learners. Thus it can be passed on by lecturers, librarians and facilitators. According to Kavulya (2003), library orientation is one of the mandatory activities of IL and takes place in the first and second weeks when new students report to the university. Library orientation aims to equip the new learners with skills they require to effectively utilize the library's resources.

3.0 Methodology

In this study, a mixed methods approach was adopted and it focuses on collecting, analysing interpreting and presenting quantitative and qualitative data in single study. A survey was carried out in 2 tertiary institutions namely the National

University of Science and Technology (NUST) and the Bulawayo Polytechnic College. A survey was preferred for this study because it is widely viewed as very effective in collecting and analysing information about people's perceptions and larger populations (Kumar, 2005).

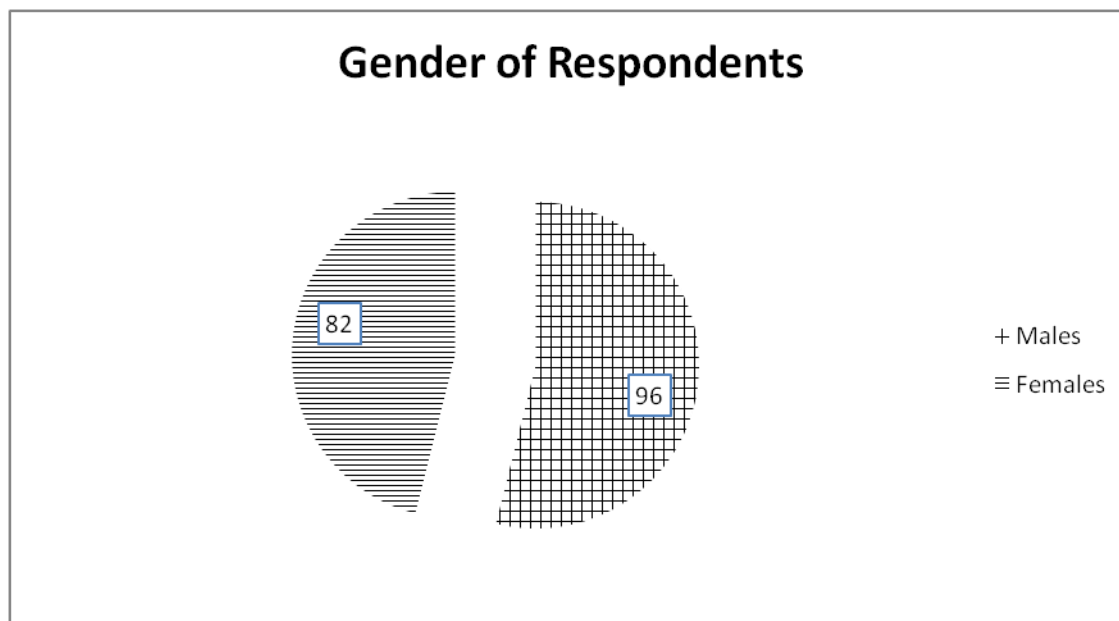
The total population was $\pm 10\,000$ students from both institutions and the population for final year students was 2890. A sample size of 191 was determined by applying Yamane's (1967) formula using a precision of $\pm 7\%$. Random sampling was used to sample the final year students since it can be used with large population and it avoids bias. Purposive sampling was used for sampling key informants which included four (4) lecturers who teach Information and Communication Skills courses from these two institutions and two (2) librarians one from each institution. Purposive sampling also known as judgemental sampling was used for the academic staff because it allowed the researchers to base their knowledge of the population and to select certain groups or individuals for their relevance to the issue under study (Aina and Ajifuruke, 2002).

Questionnaires and interviews were used for data collection in this study. The justification for using questionnaires was that they were very cost effective when compared to face-to-face interviews, especially for studies involving large sample sizes such as students in tertiary institutions. Interviews were suitable for the smaller sample size of librarians and lecturers. To ensure validity and reliability, the questionnaires were piloted to 10 students before distribution to the main sample. The quality of instruments used in research was vital because the information that was obtained through them was used to arrive at conclusions and this made a pilot study an important part of the research (Frankel and Wallen, 2000).

Data analysis was done both qualitatively and quantitatively by statistically analysing scores as well as aggregating words into categories of findings. Data was then presented in the form of frequency tables, charts as well as text. Whereas the quantitative method sought to describe and analyse results statistically, the qualitative method sought to arrive at conclusions by explaining the information literacy of students as it was.

4.0 Findings and Discussions

A total of 191 questionnaires were distributed to students in these two institutions and 178 were

Figure 1: Distribution of students by gender

returned, representing 93.2% response rate. Six (6) interviews were conducted with lecturers and librarians.

4.1 Distribution of Students by Gender

Figure 1 summarises students' distribution by gender. Out of 178 final year students who returned the questionnaires 96 (54%) were males and 82 (46%) females.

4.2 Acquisition of Information Literacy Skills

The respondents said that students obtained IL through lectures (127); library orientation tours (155); through discussions with peers (48) and other means (37). The other means stated were research and one-on-one consultations with librarians and lecturers. Librarians said that they assist students to obtain IL through their cataloguing system as well as facilitating adoption of use of e-resources alongside print media for library users. Lecturers said that they at times get students who come up to them to ask about how and where to find information for their research. Table 1 shows the frequency of the responses by students on

how they acquire IL. Students reported more than one source of IL.

In tertiary institutions students mainly acquire IL through their lecturers and library orientation. However even after that a few (25) 14% students still remain information illiterate in their final year due to reasons such as being computer illiterate. This makes it difficult for them to easily grasp the technological aspect of IL.

4.3 Importance of Information Literacy

The students stated that IL was important because it enabled them to interpret, retrieve and analyse the authenticity of information before using it (124); increased the ease of passing exams by availing the information that they needed for their studies (164) and it allowed them to have a wider access to a lot of information which would otherwise not be at their disposal (170). Librarians emphasized these issues by saying that IL is important for students because it makes the students ware of alternative information sources such as e-resources in addition to the usual print sources.

Table 1: Acquisition of IL by students
N = 178

Responses	Frequency	Percentages (%)
Through lectures	127	71
Through library orientation tours	155	87
Through discussions with peers	48	27
Through other means	37	21

Lecturers, on the other hand, said IL contributes to students submitting well researched work therefore improving their pass rates as well as that IL has increased use of ICTs by students which in turn is a vital skill in this information age. Thus IL is indeed important to students in the information age as it avails information that is vital for their personal development.

The students also brought out that IL is important in socio-economic development in that it avails information that is needed for seeking jobs; starting their own businesses; continuing with their studies; accessing loans for entrepreneurship as well as communicating with people who have the same interests as they have and sharing ideas. The students who were not information illiterate said IL was important and was required in executing duties during their industrial attachment.

4.4 Relationship Between Information Literacy and ICTs

Students brought out that they have access to ICT infrastructure in computer laboratories that are found in every faculty. However it was said that the computers were not enough as they were used by both undergraduates and post graduates students in a faculty as most of them did not own personal laptops. Therefore access was limited to lecture time and this time was not enough for satisfying their information needs. One hundred and sixty (160) 90% of students stated that ICTs were vital and a prerequisite in obtaining IL.

4.5 Relationship Between Information Literacy and Socio Economic Development

On the relationship that exists between IL and socio-economic development students stated that IL avails the information needed in making informed decisions socially and economically such as in job hunting, investments and entrepreneurship (174); enables the acquisition of the skills needed for lifelong learning and maintaining literacy even after formal education (92); though using ICTs as well and some e-media it is now easy to share vital information across borders (59) as well as enabling networking over long distances among people with similar interests such as using LinkedIn (27). Students brought out that being information literate was a welcome advantage during their industrial attachment. It assisted to execute their duties efficiently. Lecturers and librarians agreed to this relationship by saying that IL is a requirement of lifelong learning thus enables

freedom of association, encourages entrepreneurship, helps serve as a problem-solving tool and allows ease in participation in civil society. There is a relationship between IL and socio-economic development as brought out by the findings of the study. IL is a requirement of socio-economic development as it helps one have access to and know how to use the required information even in the job industry.

Students also said that they are now able to communicate, share and distribute information with the advent and use of social media (such as Facebook, Whatsapp, Twitter, LinkedIn). This can be information about job and business opportunities.

4.6 Challenges Faced by Students in Obtaining Information Literacy

- The lack of up to date information due to stocking of outdated information sources.
- Poor or at times lack of internet connectivity when required.
- Excessive power cuts which are a nationwide problem.
- ICT Infrastructure is not enough therefore students have to take turns to use it.
- Information overload and students being overwhelmed by too much information.
- Computer illiteracy due to minimum exposure to ICTs

Librarians brought out the following challenges:

- Inadequate and/or outdated material because there were not enough funds to acquire up to date materials.
- Inability, on the part of the students, to use e-resources as well as understanding the cataloguing systems used by the libraries.
- Some students miss orientation sessions and therefore have difficulties in using the information resources that are offered by the libraries.

Lecturers stated the following as challenges:

- Students who are computer illiterate find it hard to use ICTs and other e-resources offered by the institutions of learning.
- Most students are not aware of the copyright law and thus commit a lot of plagiarism which is a crime in IL.
- Use of unreliable websites such as Wikipedia for research. Thus some students still fail to gauge the authenticity of information that they come across on the internet.

Students in tertiary institutions face a variety of challenges in acquiring IL skills. If these challenges are overcome then students could indeed become information literate and contribute to as well as benefit from this information society.

5.0 Conclusions

Students do recognise that IL is an important prerequisite of decision making in all areas of life such as economically, socially and academically. Therefore, Information Literacy plays a vital role in ensuring socio-economic development for students in tertiary institutions in particular and the nation at large. It works as an interactive, contextual learning opportunity that teaches students how to be independent, critical and active learners. This being due to the fact that Information Literacy enables students to have access to and retrieve the information that they need to make decisions socially and economically. Such decisions concern the education, literacy, employment, entrepreneurship, health, investment, security and participation in civil society. However the students in tertiary institutions face quite a number of challenges in obtaining the goal of being information literate. Among these challenges is the shortage or at times lack of the specific required information; shortage of Information Communication Technologies (ICTs) infrastructure; information overload and computer illiteracy. In that regard, even though most students are fully utilising IL for their socio-economic development, some (14%) are still being left behind on this basic necessity in today's competitive information age because of being computer illiterate. This negatively affects their performance in their studies; hinders their marketability in the job market as well as becoming an obstacle to their information needs. Therefore, as stated in the recommendations, more still needs to be done to ensure that students are information literate so that they develop themselves and in turn develop the nation as a whole. Thus, it can be concluded that IL is crucial to effective learning and socio-economic development in the 21st century for the youth.

6.0 Recommendations

There is need by authorities in tertiary institutions to ensure sufficient ICT infrastructure to enable the delivery of IL to all students enrolled in their institutions. This involves making sure

that there are enough computers with good internet connectivity in order to meet the information needs of their students.

Librarians should plan to have workshops, other than the basic orientation to libraries for first year students. These workshops should be done to train small manageable groups of students on Information Literacy Skills as well as emphasizing on copyright and plagiarism issues. These can be done as per departments. This ensures that the special needs and concerns of students in that particular group are catered for.

More strict punitive measures are to be put for students who plagiarise so that they learn early the importance of copyright law in dealing with information.

Universities can also introduce bridging courses in computer literacy in order to cater for students who reach tertiary level while computer illiterate and carry out that illiteracy until they finish their studies as they experience challenges when it comes to the technological aspects of IL.

Considering the undisputed importance of IL in this information age, the Ministry of Primary and Secondary Education together with teachers and information specialists should consider introducing information literacy skills in the curriculum for secondary education. This will ensure that by the time students come for their tertiary education they are not only computer literate but information literate as well.

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Information Literacy and Socio-Economic Development in Malawi: Education Systems and Their Influence on Shaping the Future of the Nation

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Abstract

This paper focuses on Information Literacy (IL) as a catalyst to the promotion of education quality in Malawi vis-à-vis its contribution to the socio-economic development of the country. It examines the role of IL on the education system and the need for its integration across the school curriculum. The paper also investigates how IL can assist in developing lifelong skills and looks at how it can prepare teachers to teach pupils/students to become critical thinkers, intellectually curious observers, creators, and users of information. The paper also explores the role of Information and Communication Technologies (ICTs) in promoting IL skills among primary and secondary school pupils/students. In the end the paper scrutinizes the role the library and information science (LIS) profession is playing in promoting IL among all sectors of the Malawian society.

Keywords: *Information Literacy; Education Quality; Education Systems; Education Policy and Planning; Socio-Economic Development; Information and Communications Technology*

Introduction

Education is in every sense one of the foundation of development of a nation, the groundwork on which much of our economic and social well being is built (Ozturk, 2001). Educational systems, for the most part, reflect the socio-economic structures of the societies in which they function as they propagate, strengthen and even replicate those economic and social structures (Ozturk, 2001). Questions abound as to whether our education system is doing enough to shape the future of the Malawi nation if the low quality of education and lack of entrepreneurial skills among the youth is anything to go by. This paper, therefore, sets out to establish the contribution of the education system and IL in promoting education quality and to the socio-economic development of the country.

Statement of the Problem

The broad policy of education in Malawi is to develop an "efficient" and high quality system of education of a type and size appropriate both to the available resources and to the political, social and economic aspirations of the nation (MoE & UNECO, 1996). Contrary to this, the quality of education is generally poor based on the Junior Certificate of Education (JCE) and Malawi School Certificate of Education (MSCE) examinations results over the past 20 years. The worst was 2008 and 2000 which produced a 44.9% and 20.5% pass rate

respectively (Education Statistics, 2000 & 2004 - 2009).

Coupled with this, is the fact that our education system is exam-oriented and, therefore, unable to generate products that meet industry needs as well as impart entrepreneurial skills among the youth of the country. Although several factors are said to contribute to this, it is an undisputed reality that our education system lacks the ingenuity to raise the quality of education that should equip citizens with requisite IL competencies enabling them to actively participate and contribute effectively to the socio-economic development of the country. The paper, therefore, seeks to provoke debate on the need to inculcate IL skills in pupils/students as well as society at large.

Scope of the Study

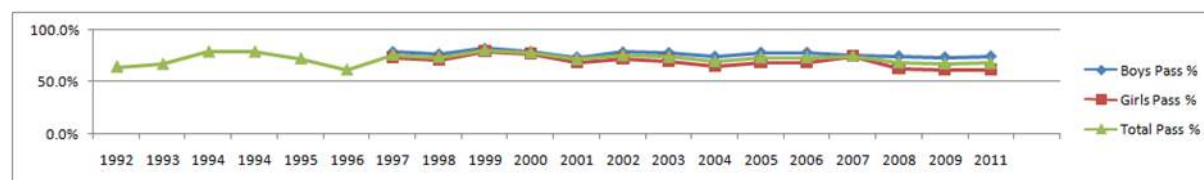
The study was conducted on some selected individuals and institutions in the education and the LIS sector in some parts of the country including College of Medicine (COM) Library, Malawi Institute of Education (MIE), Malawi National Library Service (MNLS), Lilongwe University of Agriculture and Natural Resources (LUANAR), Ministry of Education, Science and Technology (MoEST) and National Commission for Science and Technology (NCST) Documentation and Information Centre.

Table 1.1: Showing Primary School Leaving Certificate Examination Results 1992 – 2011

Year	Entered			Passed			% Pass		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1992			93434			60418			64.7%
1993			97600			65535			67.1%
1994			103833			82288			79.3%
1995			116992			84956			72.6%
1996			120881			74644			61.7%
1997	80997	47295	128292	64084	34839	98923	79.1%	73.7%	76.4%
1998	57320	34473	91793	44100	24587	68687	76.9%	71.3%	74.1%
1999	80475	50969	131444	66239	40257	106496	82.3%	79.0%	80.6%
2000	84188	54858	139046	66731	42271	109002	79.3%	77.1%	78.4%
2001	82218	53964	136182	60652	37190	97842	73.8%	68.9%	71.8%
2002	76681	55539	132220	60381	40155	100536	78.7%	72.3%	75.5%
2003	76436	54532	130968	59793	38357	98150	78.2%	70.3%	74.3%
2004	77794	56488	134282	58079	36711	94790	74.7%	65.0%	69.8%
2005	80275	59423	139698	63030	40884	103914	78.5%	68.8%	73.7%
2006	83873	63740	147613	65853	43948	109801	78.5%	68.9%	73.7%
2007	91665	61912	153577	69563	46107	115670	75.9%	74.5%	75.2%
2008	107331	84886	192217	80423	53206	133629	74.9%	62.7%	68.8%
2009	111429	89626	201055	82426	55421	137847	74.0%	61.8%	67.9%
2011	111419	94320	205739	83396	58250	141646	74.8%	61.8%	68.3%

Source: Education Statistics 1992 - 2011

Figure 1.1: Graph Showing Primary School Leaving Certificate Examination Results 1992 – 2011



Objectives of the Study

Specifically, the objectives of the study were to:-

- establish whether or not the country's education system is contributing positively to the quality of education vis-à-vis to the socio-economic development;
 - examine the role of IL on the socio-economic development of Malawi;
 - explore the role of ICTs in promoting IL skills among primary and secondary school pupils/students; and
- scrutinize the role the LIS profession is playing in promoting IL skills in all sectors of society.

Aligned with these objectives, several questions were posed relating to the country's education systems, quality of education, IL, socio-economic development, ICTs and the LIS profession.

Significance of the Study

The study will be very significant in that the results will help the education sector appreciate the importance of IL in improving education quality and its contribution to the socio-economic development of the country. The results will also help the LIS profession devise strategies that can facilitate in sharpening of IL skills in all sectors of the Malawian society.

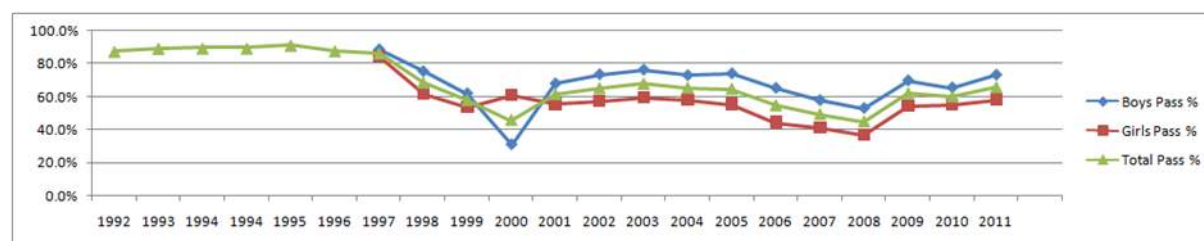
Limitations of the Study

Time was a limiting factor to the study as only two months were allocated for the study. This meant that many institutions were not able to grant permission to the researchers in good time and this also prohibited the researchers to administer questionnaires to personnel in all the proposed institutions in the country and at the same time respond-

Table 1.2: Showing Junior Certificate Examination Results 1992 – 2011

Year	Entered			Passed			% Pass		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1992			8525			7450			87.39%
1993			10128			9047			89.33%
1994			10315			9225			89.43%
1995			11407			10402			91.19%
1996			13453			11797			87.69%
1997	2361	1857	4218	2094	1563	3657	88.69%	84.17%	86.43%
1998	44473	29649	74122	33526	18352	51878	75.39%	61.90%	68.64%
1999	48883	31179	80062	30309	16774	47083	62.00%	53.80%	57.90%
2000	46498	34803	81301	14422	21222	35644	31.02%	60.98%	46.00%
2001	39969	27182	67151	27173	15066	42239	67.99%	55.43%	61.71%
2002	39858	30321	70179	29317	17299	46616	73.55%	57.05%	65.30%
2003	40078	30276	70354	30596	18047	48643	76.34%	59.61%	67.97%
2004	45884	34175	80059	33507	19806	53313	73.03%	57.95%	65.49%
2005	48456	35899	84355	35918	19884	55802	74.12%	55.39%	64.76%
2006	48143	38123	86266	31434	16952	48386	65.29%	44.47%	54.88%
2007	59944	49943	109887	34691	20482	55173	57.87%	41.01%	49.44%
2008	63728	56608	120336	33808	20859	54667	53.05%	36.85%	44.95%
2009	60834	54816	115650	42486	29844	72330	69.84%	54.44%	62.14%
2010	62895	55681	118576	41229	30500	71729	65.55%	54.78%	60.16%
2011	65403	55265	120668	47932	32226	80158	73.29%	58.31%	65.80%

Source: Education Statistics 1992 -2011

Figure 1.2: Graph Showing Junior Certificate Examination Results 1992 - 2011

ents did not have adequate time to do so. The other major limiting factor was funding which prohibited the researchers visit all the targeted institutions.

Literature Review

2.1 Education Systems, IL and Education Quality

Education is defined as an act or process of imparting or acquiring general knowledge, developing the powers of reasoning and judgement, and generally preparing oneself or others intellectually for mature life (m.dictionary.com). The introduction of free primary education (FPE) in 1994 increased access to primary as well as secondary

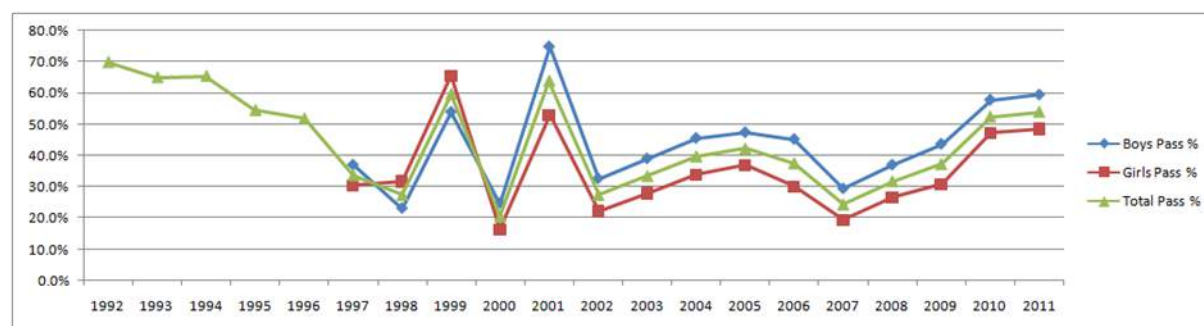
education, and created educational opportunities for many children. But, it simultaneously placed additional stress on an education system that was already weak in terms of human and financial resources (Ng'ambi, 2010), leading to poor and deteriorating quality of education. Furthermore, Malawi's education system is seen to be exam-oriented and therefore not relevant to the needs of industry and not able to impart entrepreneurial skills among the youth (Ng'ambi, 2010). A good education would ultimately equip individuals with requisite IL competencies thereby improving job performance, social lifestyles and political participation (Gitonga, 2010). IL is defined as a set of abilities requiring individuals to "*recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information*" (ALA, 2000). Enhancing IL among stu-

Table 1.3: Showing Malawi School Certificate Examination Results 1992 - 2011

Year	Entered			Passed			% Pass		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1992			8050			5629			69.9%
1993			8898			5790			65.1%
1994			9115			5969			65.5%
1995			8482			4633			54.6%
1996			12243			6354			51.9%
1997	2952	2084	5036	1091	636	1727	37.0%	30.5%	33.7%
1998	27516	15626	43142	6335	4966	11301	23.0%	31.8%	27.4%
1999	28227	14532	42759	15216	9524	24740	53.9%	65.5%	59.7%
2000	26135	15457	41592	6455	2530	8985	24.7%	16.4%	20.5%
2001	10592	5791	16383	7925	3073	10998	74.8%	53.1%	63.9%
2002	40409	25235	65644	13154	5612	18766	32.6%	22.2%	27.4%
2003	36704	22376	59080	14302	6246	20548	39.0%	27.9%	33.4%
2004	39919	25731	65650	18176	8739	26915	45.5%	34.0%	39.7%
2005	49427	31935	81362	23412	11823	35235	47.4%	37.0%	42.2%
2006	45922	32602	78524	20735	9775	30510	45.2%	30.0%	37.6%
2007	69497	48067	117564	20396	9288	29684	29.3%	19.3%	24.3%
2008	66846	47419	114265	24706	12647	37353	37.0%	26.7%	31.8%
2009	100706	74609	175315	43942	23075	67017	43.6%	30.9%	37.3%
2010	39842	28800	68642	23017	13604	36621	57.8%	47.2%	52.5%
2011	58745	43943	102688	34912	21334	56246	59.4%	48.5%	54.0%

Source: Education Statistics 1992 - 2011

Figure 1.3: Graph Showing Malawi School Certificate Examinations Result 1992 - 2011



dents requires that teachers themselves become IL and is a key strategy to achieving a multiplier effect: from IL teachers to their students and eventually to society at large (Wilson & et al, 2011), hence the need for introducing an IL curriculum for teachers. An IL curriculum is relevant in both print and electronic media, thus, the training of IL [to] teachers should not be seen as reserved only for those with access to advanced technologies as is equally applicable in contexts where use of advanced technologies is limited (Wilson & et al, 2011).

Education, IL and ICT

TechTerms.com defines ICT as technologies that provide access to information through telecommunications. In 2002, the UK's Department for International Development (2002) as quoted by Masperi & Hollow (2008) concluded that when 'properly deployed, ICTs have enormous potential as tools to increase information flows and empower poor people'. The rest of the world is refocusing its education in line with this through ICTs (Semenov, 2005 as quoted by Gitonga, 2010) and IL is the bedrock of this progression. In her blog, Sung (2013) quotes studies by Bruce (2004) and info-

Dev (2010) as having shown a strong link between the use of ICTs and IL education that features active learning, a learner-centred approach, collaborative learning, and process-orientated learning.

In addition, the promotion of resource-based learning (University of Leeds, 2002) highlights the importance of developing students' information skills through integration of ICTs in primary and secondary curricula (Sung, 2013). Ubiquitous technologies like mobile phones, videos and gaming are either replacing or supplementing existing technologies, becoming useful in building IL through interfaces that better engage younger users or introducing interactivity into IL courses (Godwin, 2009; de Kock, 2010; Van Meegen & Limpens, 2010). Additionally, since the advent of Library 2.0, the information environment has changed dramatically, becoming increasingly dominated by the social and the mobile (ALA, 2014).

Education, IL and Socio-Economic Development

Education, particularly at the primary level, has long been regarded as an essential input of social and economic development (Kelly, 2011). Education plays a key role in determining how you spend your adult life – a higher level of education means higher earnings, better health, and a longer life; by the same token, the long-term social and financial costs of educational failure are high – those without the skills to participate socially and economically generate higher costs for health, income support, child welfare and social security systems (Kelly, 2011). The purpose of IL, as seen in the peoples' ability to operate effectively in an information society, is to impart knowledge to users and The Prague Declaration of 2003 describes IL as "key to social, cultural and economic development of nations and communities, institutions and individuals in the 21st century" and declared its acquisition as "part of the basic human right of

life long learning".

IL and the LIS Profession

IL has been gaining interest in certain circles in African countries, but these circles have been somewhat small, mostly within libraries in higher education institutes and research institutes (IDS & ITOCA, 2010). This is not surprising because libraries are better placed and in particular have had strong incentives to stay up to date with changes in the information landscape and know how to find and use information within it (IDS & ITOCA, 2010). Like basic literacy skills and reading, IL is a natural fit for public libraries and as pupils/students need their own internal navigation systems to manage the information rich environment that now surrounds them, academic and school librarians are the natural in-house experts for teaching pupils/students and teacher/faculty colleagues how to find, evaluate and use information effectively (Andy, 2006).

Thus, libraries and librarians are called upon to take a leading role in championing IL. However, the need to develop strategies to embed IL programmes institution-wide, not just in libraries, is being emphasised as this approach not only fits with theoretical conceptions that take political and cultural dynamics into consideration, but is also important at a practical level (IDS & ITOCA, 2010).

Research Methodology

A mixed-methods approach - questionnaires and document analysis - was used for this study. Samples for qualitative and quantitative data for questionnaires were collected from individuals in the education and the LIS sectors. Non-numerical data from questionnaires and documents was organised through a rigorous qualitative manual analysis. Quantitative data was organised and analysed using Statistical Package for Social Sciences (SPSS).

Table 3.1: Summary of the Study Group

Study Group	Population Size	Sample Size	(%)
Ministry of Education, Science & Technology	126	75	59.5
Malawi Institute of Education	11	7	63.6
LUANAR Library	13	4	30.8
College of Medicine	11	6	54.5
NCST Documentation & Library Services	10	6	60.0
National Library Service	21	7	33.3
Total	192	105	54.7

Table 3.2: Showing Response Rate

Study Group	Research Sample	No. of Responses	Response Rate
Ministry of Education	75	55	73.3%
Malawi Institute of Education	7	3	42.9%
LUANAR Library	4	2	50.0%
College of Medicine Library	6	2	33.3%
NCST Documentation & Library Services	6	2	33.3%
National Library Service	7	3	42.9%
Total	105	67	63.8%

Table 4.1: Frequency Distribution of Responses on Education Systems, Education Quality and Socio-Economic Development

No	Education	Yes		No		No Idea		No Response		n
		Freq	%	Freq	%	Freq	%	Freq	%	
1	Do education systems have an impact on the quality of education?	55	100.0%	0	0.0%	0	0.0%	0	0.0%	55
2	Do you agree with the assertion that the country's quality of education has gone down?	46	83.6%	6	10.9%	3	5.5%	0	0.0%	55
3	Can education contribute to the socio-economic development?	55	100.0%	0	0.0%	0	0.0%	0	0.0%	55
4	Do you agree that education system is exam-oriented and therefore not doing enough to shape our future?	45	81.8%	10	18.2%	0	0.0%	0	0.0%	55

Purposeful sampling was used as members were selected on the basis of their ability to provide the needed information and it was based on the researchers' judgement.

Analysis and Discussion of Findings

4.1 Education Systems, Education Quality and Socio-Economic Development

4.1.1 Education Systems and Education Quality

100% of the respondents agreed that education systems have an impact on education quality citing the introduction of FPE as a classical example of a good initiative that created educational opportunities for many children, but due to lack of proper implementation, monitoring and supporting mechanisms, it is compromising the quality of education services.

4.1.2 Lowering Education Quality

83.6% of the respondents were in agreement with the assertion that the country's education standards have indeed gone down, 10.9% believed the quality of education is on track while 5.5% had no idea. Those in agreement felt that efforts are being made to provide access to education while at the same time improve the quality of education

and from time to time the Malawi Government come up with plans for developing the education system, but such plans are not properly funded to produce results. Those against felt lower pass rates alone were not enough indication of lowering education quality.

4.1.3 Education Systems and Socio-Economic Development

100% of the respondents agreed that education is catalyst to socio-economic development because they felt knowledge helps a person to reason and apply skills which were acquired from education. They said education is the key to any type of development and that educated people are able to make informed decisions most of the times based on evidence and sound judgement.

4.1.4 Is Our Education Systems Only Geared Towards Exams?

81.8% agreed to the contention that our education system is indeed exam-oriented and therefore not doing enough to shape the future of the nation while 18.2% disagreed. Those in agreement argued that students are interested in memorising to pass examinations not to acquire life-long skills. They also said that most students graduate with the mentality to get employed and not to create their own jobs and employ others mainly because

Table 4.2: Frequency Distribution of Responses on Education, IL and Socio-Economic Development

No	Education, IL and Socio-Economic Development	Yes		No		No Idea		No Response		n
		Freq	%	Freq	%	Freq	%	Freq	%	
1	Do you agree that IL can help improve the quality of education?	65	97.0%	2	3.0%	0	0.0%	0	0.0%	67
2	Do you agree that IL is crucial to the socio-economic development of any country?	63	94.0%	4	6.0%	0	0.0%	0	0.0%	67
3	Can lifelong skills be developed by IL skills through resource-based learning?	61	91.0%	6	9.0%	0	0.0%	0	0.0%	67
4	Would you support the idea of introducing IL into the teacher-training curriculum?	64	95.5%	3	4.5%	0	0.0%	0	0.0%	67
5	Can IL help prepare teachers to teach pupils/students to become critical thinkers?	63	94.0%	1	1.5%	3	4.5%	0	0.0%	67

the schools' emphasis is not on imparting the students with entrepreneurial skills but for them to pass exams with good grades. Those opposing argued that examinations are part of any education system and are used to measure students knowledge and skills in various subjects. They also argued that a school's excellence is measured by the pass rate during national examinations rather than what the students are able to do after school.

4.2 Education, IL and Socio-Economic Development

4.2.1 IL and Quality of Education

97% of respondents were in agreement that IL can contribute to quality improvement in education while 3% disagreed. Those in agreement were of the opinion that IL has a positive effect on the education system as it enables learners to access and use information resources effectively. They also said that IL equips users with life-long information searching/retrieval and problem-solving skills; improve performance in assignments; as well as help them excel in examinations. They indicated that high quality research often times depends on high quality literature which can be found and used effectively if a person has IL skills and that learning is more meaningful if supported by other literature. Those in disagreement felt that there are other factors apart from IL that can effectively contribute to quality improvement in education.

4.2.2 IL and Socio-Economic Development

94% of the respondents agreed that IL is very crucial to the socio-economic development of any nation while 6% disagreed. Those in agreement contended that IL improves the quality of education, knowledge and skills that are required for personal development that eventually feeds into the socio economic development of the country. They observed that IL people continuously learn

and, therefore, are likely to remain relevant with any changes in society and development and that information is regarded to be necessary for the development of any country and hence its correct use is crucial. Those in disagreement argued that IL alone cannot help achieve socio-economic development but has to be supported by other mechanisms.

4.2.3 Development of IL Skills Through Resource-Based Learning

91% of the respondents were in agreement with the fact that IL skills can be developed through resource-based learning while 9% disagreed. Those in agreement asserted that current thinking in education advocates for hands-on, student-centred or experiential learning, which is more effective than banking on approaches to teaching. They argued that giving students more responsibility for their own learning is a promising avenue for improving the quality of education and would have a positive impact on the education system in Malawi since students will be independent and be equipped with skills to search and retrieve information, hence no spoon feeding. They also felt that there will be a complete overhaul from exam-oriented type of learning to development of skills for entrepreneurship. Those in disagreement said our schools are not properly resourced, hence not able to support such an approach.

4.2.4 IL and the Teaching Curriculum

95.5% of the respondents supported the idea of introducing an IL curriculum into the teacher-education system while 4.5% were not in support. Those in support argued that all innovations that are targeted at the classroom or school level must also target the teacher training curriculum so that graduates of the TTCs are no strangers to innovations that abound in schools on the ground. They looked at these as tools to enhance the quality of teacher training in TTCs thereby providing a posi-

tive multiplier effect on the benefits of IL. To achieve this, they proposed that appropriate pupil/teacher ratio, supply of textbooks, optimum teacher proficiency in terms of pedagogical and content knowledge, and continuing professional development of teachers should be ensured.

Those against argued that fusing IL into the curriculum is not an end itself, but a means that needs to be supported by other pertinent factors.

4.2.5 Teachers' Role in Imparting Critical Thinking Skills in Pupils/Students

94% of the respondents agreed teachers can help pupils/students become critical thinkers, intellectually curious observers, creators and users of information, 1.5% disagreed while 4.5% had no idea. Those in agreement said the rigours or motions of interacting with various sources of information have capacity to bring about critical thinking and creativity in the use of information. They also said independence in looking for information and reduced spoon feeding will encourage learners to think outside the box and act differently. Those against felt students in our society still rely on what is entrenched in our education system and also because our curriculum is exam-oriented it would be a tall order for teachers to fulfill this role.

4.3 Education, IL and ICT

4.3.1 The Role of ICT in Promoting IL Skills

88.1% of the participants agreed that ICT can play a role in promoting IL while 11.9% disagreed. Those in agreement said being an enabler, ICT will quicken and ease the process of promoting IL among the teachers and learners. They also felt that a multi-media approach which includes use of ICT can surely be the way forward because mod-

ern learners are already into ICT through use of ipads, cell phones, computers and other gadgets and so to subject them to the traditional ink and paper when introducing them to innovation can be quite retrogressive. Further, they said ICT provides a wide range of possibilities for accessing and managing information and that they are the common mode of information transfer and sharing nowadays. Those in disagreement felt that ICTs have not yet proliferated enough to support this kind of thinking.

4.3.2 ICT, IL Education and Process Oriented Learning

85.1% of the respondents agreed to the fact that there is a link between the use of ICTs and IL education that features active learning, a learner-centred approach, collaborating learning and process-oriented learning. They felt that this approach has one denominator: the focus on the learner's ability to engage with their own learning, thus making learning not only the ability to unveil reality but also the ability to create or re-create knowledge. The other 14.9% had no idea claiming they had never come across any literature or link so far but said there is a possibility.

4.3.3 Integration of ICT in the Education Curriculum

88.1% of the respondents felt that in promoting resource-based learning, it was important to develop students' information skills through integration of ICT into the education curriculum since it is the first point of call for information for the student, 9.0% felt it was not important while 3.0% had no idea. The proponents said that any knowledge and skills that target the student need, first and foremost be placed in the curriculum before they are placed anywhere else. They also felt

Table 4.3: Frequency Distribution of Responses on the Role of ICT on Education and IL

No	Education, IL and ICT	Yes		No		No Idea		No Response		n
		Freq	%	Freq	%	Freq	%	Freq	%	
1	Can ICT play a role in promoting IL skills among pupils/students?	59	88.1%	8	11.9%	0	0.0%	0	0.0%	67
2	Is there a link between the use of ICTs and IL education and process-orientated learning?	57	85.1%	0	0.0%	10	14.9%	0	0.0%	67
3	Is it important to develop students' IL skills through integration of ICTs in the education curricula?	59	88.1%	6	9.0%	2	3.0%	0	0.0%	67
4	Would mobile telephony be used to leapfrog or supplement either non-existent or existing technologies?	55	82.1%	10	14.9%	2	3.0%	0	0.0%	67
5	Would old technologies like video be employed in new ways to better engage young learners?	52	77.6%	15	22.4%	0	0.0%	0	0.0%	67
6	Would gaming technologies be useful in building IL skills through interfaces that better engage young users?	61	91.0%	4	6.0%	2	3.0%	0	0.0%	67

Table 4.4: Frequency Distribution of Responses on the contribution of the LIS profession on IL

No	IL and Library/Information Profession	Yes		No		No Idea		No Response		n
		Freq	%	Freq	%	Freq	%	Freq	%	
1	Does the institution have an information literacy programme in place?	6	50.0%	3	25.0%	3	25.0%	0	0.0%	12
2	Does the institution intend to implement IL Programme?	7	58.3%	3	25.0%	2	16.7%	0	0.0%	12
3	Did you go through an IL course during your LIS Programme?	5	41.7%	7	58.3%	0	0.0%	0	0.0%	12
4	Was the course enough to equip you with the necessary IL skills?	6	50.0%	3	25.0%	0	0.0%	3	25.0%	12
5	Would you favour the idea of embedding information literacy programmes institution-wide?	12	100.0%	0	0.0%	0	0.0%	0	0.0%	12
6	Is the library and information profession playing any role in promoting IL in all sectors of the society?	11	91.7%	0	0.0%	1	8.3%	0	0.0%	12

that integration of ICT's would simplify the process of promoting resource based learning as ICT is an enabler, but warned that such placement should be done in such a way that they blend very well with the existing curriculum to avoid redundancies and overloading of the curriculum. Those in disagreement felt that the education curriculum is already overloaded and therefore the integration of ICT would further bring unnecessary strain.

4.3.4 Mobile Telephony and IL

82.1% of the respondents felt mobile telephony would leapfrog or supplement either non-existent or existing technologies that are underperforming due to infrastructure bottlenecks or other reasons, 14.9 disagreed while 3% had no idea. Those in agreement said as most students have mobile phones and their use being trendy amongst the youth, the feasibility of using such an avenue would be quite great. Others felt that their implementation should be gradual because there is need for both exam-oriented and resource-based approaches currently as a total shift to a new system would be impractical due to resource constraints that may deny others access to new technologies. Those in disagreement felt that there are already burning issues regarding phone usage by students and introducing them will only fuel the matter.

4.3.5 Video and Learning Instruction

77.6% of the participants indicated that old technologies like videos could be employed in new ways to better engage young learners as they still remain effective media of instruction to young learners as they can be used to target many learners at the same time and can be manipulated to allow for piece-meal instruction. They believe that what people see is difficult to be forgotten, so the use of video can be the better way of letting young learners gain IL skills. 22.4% proposed con-

version of these into modern technologies for wider accessibility because young learners use modern technologies that are familiar with and are able to use.

4.3.6 Usefulness of Gaming Technologies in Building IL Skills

91% of the respondents agreed that gaming technologies would be useful in building IL skills in young learners as they love all kinds of games, 6% disagreed while 3% had no idea. Those in agreement believed that students may not only learn the concepts but also learn them quite joyfully, which is what is also being advocated for in modern times. They pointed out that such a strategy could be useful since as they play games, students will be forced to think effectively as they will be competing for points. Those not in favour felt that students might be tempted to overdo the games and therefore lose interest in other equally important subjects.

4.4 The LIS Profession and IL

4.4.1 IL Programmes in Libraries

50% of the respondents said their library had an IL programme in place, 25% had none while another 25% had no idea. The IL programmes were done through the provision of relevant resources and administration of user education in IL skills.

4.4.2 Implementation of IL Programmes in Libraries

58.3% said they intended to implement an IL programme by introducing internal/external courses/workshops as well as posting information on IL on institutional websites. 25% had not yet implemented 16.7% had no idea.

4.4.3 IL Courses

41.7% of the respondents indicated that they had gone through an IL course in their LIS programme while 58.3% had not. 50% of the respondents indicated that the IL course they undertook was enough to equip them with necessary IL skills as it covered all the necessary areas 25% said it did not because it only covered theory and not practical aspects while 25% did not respond as they had not undergone IL during their LIS programme.

4.4.4 Embedding IL Programme Institution-Wide

100% favoured the idea of embedding IL programmes institution-wide saying this would ensure that the programmes are owned by institutions and their implementation reinforced by authorities.

4.4.5 Role of the LIS Profession in Promoting IL

91.7% of the respondents indicated that the LIS profession is playing a crucial role in promoting IL across all sectors of the society while 8.3% had no idea. Proponents indicated that promotion is done through provision of IL training at Mzuzu University and libraries do orientate new users on how to effectively use the library services though that this alone is not enough.

Conclusion

In conclusion, education systems can promote education quality if accompanied by enabling innovations that can equip citizens with skills to participate and contribute effectively to the socio-economic development of the country. IL has been seen to be fundamental in the education system and a novel way of improving the quality of learning in Malawi, but serious thought should be given on how to resource the schools and sustain the developments so that such attempts to innovate are not superficial. Critical to the promotion of IL skills is the use of old and new ICTs and the LIS profession has a big role in promoting these among all sectors of the Malawian society.

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Assessment of Information Literacy Skills of Students Studying Towards Malawi Library Certificate of Library and Information Sciences

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Abstract

This paper seeks to report the results of a case study on the assessment of information searching skills possessed by students studying towards a Malawi Library Certificate of Library and Information Sciences (MALA certificate). Specifically the paper determines the students' information literacy skills by using the five themes of Information Literacy developed by Mittermeyer (2005) which are based on the Information Literacy Standards of Higher Education Learning by Association of College and Research Libraries (ACRL): concept identification, search strategy, document types, search tools and use of results. During 2013 learning session, the students were asked to fill a self administered close ended questionnaire at the beginning of their studies. The results of the questionnaire were analysed and tabulated using Microsoft SPSS. The study indicates that students performed poorly in all the themes under study with students providing the best practice or correct answer ranging from 0%-32.5% for the most variables, sixteen out of twenty variables under test, a relatively low level of skill which can not enhance effective and efficient use of information to enhance social economic development of a country.

Keywords: *Information Literacy; Assessment; MALA*

Introduction

Over the past two decades, technology has enriched the social and financial conditions of many countries. The tools have advanced at a rapid pace, transformed every public and private sector, and produced limitless potentials. Yet, the celebration is limited to developed countries; technology advancement leaves a wider digital gap between developed and developing countries (Ebrahimian, 2003: 93). Likewise, the proliferation of technology in libraries has seen libraries changing in the ways they acquire, process, organise and provide access to the information. As most libraries are now being automated and the information itself is becoming more digitised and electrical, libraries are no longer just providing reading spaces for its users but are also acting as gateways to information which is available on the internet beyond the library walls. The libraries are providing access to subscribed electronic resources, institutional repositories and databases. Believing that the ability to locate, access, and evaluate information is essential in closing the gap between the information rich and the information poor, many academic libraries have adopted information literacy (IL) as their instructional framework (Project SAILS, 2012). Ellis-Barret (2009) emphasises that IL instruction enables students to understand the most effective methods of finding the information that they require to study effectively.

Academic libraries, therefore, use IL assessment tools to identify their student information needs. Vezzosi (2006) reiterates that if information specialists are to plan an information literacy programme that reflects on the students' needs, stu-

dents' knowledge, skills and attitudes towards information seeking, their experience of the research process should be explored at the start of the learning activity or an information literacy training. Some of the IL assessment tools which have been used to assess IL skills include: Standardised Assessment of Information Literacy Skills (SAILS) developed by Kent State University, Educational Testing Service (ETS) iSkills Assessment, Information Literacy Test (ILT) by James Madson University, Tool for Real-time Assessment of Information Literacy Skills (TRAILS), Beile Test of Information Literacy for Education (ILAS-ED) and Information Literacy Questionnaire from the Conference of Rectors and Principals of Quebec Universities which this study has adopted (Lym, Grossman, Yannotta, and Talih, 2010).

The study sought to assess the students' ability to retrieve, process and evaluate information for their academic needs. Being the students who were studying towards a Certificate in Library and Information Science and who would one day be employed by institutions of higher learning and would assist the students searching for information, the researcher believed that by exposing the students at the on set of their studies to the practical problems that library users meet in their day to day life that would stimulate learning and critical thinking which are essential aspects of lifelong learning as desired by higher education objectives. Moreover it is the responsibility of librarians to guide students in understanding how to search databases efficiently and also evaluate the resources (Chen, Lin and Chang, 2011: 519). Nyamboga (2004) also stresses that the library staff should possess a number of competencies since they need to assist

users to know about knowledge in books, journals and electronic media. The questionnaire was also aimed to assist with devising a new approach of teaching the students the topic of information literacy in the perspective of learners information needs.

The research questions that guided the study were:

- How do students select concepts in their search strategy?
- How do students formulate a search statement?
- What is the understanding of students of the different document types that they use when searching information?
- What search tools do the students know that can be used for searching information?
- How do students use the results obtained from the catalogue, databases or internet?

Context of Study

The Malawi Library Association (MALA) which was founded in 1976 and inaugurated in 1977 has provided library training at non-graduate certificate level to over 600 Malawians since 1979 (Uta, 2005). The number of graduates in 2013 exceeded 900. Uta (2005) further states that professional education and training in Malawi had always been one of MALA's main objectives, and unlike practitioners in most other countries in recent decades, senior librarians designed the certificate curriculum and did the actual teaching. Up until 1999 when Mzuzu University accepted its first learners, MALA had been the only accredited corporate body that had provided training on Library and Information Science. Mzuzu University now offers Diploma in Library and Information Science and a Bachelor of Science in Information and Communication Technology, the latter being the highest level qualification in the information field in Malawi at present. The students studying a non graduate certificate have been hosted at University of Malawi, Chancellor College Library. In order to equip library trainees to better assist users once they are employed in the academic and public libraries in Malawi, the students are taught information literacy as one of the topic of the programme.

Information Literacy

The definition of Information Literacy and the need for it has been identified by a variety of organisations. Doyle (1992) in Shoeb, (2011) defines information literacy as the ability to access, evaluate and use information from a variety of sources.

But the most cited and popular definition in literature is the definition by the Association of College and Research Libraries' Information Literacy Standards for Higher Education (ACRL, 2000) which describes information literacy as a set of abilities requiring individuals to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information. Much literature emphasise on information literacy as a basis for life long learning (ACRL, 2000; Baro and Fyneman, 2009; Shoeb, (2011) which is essential for the information society which requires individuals who are prepared to find information on their own using new technologies for any task or decision at hand to solve their social, economic and environmental problems.

Being information literate is regarded as very essential to individuals as it enables them to: determine the extent of information needed; access the needed information effectively and efficiently; evaluate the information and its sources critically; incorporate selected information into one's knowledge base; use information effectively to accomplish a specific purpose and understand the economic, legal and social issues surrounding the use of information and access and use information ethically and legally (ACRL, 2000). As information literacy is being widely recognised as an integral part of the education process much debate is now on how it can be integrated into the curriculum (Mittermeyer 2005).

The Need for Information Literacy

A variety of information sources in this new age of information society calls for a better understanding of information searching process. Of recent, the internet has become one of the most used sources of information in the information society. Most students (83.3%) use search engines for classroom related activities (Biradar and Sampath Kumar, 2005 as cited in Sampath Kumar and Kumar, 2010). Whilst internet is regarded as an excellent resource of information, Bond (2004) argues that the major disadvantage of using Internet-based resources is the problem of locating good quality information from within the vast amount of information available. And she further stresses that if people are to be able to use the Web quickly and efficiently as an effective information retrieval tool, as opposed to a recreational tool to surf the Internet, they need to have both an understanding of the medium and the tools, and the skills to use them effectively. Shoeb (2011) found that the un-

dergraduates of business College of Independent University in Bangladesh required more competencies to solve information related problems as over (75%) lacked the information literacy skills. Maughan (2001) in Baro and Fyneman (2009) raised similar sentiments, in a study on information literacy at the University of California – Berkeley and concluded that, students think they know more about accessing information and conducting library research than they are able to demonstrate when put to the test, and that students continue to be confused by the elementary conventions for organising and accessing information. Similarly, in a study by Mittermeyer (2005) students were unable to recognise scholarly journals, and demonstrated a variety of problems, including distinguishing between library catalogues and bibliographic indexes, incorrect use of the Boolean “OR” operator, and difficulty recognising a citation to a journal article.

Information Literacy Training-Trent Example

More information specialists have taken a new approach of ensuring that students develop an in-depth understanding of information search skills. Based on the outcomes of the five standards of information literacy standards by the ACRL, in a study by Hicks (1998) an evidence based approach was used for a four- half day training which involved the development of information courses by Information Resource Centre at Trent which included literature searching, health information on the Internet, introducing the Cochrane Library and sources for clinical effectiveness. The objectives of the training were to allow participants to be familiar with:

- the process of developing a research question into an effective search strategy including the identification of keywords, concepts and synonyms;
- the techniques and skills required to conduct a database search including the use of a controlled language thesaurus, truncation, Boolean operators and explosion;
- the components of the Internet, such as electronic mail and the World Wide Web;
- the basic structure of, and methods of navigating, the World Wide Web;
- the types of information which were available

through the Internet;

the strengths and weaknesses of the Internet as an information resource;

the criteria which could be used to evaluate the quality of Internet-based information;

the examples of resources which could be used to find evidence to support research and practice; and

the techniques and skills needed to find resources on the Internet, including the use of information gateways, search engines and resource lists.

Information Assessment Tools– Some Examples

For researchers to develop an information skills programme which meets the information needs of researchers, students or lecturers, information specialist have used various tests. SAILS, ETS iSkills Assessment and Information Literacy Questionnaire are some of the tools that are used for assessment of IL in students.

The Project for Standardised Assessment of Information Literacy Skills (SAILS) is a Kent State University initiative to develop an instrument for standardised assessment of IL skills. The project started in 2001 and culminated in 2006 in the production version of the SAILS test of information literacy skills. SAILS’ is a standardised tool that is valid and reliable; contains items not specific to a particular institution or library but rather assesses at an institutional level; is easily administered; and provides for both external and internal benchmarking (Project SAILS, 2012). SAILS also allow for longitudinal testing thus the same group of students can be tested twice on entrance into College and at graduation (Lym et al., 2010).

Developed in 2001 by Education Testing Services, ETS iSkills Assessment (formerly ICT Literacy Assessment) is an Internet-based assessment of information literacy skills that rose in the context of technology. Just like SAILS, iSkills is a standardised test which allows librarians to assess students’ information literacy throughout the institution or among a large group, such as first-year students, and to compare group scores with national benchmarks (Lym et al., 2010). Katz (2007) explains that iSkills is an Internet-delivered assessment tool that measures students’ abilities to research, or-

ganise, and communicate information using technology. The assessment focuses on the cognitive problem-solving and critical-thinking skills associated with using technology to handle information. The assessment measures ICT literacy through the seven performance areas: definition (using ICT tools to identify and appropriately represent an information need), access (collecting and retrieving information in digital environments), evaluation (determining the degree to which digital information satisfies the needs of the task in ICT environments), management (applying an existing organisational or classification scheme for digital information), integration (interpreting and representing digital information), creation (generating information by adapting, applying, designing, or inventing information in ICT environments), and communication (sharing information properly in its contexts of use for ICT environments). According to Lym et al. (2010) both SAILS and iSkills are based on four of the five ACRL standards for information literacy.

Information Literacy Questionnaire from the Conference of Rectors and Principals of Quebec Universities which this study has adopted was developed in 2003. Unlike the SAILS project whose purpose was to develop a standardised instrument for programmatic level assessment of information literacy skills that was valid and thus credible to university administrators and other academic personnel (Mittermeyer 2005: 208), the information literacy questionnaire was student focused. The study was developed to determine whether students entering first-year undergraduate programs were well equipped to retrieve, process, and evaluate information. The study also targeted the province of Quebec. The study then developed themes based on the Information Literacy Competency Standards for Higher Education: Standards, Performance Indicators, and Outcomes by ACRL (ACRL 2000). On the basis of the five standards and the twenty two performance indicators, a limited number of research skills considered essential to the success of an information searching were identified. These competencies, so to speak, were linked to variables which were then grouped under five themes namely: Concept Identification, Search Strategy, Document Types, Search Tools and Use of Results (Mittermeyer, 2005: 211).

The Theoretical Framework

The study adopted a conceptual framework developed by Mittermeyer (2005) in (Table 1) which is rooted in the theoretical framework of the five

Table 1: The information Seeking Process

A. Defining the information need
↓
B. Formulating the research topic and Identifying the concepts
↓
C. Developing a search strategy
C. 1 "Mapping" the concept
C. 2 Selecting document types
C. 3 Selecting search tools
C. 4 Adapting the search statement
↓
D. Executing the search
↓
E. Using the results
E. 1 Locating and retrieving documents
E. 2 Evaluating information
E. 3 Citing sources

Source: Mittermeyer (2005:211)

Information Literacy Competency Standards of IL which were approved by the Board of Directors of ACRL in January 2000 (ACRL, 2000). The standards are:

(1) Standard one- The information literate student determines the nature and extent of the information needed.

Performance Indicators:

The Information Literate Student:

- defines and articulates the need for information;
- identifies a variety of types and formats of potential sources for information;
- considers the costs and benefits of acquiring the needed information; and re-evaluates the nature and extent of the information need.

(2) **Standard two-** The information literate student accesses needed information effectively and efficiently.

Performance Indicators:

The Information Literate Student:

- selects the most appropriate investigative methods or information retrieval systems for accessing the needed information;
- constructs and implements effectively designed search strategies;
- retrieves information online or in person using

a variety of methods;

- refines the search strategy if necessary; and extracts, records, and manages the information and its sources.

(3) **Standard three-** The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance Indicators:

The Information Literate Student:

- summarises the main ideas to be extracted from the information gathered; and
- articulates and applies initial criteria for evaluating both the information and its sources.
- Synthesises main ideas to construct new concepts.
- Compares new knowledge with prior knowledge to determine the value added, contradictions or other unique characteristics of information.
- Determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile the differences.
- Validates understanding and interpretation of the information through discourse with other individuals, subject area experts.
- Determines whether the initial query should be revised.

(4) **Standard four-** The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicators:

The Information Literate Student:

- applies new and prior information to the planning and creation of a particular product or performance.
- revises the development process for the product or performance. communicates the product or performance effectively to others.

(5) **Standard five-** The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicators:

The Information Literate Student:

- understands many of the ethical, legal, and socio-economic issues surrounding information and information technology;
- follows laws, regulations, institutional policies, and etiquette-related to the access and use of information resources; and
- acknowledges the use of information sources in communicating the product or performance.

Methodology

The study adopted a descriptive survey method. The study was done on 2013 MALA students Cohort who were studying towards a certificate in Library and Information Science hosted at University of Malawi, Chancellor College Library. The study population was 40 students studying the programme. According to Leedy (1997: 211) there is little point in sampling a population that is less than 100. Therefore, no sampling was involved in the present study. Being a research that used a data collection mechanism of distributing a self administered questionnaire which was completed in a class all the students participated in the survey in August 2013 and all the questionnaires were returned yielding a response rate of 100%.

The study used an Information Literacy Questionnaire from the Conference of Rectors and Principals of Quebec Universities developed by Diane Mittermeyer and Diane Quirion in 2003 in collaboration with the twelve information specialist. The information Literacy Questionnaire was selected as it has its foundation in the ACRL Information Literacy Standards for Higher Education which the researcher was familiar with and the questions were outcome based which was reflected in the themes developed. The research questionnaire was pre-tested on five students in their first year studying at University of Malawi, Chancellor College before it was distributed to the main study population.

The study used 20 questions in the questionnaire focused on the five themes identified by the Quebec University Studies. The five themes were: Concept Identification, Search Strategy, Document Types, Search Tools and Use of Results. The questionnaire of the study had questions on significant words, selection of keywords, Boolean operators "AND" and "OR", search indexes and controlled

vocabulary, document types, library catalogues, databases and search engines and questions on bibliographic reference/citation, bibliographies and evaluating the information found on the internet. The data from the questionnaire were entered and analysed using a Statistical Package for Social Sciences (SPSS) and Microsoft Excel.

Research Results and Discussion

The results of the study are discussed according to the five themes.

Demographics of The Study Population

A majority of the respondents were male 27

Table 2: Problems identified according to theme

Themes	Variable	Results of Each Question	Problems Identified
Concept Identification	Significant Words	Q4 (17.5%)	Problems in identifying significant words from problem statement
		Q8 (42.5%)	
		Q13 (0%)	
Search Strategy	Keywords	Q2 (32.5%)	Problems with refining a search statement
	Boolean Operator "OR"	Q9 (20%)	Incorrect use of Boolean Operators
	Search Indexes	Q11 (2.5%)	
	Controlled vocabulary	Q12 (12.5%)	
	Boolean Operator "AND"	Q16 (17.5%)	
Document Types	Encyclopedias	Q3 (30%)	In ability to define the characteristics of encyclopedia and scholarly journals
	Periodicals	Q15 (45%)	
	Scholarly Journals	Q20 (90.6%)	
Search Tools	Databases	Q1 (5%)	Unfamiliarity with search tools and search indexes
	Search Engines	Q6 (55%)	
	Library Catalogues	Q7 (2.5%)	
		Q14 (20%)	
		Q17 (52.5%)	
Use of Results	Reading Citations	Q5 (40%)	Inability to understand and use the results once they are retrieved.
	Bibliographies	Q10 (20%)	
	Evaluating Information	Q18 (57.7%)	
	Ethical Use of Information	Q19 (98.7%)	

(67.5%) and 13 (32.5%) were female. The age of the respondents ranged from 17 to 35. Of the 40 respondents, only 10 (25%) had previously worked in the library environment, 6 (15%) had worked as teachers, 13 (32.5%) had never worked before and 11 (27.5%) were employed on other jobs. All the respondents had a Malawi School Certificate of Education which was an entry requirement for the training program equivalent to entry qualification at the University.

Results according to the themes

Concept Identification

The study has shown that the students studying towards a MALA Certificate had problems in identifying significant words when conducting a search strategy which is Step B in the Information Research Process, "Formulating the Research Topic and Identifying Concepts". A majority of students failed to leave out unimportant terms when conducting a search with a few students opting for the best answers in all the three questions that were used on significant words, Q4 (17.5%), Q8 (42.5%) and Q13 (0%)(Table 2). The results indicate that most students have problems in identifying the significant words from a problem statement. The results were also in keeping with the findings of Mittermeyer (2005) where had difficulties with identifying significant words, even when their task was facilitated by being presented with a choice of possible answers.

The Search Strategy

The respondents performed poorly on many aspects that dealt with search strategy. The translation of a problem statement into keywords Q2 (32.5%), the use of Boolean Operator "Or" in order to find more documents Q9 (20%), understanding of search indexes in search tools such as catalogue Q11 (2.5%), familiarisation with a controlled vocabulary tool "Thesaurus" Q12 (12.5%), and ability of students to limit the search to documents containing all the specified search terms using the Boolean Operator "AND" Q16 (17.5%) (Table 2). The results were relatively very low as compared to the results in Mittermeyer (2005) study. The results indicate that students had problems with Step C of information Searching Process on refining a search statement, mapping the concepts and formulating a search statement using Boolean Operators, selecting appropriate search tools and refining the search statement. The results can be attributed to the lack of expo-

sure to the databases which uses the thesaurus and well organised libraries which are operated by trained personnel and where information is organised to the international standards.

Document Types

In regard to knowledge of reference works which relates to Step B of the Information Research Process, "formulating the Research Topic and Identifying the Concepts", only 12 (30%) in Q3 showed understanding of the use of encyclopaedia to familiarise oneself with a subject. Surprisingly, a good number of students indicated the knowledge of periodicals as documents which have recent information Q15 (45%) which relates to Step C.2 of Information Research Process. On the last question on document types which tried to find out if students could easily distinguish scholarly journals from popular magazines which relates to Step C.2, only 1 (5%) respondent in Q20 was able to demonstrate an understanding of all the characteristics of scholarly journals whilst the rest of the respondents except for four (10%), showed partial understanding of the characters of scholarly journals.

Search Tools

Only two (5%) of the respondents showed a knowledge of the use of databases in journal articles in Q1(Table 2).The results can be attributed to unfamiliarity of the databases in most libraries in Malawi or the use of the word databases interchangeably with the word electronic resources in most libraries. More than half of the respondents, 22 (55%) indicated knowledge of the use of internet search engines. Most realised that library books can not be found using search engines. The results were familiar with those by Mittermeyer (2005) and can be attributed to the fact that most students are familiar with books and have been using the catalogue as a searching tool rather than the newly developed search engines. However, the students performed poorly on all other questions under this theme which tried to evaluate the students understanding of search indexes of the catalogue Q7 (2.5%), knowledge of various categories of Web search tools like the metasearch engine Q14 (20%) and Q17 (5%) which using a different approach to Question 7, tried to determine whether students know how to query a library catalogue or for what type of searches it can be used for. Q 17 could have been confusing to many students as most libraries in Malawi including the host library Chancellor College have a policy of not cataloguing

journals, cd's and dvd's and they only catalogue books a thing which is detrimental to users seeking information in such documents. Theme four, Search Tools relate to Step C.3 of Information Research Process "Selecting Search Tools".

Use of Results

On "reading citations" variable in question 5 which relates to Step E.1 of Information Research Process, Locating and Retrieving Documents, a relatively higher number, 16(40%) of respondents were able to read a citation of a journal. However, the students understanding of the purpose of bibliography or bibliographical references was very minimal Q10 (20%). On evaluation of information on the internet, only 2 (5%) respondents indicated knowledge of all the three criteria used to evaluate the information. The failure of many students 14 (35%) to provide even a single criteria for evaluation of information on the internet is worrying as more students now turn to the internet for information (Biradar and Sampath Kumar, 2005). Finally, on the same theme very few, 5 (12%) respondents in question 19 indicated understanding of including a reference to a source of information used. The results indicate that students would have difficulties in identifying journal articles from a list of references, and would have problems to locate other documents on the topic even if they have one document which is right on the topic and may or may not use a reference when they have used other people's work.

Conclusion and Recommendations

The study has shown that students do not have an in-depth knowledge of the information literacy skills as evidenced by very low ratings of all the variables assessed except for knowledge of search engines. The students demonstrated a lack of knowledge of significant words, translating a problem statement into keywords, combining terms using Boolean Operators in order to expand or limit search results, understanding of document types like encyclopaedia and scholarly journals, unfamiliarity with search tools and the search indexes that are used in them and inability to understand the results and what to do with them once they are retrieved.

The study recommends that during MALA Certificate programme training a topic of IL should be approached in a more practical way like using the evidence based approach as in Hicks study to ensure that the students are well equipped with skills

and can reliably help the users wherever they are employed as librarians. Students should understand that IL goes beyond mere locating of information to understanding and evaluating of information and that IL is a way of learning. Libraries in Malawi need to change policies on information retrieval tools like allowing cataloguers to catalogue all documents in print and electronic formats that are available in their libraries to assist users to easily access the information and to be at par with the international standards if IL programmes are to be meaningful to the user's and really become a lifelong learning process which will enable user's to locate, access and evaluate information on their own with less assistance from the librarians. A similar research on a wider scale like using a similar tool or other tools like SAILS will be very helpful.

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Deepening Functional Adult Literacy for Social- Economic Transformation in Uganda

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Abstract

The Government of Uganda has implemented a number of development programs aimed at improving the social and economic status of the people. These efforts have led to a significant progress in economic growth, reduction in poverty levels, improved health indicators, increased enrolment of primary education and increased adult literacy. Access to basic education by all people is a fundamental human right. This right is explicitly stated in the United Nations' Universal Declaration of Human Rights (UDHR), adopted in 1948 (Article 26) The ability to read, write and calculate and the use of these skills to improve personal and community livelihood is part of poverty eradication process. The paper gives the background of literacy rate in Uganda, discuss Functional Adult Literacy, and share experience on how Ministry of Gender, Labour and Social Development implements FAL program in Uganda; and how FAL program will be a means to improve social economic welfare of Ugandans so as to attain the Millennium development Goals 1 and 3.

Keywords: *Empowerment; Functional Adult Literacy; Socio-economic Transformation*

Introduction

Article 26 of 1949 Universal declaration of human rights emphasizes the fundamental right of every one to education. It notes that education shall be free, and compulsory at least in elementally and fundamental stages. This was concretized by the education for all goals (EFA) in Jomtien, Thailand 1990 reviewed in Dakar, Senegal (2000) where governments world over committed themselves to provide education to all persons. The constitution of the Republic of Uganda Chapter 4 article 30 commits the government to this fundamental right by stating that all persons have a right to education. Uganda puts high priority on education on its plans and strategies for economic empowerment. The country embarked on the implementation of education for all in line with the International Education for All (EFA) goals as set in Dakar in 2000. In this regard, the government plays a major role through formal education for children and youth as well as functional adult literacy for youth and adults. Whereas the main government focus has been Universal Primary and Secondary Education, attention has also been given to the other aspect of Education including Functional Adult Literacy (FAL). The government recognizes the important role that FAL plays in improving development indices in Uganda. Functional Adult Literacy program started in 1992 and it now covers all the districts. It is delivered through instructors who conduct literacy classes on a voluntary basis in various villages. To achieve Millennium Development goals 1

(eradicate extreme poverty and hunger) and (promote gender equality and empower women), literacy is a very strong foundation that the government of Uganda put emphasis on. Functional Adult Literacy is one of the major tools for poverty eradication, a program by the government of Uganda. Studies in Uganda have revealed that region with high levels of illiteracy also have high levels of poverty (World bank report, 1999). Those who participate in FAL are active in community and utilize the functional skills they have acquired to engage in income generating activities and improving their livelihoods. The Ministry of Gender, Labour and Social Development supports and coordinates Functional Adult Literacy (FAL) programs national wide targeting primarily adults and youths who are out of school on behalf of the Government of Uganda.

2.0 Literacy

Traditional forms of literacy imply the ability to speak, write, read as well as do arithmetic, 21st century literacy implies the ability to articulate and create ideas in these new forms, as well as understand the layers of meanings they may convey (Flood, 1997).

According to Zarcadoolas et al (2006), people have argued that literacy is ideological, that literacy always exists in a context, in tandem with the values associated with that context.

It is argued that literacy includes the cultural, po-

litical and historical contexts of the community in which communication takes place, enabling individuals to achieve their goals, develop their knowledge, potential and participate fully in their community and wider society. It is therefore no longer sufficient to consider whether one can read, write and do arithmetic, and it is more necessary to consider more meaningful aspects of literacy in education and society as a whole. Some scholars have proposed the idea multi-literacies which include Functional literacy-teaching people how to read well enough to function in a complex society, Critical literacy- empowering them to understand how texts are trying to influence them as members of the society and challenge the power relations with in those messages, and Rhetorical literacy- encompassing any technology that expresses the message like film, a speech, an advertisement, a television show, a piece of art or music that transforms ones way of interacting with the world (Kress et al, 2003).

2.1 Literacy Rate in Uganda

The ability to read and write empowers women and men. Literacy statistics are important for Policy makers and program managers to assess the ability of the population to absorb information on health and social economic development from printed materials. In the 2011, literacy was determined by the respondent's ability to read all or part of a simple sentence (UDHS, 2011). During data collection, interviewers carried a set of cards on which simple sentences were printed in all the major languages spoken in Uganda. Only women and men who had never been to school and women and men who had only a primary education were asked to read the cards in the language they were most familiar with. Those with a secondary education or higher were assumed to be literate.

According to UDHS 2011, two-thirds of women between the ages of 15 and 49 in Uganda (64 percent) are literate, which represents an increase from the 2006 figure of 56 percent. The level of literacy is much higher among women between the ages of 15 to19 than among women in other age groups. This suggests that younger women have had more opportunity to learn than older women.

Literacy varies by place of residence; 86 percent of urban women are literate compared with 59 percent of rural women. Regional differences in literacy are marked, with literacy levels highest among women in predominantly urban Kampala (91 per-

cent) and lowest in the Karamoja region (23 percent). There is a significant difference in literacy by household wealth, with the literacy rate ranging from 32 percent among women in the lowest wealth quintile to 90 percent among women in the highest quintile (UDHS, 2011). This reinforces the positive association between economic status and literacy.

On the other hand, men are more likely to be literate than women. Seventy-eight percent of Ugandan men aged 15-49 are literate, a decline from 83 percent in 2006. According to Uganda Demographic Health Survey, the pattern of male literacy is similar to the pattern among women. However, there are marked differences between men and women across age groups. Seventy-nine percent of men aged 45-49 are literate compared with 50 percent of women in the same age group.

3.1 Functional Adult Literacy in Uganda

The Functional Adult Literacy program, delivered by the Ugandan government through Ministry of Gender, Labour and social Development with assistance from various NGOs, was designed to be a literacy program that would focus on linking literacy to people's livelihoods and needs (Okech & Embikke, 2006).

Access to basic education by all people- young and adults is a fundamental human right. The ability to read, write and calculate and use these skills to improve personal and community livelihoods is part of poverty eradication processes. According to UNESCO, one who is functionally literate is able to "engage in all the activities in which literacy is required for effective functioning of his group and community and also for enabling him to continue to use reading, writing and calculation for his own and the community's development".

Uganda puts high priority on education in its plans and strategies for poverty eradication and development, making it the sector with one of the highest budgetary allocations. The country embarked on the implementation of Education for All (EFA) in line with the International Education for All goals as set in Dakar 2000, in which the government plays a major role through formal education for children and youth as well as adult literacy for youth and adults. Whereas the main government focus has been on Universal Primary and Secondary Education, attention has also been given o other aspects of education including adult literacy.

According to the MGLSD, adult literacy has over the last two decades received increasing government, development partners and civil society interest through several developments including:

Evaluation of Functional Adult Literacy (FAL) Program in Uganda in 1999 that revealed the effectiveness and cost effectiveness of the program and make significant recommendations for its improvement and consolidation for better results.

Develop and adoption of the National Adult Literacy Strategic Investment Plan (NALSIP) in 2002 and inclusion of its budget under the privileged Poverty Action Fund (PAF) raising the government budgetary allocation for FAL by over five times

Inclusion of FDAL as an important component for community empowerment and mobilization in the government's Social Development Sector Strategic Investment Plan 2003-2008

Inclusion of adult literacy as a key priority and strategy in the eradication of poverty as spelt out in the Poverty Eradication Action Plan (PEAP) 2004

Process review of FAL program in Uganda (MGLSD, 2006) that highlighted the need for redesigning, deepening and diversifying adult literacy programs with a view to increasing accessibility to and quality of adult literacy services

The NDP has prioritized access to quality non formal literacy and numeracy services as a strategy to ensure effective community mobilization and participation in development initiatives.\

3.2 Current State of FAL Learner Enrollment

The table below shows the Human Resources which were utilized in the implementation of the Functional Adult Literacy (FAL) project in the years

2010 and 2011. There were eighty (80) districts in 2010 which were implementing the FAL project but in 2011, only sixty one (61) districts implemented the project, giving 23.75% drop in the participation of the districts. There were seven thousand seventy four (7074) classes in 2010. This eventually decreased to six thousand eight hundred twenty (6820) classes in 2011. This implies that the number of FAL classes decreased by 3.6% from 2010 to 2011.

The figures in the Table 1 show a downward trend of the activity over the two year period. The overall number of learners fell by eight thousand three hundred twenty nine (8,329), implying that there was a drop of 5.9% in the overall enrollment from 2010 to 2011. The number of instructors also fell by 220, showing a drop of 2.4%.

Comparing the participation of women and men in embracing the program in the two years, it was found that more women were vigilant in the program than men. Amongst the instructors, on average, 52% are women and 48% are men, while amongst the learners 67% are women and 33% are men.(MGLSD Statistical Abstract, 2013)

Learning is a lifelong process which begins at birth and continues throughout one's life. Similarly the effect of being non literate is present throughout the entire life time (UNESCO, 2000). Literacy status has consequences in education of children, poverty, health and hygiene, social integration and cohesion.

Children who lack formal and stimulated families, communities, health service and education among other things, miss crucial development opportunities.(UNESCO, 2010) Non literate parents have low expectations from education, are less committed to and less involved in schooling of their children due to the opportunity cost (Osinde, 2010). He further argues that this results in their children performing poorly, repeating classes, completing school with no skills and even dropping out of

Table 1: HR for implementation of FAL project in 2010/11

Period	Classes	Learners		Instructors	
		Male	Female	Male	Female
2010	7074	46,223	94698	4,618	4,728
2011	6820	44,206	88381	4,264	4,845
MEAN	6947	45,214.5	91,539.5	4,441	4,786.5

Source: Department of Community Development and Literacy-MGLSD

school because they will also have less value to education. On the other hand, literate parents are more likely to help their children improve their school performance, follow up their children learning process, ensure children attend school daily and have adequate school requirements.

Literacy improves productivity and reduces income gap. Education is one of the determinants of individual income because it improves access to market information and better distribution of income, being literate, adds value to a person's life (UNESCO, 2006). Literacy can be instrumental in the pursuit of development at personal, family and community levels as well as at micro-levels of nations (UBOS, 2011).

According to UNESCO (1990), non literate persons with low levels of literacy, tend to have difficulty in acquiring health messages and practicing health seeking behaviors in their daily life. Non literate mothers are more likely to adopt inadequate nutritional and hygiene practices, less likely to seek preventive measures like immunization services resulting in high costs of health care system as well as high morbidity and mortality. This leads to prevalence of nutrition related and communicable diseases. Likewise, non literate women lack awareness and practices of sexual and reproductive health.

3.3 Current Practices in Functional Adult Literacy in Uganda

Today, there has been a shift in adult literacy provision focus from literacy skills to literacy use (MGLSD, 2011). The 2011 report indicates that many adult literacy providers have been experimenting with different approaches that are informed by the new theoretical focus that currently informs the organization and delivery of adult programs. Over the years, adult literacy learning was primarily focused on using indigenous languages as a medium of instruction and learning.

According to FAL Program Coordinator, the program was previously dominated by rural communities and today, the focus is widening to include more people in the urban communities as well as institution of adult learners such as those in the army and prison inmates.

There are a number of best practices in adult literacy. However a few examples are mentioned here below:

The Function Adult Literacy (FAL) – learning litera-

cy and numeracy skills embedded in the literacy practices the adult learners are engaged in their everyday life. It promotes learning embedded in the literacy practices of individual or family livelihoods as well as social development-group formation and civic awareness. Some of these include literacy in Fisheries-Beach Management Units, literacy for small and microenterprises – small business classes (SBC) and literacy for pastoral communities.

Family Adult Basic Education (FABE) is hinged on the need to increase parental awareness of the value of education and their roles towards children's education as well as creating favorable educational practices that encourage the link between school learning and community indigenous education and practices. It equips parents with parenting, literacy and numerical skills, and sensitizes them on their roles and responsibilities in children's education. This not only enhances community support and involvement in school work but also actively engages parents with in the learning system so that they can appreciate the importance of keeping their children in school.

4.1 The Goal of FAL

The overall goal of FAL program is to provide literacy and numeracy skills to the youth and adults, especially women, persons with disabilities and the elderly in the communities to enable their effective participation in the economic, social cultural and political transformation and modernization of Uganda so as to reduce poverty.

4.2 Aims and Objectives

The Government of Uganda identified the following objectives for the FAL program

- Reduce adult illiteracy rate from 35% to 18% by 2012
- Equip learners with essential life skills for personal and community development
- Build the capacity of the community for income generation and self-reliance
- Enable beneficiaries and their families to attain improved living conditions and a better quality of life
- To provide equitable and adequate access to literacy education to youth and adult women and men
- Build a culture of lifelong learning among adult learners and

- Empower marginalized and vulnerable groups in society to participate fully as partners in development.

4.3 Expected Program Outcome

- Increased community capacity to take action and participate in development.
- Increased demand for accountability.
- Improved access to quality services and efficiency in service delivery and community level and;
- Improved lively hood of communities

4.4 Target of FAL

The Functional Adult Literacy program targets youth and adults of 15 years and above with specific emphasis on girls and women who missed out on the opportunity to attain formal education and those who dropped out early from lower primary before mastery of literacy and numeracy skills. The program also addresses communities with special learning needs such as persons with disabilities, the elderly and the hard to reach communities like the pastoralists, the fisher folk and the minority groups.

5.1 FAL Program in Uganda and Social Economic Transformation

Participation

Reading and writing enables individuals to freely understand the reasons why they should actively participate in community activities. After the trainings, individuals were often seen willing to participate by contributing time and resources. People were able to read and translate their ideas into real life situations.

Capacity Building and Skills Development

According to the process review of FAL in Uganda, the program demonstrated success in individual capacity building and skills development. On average, FAL graduates perform better in basic tests than primary 3 and 4 pupils, and a large number of participants report new income generating activities, which they attribute to their FAL training. Many people have moved beyond their basic skills and continue into further education; whilst this is a challenge due to resource limitations, it demonstrates success in developing a culture of learning.

Information Access

Reading, writing and numeracy abilities increased people's access to information and participation in self, community and national development

Confidence and Self Esteem

A literate person is ever confident and has got the stamina to stand out and demand for services, justice, responsibility and accountability in the community. This has been evident among the graduates of FAL. The reported impact of the program for individuals has been very positive. The majority of learners testified that the classes had increased their self-esteem and their participation in political and economic activities.

Decision Making and Democratization Process

FAL empowered people in their decision and democratization processes. People now fully understand the decision making process and often follow the rightful procedure in making decision and above all their right to vote wisely. The FAL graduates are much more involved in local governance and decision making, including acceding to influential and important roles within these governance structures like LCs

Achievements of FAL Program

FAL reached out to more than 2 million people across Uganda. FAL can therefore be considered to have been highly influential in the nationwide improvements in adult literacy rates, from 56 per cent in 1994 to 75 per cent in 2008. Significantly, the literacy rate of adult women in this time period has increased at a greater rate than that of men. This is attributed to the FAL program, as 75 per cent of the graduates are women.

FAL expanded from 8 pilot districts in 1992 to 22 districts in 1999 and now covers the whole country (from 662 sub counties in 1992 to 772 sub-counties in 2006 and to all the sub-counties by 2008)

Distribution of 15,614 bicycles to FAL Instructors. Guidelines for FAL implementation and continuous assessment of adult learners' achievements are in place.

Distribution of Primers, Follow-up Readers and Instructors' Guides in Kiswahili, English, Alur,

Madi, Lugbara, Luo, Ateso, Kumam, Lebthur, Ngakarimojong, Kupsabiny, Lumasaba, Dopadhola, Samia-Lugwe, Lugwere, Luganda, Kuku, Runyankole-Rukiga, Runyoro-Rutooro, Lukhonzor, Rufumbira, to districts and municipal local governments for functional adult literacy skills trainings.

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Trained 15,663 instructors by 2010 of which 9,084 were males and 6,579 were females.

Purchased 25 Braille machines by 2005

Conclusion

FAL had initially targeted reaching 1,200,000 adult learners and this was surpassed in a short while. The quality of learning has been improved as a result of training adult literacy personnel, development of guidelines, training curriculum, and manuals as well as production of instructional and learning materials in several local languages. Building Public Private Partnership during the process of planning and implementation especially in the development of materials, training and policy advocacy contributed towards improving the program. The knowledge and skills of adult literacy facilitators/instructors and community development workers involved in the program have been improved. This has increased the demand for higher training for adult literacy learners in the country.

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The Role of Information Literacy in Socio-Economic Development

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Abstract

Information literacy, defined as the ability to find and use information, plays an important role in society and in economic development of any country. Information literacy prepares members of the society to become independent thinkers and acquire the ability to use information for their social well-being and economic development of a country. People normally say 'information is power' but, people can only acquire through information when they are able to use it to the full advantage of societal and economic development. However, the role that information literacy plays in the socio-economic development of a country is sometimes blurred. In most cases, information literacy is regarded as an academic matter and yet it permeates through all aspects of life. Viewed in this regard, all library types, from public to private have a role to drive information literacy programmes to their communities. Furthermore, information literacy is a trans-disciplinary issue (Shenton & Hay-Gibson, 2011) covering all disciplines of life. It is widely acknowledged in literature that the term information literacy was first coined by Zurkowski in 1974, who was President of the Information Industry Association of America and this bears testimony to the fact that information literacy cuts across all disciplines. In the library and information Science field, information literacy evolved from library instruction, to bibliographic instruction which focussed more on library tours, guides and instruction on how to use library catalogues. The scope of information literacy is much broader as it encompasses even the use of technologies to improve people's well-being. It is more of an empowerment issue (Datch and Underwood, 2002).

This paper seeks to argue in favour of the positive role that information literacy plays in development in general and in particular, on the social and economic fronts. Due to its limitations in the context of Africa owing to a number of challenges, the paper will tap information from around the globe focusing on the topic through a closer look at published literature. This will give a clearer picture on the role played by information literacy in development rather than confining the paper to a particular region. It is hoped that the findings of the study will enrich the body of knowledge on the role of information literacy in socio-economic development. It is further hoped that the findings will be a valuable resource to opinion leaders in society and champions of the economy and entrepreneurs who seek to use information for development in all senses.

Keywords: *Information Literacy Role; Empowerment; Social Development; Economic Development;*

Introduction

Information literacy defined as the ability to find and use information, plays an important role in the socio-economic development of any country. The common adage that information is power is true especially in this day and age where both society and business face a 'myriad of problems and challenges related to poverty, hunger, disease, poor governance, ignorance and illiteracy, (Jiyane and Onyancha, 2010; Idiodi, 2005). Griessel and Parker (2009), in a research commissioned by the South African Department of Higher Education and Training found out that "new university graduates lacked basic skills required by the world of work." One of the areas in which new graduate employees were found lacking was "information literacy, which is the ability to find and use information and the skill to select appropriate information for problem solving." Similar findings were echoed by Dadzie (2007) and Katz et al (2010) whose studies revealed that employers complained about graduates' "inability to think analytically and to demonstrate problem-solving skills." Badke (2008) notes that "while the need for comprehensive information literacy in today's society is becoming increasingly apparent ...there is evidence that infor-

mation literacy within higher education today is failing to meet its dual intentions of becoming credible with the academic community..." Despite these observations, Information Literacy has become an integral skill embraced in the policy of higher education and other sectors, the world over.

The driving force behind the increasing interest in information literacy is the exponential increase in the volume of information available online. Rader (2004) posits that "effective use of this information requires relevant information skills." Rader further argues that these skills stretch beyond the technical skills of using specific databases or sources to include: the ability to determine information needs, evaluate information and its sources critically, apply and incorporate information intelligently and understand the social, economic and legal issues surrounding the use of information.

Perspectives on Information Literacy

Information literacy has been variously perceived. According to the American Library Association (ALA) (1989) "to be information literate, a person

must be able to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information". Adding more dimension to this definition, is the Association of College and Research Libraries (ACRL) which views information literacy as the set of skills needed to find, retrieve, analyze and use information (ACRL 2000). Yet another interesting view of information literacy is that it sprung from two influential areas namely information science and bibliographic / or library instruction. Borrowing from this view, Johnston and Webber (2003: 336) define information literacy as "the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society". This study however, aligns itself with the definition of information literacy provided by the American Library Association given above.

The Importance of Information Literacy

With the wide variety of information resources available today in print and online through search engines and e-books, web-based news sources and databases, users are easily overwhelmed. As way back as 1997, Reuters revealed that about 1000 books were being published internationally every day, and the total of all printed knowledge doubles every five years, adding that as of June 2002, the Google search engine had indexed over two billion websites (Reuters, 1997). Cunningham and Lanning (2002) cite a 1999 Spring article which revealed that an estimated 25 new web pages go online every second. This state of information explosion calls for all information users to critically evaluate the contents of information they find particularly on the Internet.

International organizations, for example the United Nations Education Scientific Cultural Organization (UNESCO), through its Information For All Programme, has information literacy as one of its priorities which assist to measure knowledge societies (Catts and Lau, 2008). Information practitioners and the society at large have a role to play in devising intervention measures that will ensure that users are able to evaluate information they get from the Internet. There is also a shift in the publication industry where online publication is now preferred to print publication. This changing landscape has also necessitated libraries to change their collection development policies to meet the dynamic demands of the online environment. Alt-

though libraries are positively responding to the environment through the injection of more financial resources into online resources and the provision of information literacy instruction, the author has observed that very little research on the specific role of information literacy in other sectors of life beyond the boundaries of education has been conducted. This background information triggers the present study in which the role of information literacy in socio-economic development is reviewed from published literature across the world.

The Social Role of Information Literacy

Information literacy as a common denominator of all other literacies plays an important role in different facets of life. It is described as a core concept of the information society in the 21st century, indicating people's relentless need for information in order to achieve educational, social, occupational, and economic goals (Lloyd & Williamson, 2008). As alluded to earlier, it must be acknowledged from the outset that research in information literacy's social role is "still very much in its infancy", (Lloyd & Williamson, 2008). While research on information literacy in the educational settings has grown tremendously and widely acknowledged in the literature, Bruce (2000) notes that research in other contexts such as the workplace and community emerged from around 1995. Lloyd and Williams (2008) concur with Bruce that there is a major gap in research in the community sector. Hughes et al (2005) argue that information literacy promotes social justice and action.

If people are well informed about their rights as citizens, they have capacity to represent themselves in matters affecting their social well-being. In Latin America and the Caribbean, Dudziak (2007) notes that information literacy promotes a paradigmatic change in society. In addition, Dudziak says information literacy promotes social inclusion, development and welfare because they are processes that contribute to the empowerment of people. Lack of information literacy skills by the citizenry can result in loss of opinion and discernment, because they can be unaware of their social and political transformation power. These problems represent uncalculated harm for the nations (Dudziak, 2007).

Dudziak (2007), opines that in the current age people are living three realities that are side by side: the information society, the knowledge society, and the learning society. These wise words emphasize the importance of information which

can be fully utilized only if people are information literate. The Information society is described as a conception of the 1970s which was later revitalized through advances in Information Communication Technologies (ICTs) and has strong emphasis on the disposal and access to information.

However, a more vibrant concept emerged in the 1980s, the knowledge society whose focus was on the added value of information and the economic value of knowledge. The core of the knowledge society concept is learning cognitive processes, extensible to the daily life of individuals. As a step beyond knowledge society, is the learning society which emerged in the 1960s and reemerged revitalized in the 1990s. The core now is learning as a holistic and continuous process that contributes to personal formation, which essentially concerns the citizen, as a social actor. It means, therefore, that citizens are able to build their own reality, as well as to transform the society in which they live.

There is no doubt, therefore, that at the centre of societal transformation is information literacy, which plays a critical role in informing citizens about what information they need and how to use it for individual and societal development. In any case, the goal of information literacy is to produce independent and lifelong learners. The World Initiative on lifelong learning cited by Andretta (2005) defines lifelong learning as "a continuously supportive process which stimulates and empowers individuals to acquire all the knowledge, values, skills and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances and environments." This implies that people who are information literate are lifelong learners because they have the capacity to find and use information to solve a variety of life problems. Lifelong learners fit very well into a knowledge-based economy which according to O'Sullivan (2002) is "characterized by the need for continuous learning of both codified information and the competencies to use this information."

With special regards to the role of libraries in information society, IFLA (2005) issued a statement entitled, 'Beacons of the information society: The Alexandria Proclamation on information literacy and lifelong learning' (Wastawy, 2006). The statement urged governments to support:

- (a) Regional and thematic meetings which will facilitate the adoption of information literacy and lifelong learning strategies within specific regions and socio-economic sec-

tors;

- (b) Professional development of personnel in education, library, information, archive, and health and human services in the principles and practices of information literacy and lifelong learning;
- © Inclusion of information literacy into initial and continuing education for key economic sectors and government policy making and administration, and into the practice of advisors to the business, Industry and agricultural sectors;
- (d) Recognition of lifelong learning and information literacy as key elements for the development of generic capabilities which must be required for the accreditation of all education and training programmes (IFLA, 2005).

The statement further affirmed that vigorous investment in information literacy and lifelong learning strategies creates public value and is essential to the development of the information society. The Alexandria Proclamation came after the first world summit on information society in 2003 (Samasse'kou, 2006). Wallis (2005) argues that "the role of library and information professionals has to evolve from intermediaries to facilitators and trainers" in the modern information society. Information literacy therefore plays an important role in stimulating growth in education, economic sectors and other areas of life. Another key International organization to advance the concept of information literacy other than IFLA is UNESCO (Ponjuan, 2010) which sponsored two seminal international meetings of experts in 2003 and 2005, where the Prague Declaration and Alexandria Proclamation (cited above) were issued and today, they serve as important statements on the role information literacy to the wider society.

Furthermore, information literacy promotes social sustainability. According to Dudziak (2007), social sustainability implies equitable access to learning and job opportunities, social mobility, social cohesion and justice, quality of life, participation, empowerment, and cultural identity based on self-confidence and a balance between innovation and tradition. Social sustainability further implies the inclusion of all population groups through guaranteed access to education and life-long learning and the right to work. Information literacy also enhances independence and self-directedness as people are able to take responsibility for their own learning and can continue the learning process after leaving formal education. This implies that

learners are capable of moving forward on their own, and do not necessarily accept the views or opinions of others without questioning them (Brehens, 1995). They are in other words, autonomous and emancipated because they have developed critical literacy, that is a step beyond information literacy.

The Role of Information Literacy in Economic Development

It has already been acknowledged that information literacy permeates through all aspects of life including the aspect of economy (Huvila, 2011). Available literature is, however, more dominant in the workplace environment which of course feeds directly into the economy of nations. Lloyd (2005) explored other contexts and practices that facilitate becoming information literate, in order to understand the role of information literacy in learning outside educational settings. From the workplace perspective, information literacy is viewed holistically as a constituent part of learning to work collectively and of developing a socially constructed understanding of the workplace, which is understood inter-subjectively by all those involved in the discourse (Lloyd, 2005). Further, Lloyd (2003) describes an information literate employee as a critical thinker and problem solver. He further observes that information literate individuals have developed the ability to make informed decisions based on the ability to integrate and synthesize operational and cognitive information that is gained through the engagement and interaction with information environments, information systems, resources, information services, colleagues and other individuals.

Arguably (Lloyd, 2003) believes that in the information driven economy, employees who are able to develop information pathways and to create new corporate knowledge provide the strategic difference between a highly successful business and those that are mediocre. Lloyd, therefore, urges librarians to engage with other sectors including workplace communities, industry, business, social agencies, policy groups (Boyer & Peltason (1988) and see themselves as part of the business community and pursue interests that are relevant to it. He further urges librarians to develop information literacy modules that encourage the smooth transfer of information literacy skills from an educational context, to a workplace context, a point also noted by Sinikara & Jarvelainen (2003).

From Spain, Hernandez and Urena (2003) admit

that information literacy plays a critical role of eradicating illiteracy noticed through the work of public libraries. The two scholars, however, bemoan the slow adoption of information literacy in Spain and attribute that to dictatorial tendencies that rocked that country between 1936 and 1975. Many other countries, particularly in the third world, have gone through similar periods of deprivation as the case of Spain. Idiodi (2005) from Nigeria also adds a voice on the role of information literacy in economic development, saying that participative citizenship in today's world requires that all people, not only students, become information literate, in order for them to survive in an explosive growth of knowledge that has affected all aspects of life. Idiodi argues that effective handling of information can create opportunities for effective handling of the problems facing developing countries, such as unemployment, environmental degradation and poverty. In order for society and business to be able to arrest these problems, people need to be information literate. Radar (2000) adds that technology and the electronic information explosion are having a major impact on society as a whole, including in business, education and in libraries in particular. Radar further says that people need to acquire these new skills and learn how to obtain, evaluate and apply information to solve problems, and address important issues in the workplace and in their daily lives. These skills come as a result of proper information literacy provision to the people.

With regards to recognition of information literacy by the business sector, Katz et al (2010) assert that the business community was increasingly recognizing information literacy as central to its work. Katz also argues that information literacy increases the capacity of employees to locate, manage, and communicate business information. There is, therefore, no doubt that information literacy stimulates business growth, which is critical for economic stabilisation. In the bakery industry for example (Fafeita and Lloyd, 2012) say chefs seek information when they consult recipe manuals in order to prepare food. The development of such recipes also requires high levels of information literacy; hence, its importance.

Information literacy, technology and the support infrastructure are factors in becoming part of a global economy (Hart et al., 2006). These are considered as essential ingredients for living in the 21st century. If workers lack information literacy skills, Lloyd (2005) warns that this can result in unemployment, low productivity, absenteeism,

health problems and inequality of life and the net effect disastrous to the economy. This further underlines the important role played by information literacy to economic development through the work environment.

Conclusion and Recommendations

The study has been able to portray the positive contribution of information literacy in socio-economic development. Although the study revealed that a rich literature base exist on information literacy in educational contexts which to some extent, casts a shadow on the role of information literacy in other contexts, an effort was made to review literature on the role of information literacy in socio-economic development.

As a recommendation, more research needs to be conducted on the role of information literacy in other key sectors of the economy such as agriculture and mining. In addition, more information literacy research is also recommended in the area of government and other civic organisations with a view to broaden the scope of the contribution of the concept to society and the economy of nations.

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SUB-THEME: 8

***Impact of Libraries and Information Services
in Shaping Knowledge Economies***

From the Ground Up: The Impact of a Community Library on the Shores of Lake Victoria.

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Abstract

The establishment of a public library and community centre in a remote village in Kenya led to a number of developments that are acting as a catalyst for community development. This paper describes how two professional librarians undertook to build a library that would meet community needs. Beginning with a chance meeting, a shared vision and a combination of skills and determination, they were able to engage the community, establish a library committee, raise the necessary money and build a community centre, eventually launching two small businesses, and several community projects. The success of the library led the community to launch a secondary school. This paper highlights the role of determination in the success of this kind of project and the advances that can be made when the entire community is engaged. It also addresses the importance of local community ownership

Keywords: *Community Development; Community Library; Socio-Economic Development*

Background of the Community

Ndwara is a small village situated in the south-western region of Kenya in Siaya County. It is approximately 60 kilometers from Kisumu, the third largest City in Kenya, and 7 kilometers from Bondo, a town of approximately 34,000 people (Commission for Revenue Allocation, 2011), the nearest Administrative Centre and District Headquarters. The villagers are members of the Luo tribe; most of the younger people speak English as well as Kiswahili, but many of the older people still only speak Dholuo, the tribal language.

Ndwara is a typical African village that has moved away from the traditional round thatched mud houses to more modern homes made of iron sheets, known as "*Od mabati*". The population is estimated at 1500 people with the majority being young people of school going age and youths. There is a sizable group of elderly people, including those who never left the village and those who have returned there after retirement. Many villagers of working age have moved away to urban areas in search of economic stability.

Like many other villages, Ndwara lacks basic infrastructure, including year round roads, electricity, reliable safe drinking water and telecommunications. Mobile telephones are making the latter more accessible, but most villagers are too poor to afford credit/calling cards. Internal roads are not tarmacked or graveled, creating difficulty in conducting business or accessing services, particularly during the rainy season. The most common transportation available to villagers is walking. Other

options are bicycles or rental of motorcycles (boda-boda). Given the state of the roads, none of these is particularly safe.

Kipasi Primary School, which is central to the community, has approximately 120 students up to Standard Eight. In January 2013, the community started a secondary school, with approximately 60 students in forms one and two. It is wholly funded by the community which will be responsible for it until it receives formal recognition from the Kenyan Government. As a result of the project described in this article, the Village now boasts of a public library and community centre- a source of pride as it is the only existing library in a radius of about 60 kilometres.

There are no industries and villagers primarily rely on subsistence farming and small trading amongst themselves. Traditional farming practices and unpredictable rainfall make it difficult to grow excess food that could be sold for profit. The villagers still keep animals: the more prosperous have cows, goats and sheep while others have fewer animals. Almost all households raise chickens for meat and eggs.

The Village Headman is a member of the community, responsible for coordinating community needs with government policies and vice versa. He acts as the liaison between the village, the government and other villages. Within the village there are a variety of committees responsible for general development or specific activities such as the school committee, the Widows and Orphans Committee, the Youth Committee and church leader-

ship, which complement each other. Placing the Library Committee within this structure was essential for its development: the support of the Headman, the Assistant Chief and the Chief proved to be a crucial resource, and integration with school, community and church committees provided community support.

Following Luo tradition, the Ndware community places high importance on education, which is compulsory for children up to Standard Eight in Kenya in fulfillment of Universal Primary Education (UPE) by 2015 (MOEST, 2004). Most people in Ndware have some level of formal education, including some of the older retired generation. Family values play an important part in the community; people generally embrace and treat both nucleus and extended family with dignity and love. This value played an important part in the development of the library and community centre. The "adoption" of the Canadian partner by a local family resulted in a richer relationship with the rest of the village than would have otherwise occurred.

Ndware is like the rest of Kenya in that generally youth form about 78% of the total population with about half aged 15-34 years (Njonjo, 2010). The youth unemployment rate is a staggering 80% of all unemployed people in the country; amongst these, the largest proportion are those between 20-24 years at 30% (UNDP, 2013). Many are unemployed due to lack of training or lack of access to nearby employment. Thus, they must choose between staying in the village at subsistence level incomes and leaving in the hope of finding employment elsewhere. When they choose to leave, they are leaving both family and a traditional lifestyles, and struggling to make a new life in a city. Both choices have negative consequences, most noticeably an increase in crime and social problems, including alcohol abuse, HIV/AIDS, and unplanned pregnancy, resulting in loss of hope.

Like many other small rural communities in East Africa, Ndware experiences the challenges of poverty, HIV/Aids, unpredictable rainfall, declining educational standards, unemployment, alcohol abuse, idle but educated youth, and lack of infrastructure to address these issues. In particular, the lack of electricity, coupled with the lack of communication technology means that villagers cannot access information about government or NGO programs that might assist them. One of the functions of the library is to address this lack.

The Decision to Build the Library

The original decision to build a library came about as a result of a chance professional meeting between a Kenyan librarian, who comes from Ndware, but left village in order to find appropriate employment, and a Canadian librarian with a background in rural library development. A conversation about the role of libraries in ensuring the sustainability of Canadian rural communities led to a comparison with the situation in Ndware. Both librarians were excited by the opportunity to work together and share their knowledge to build a library for Ndware. They are referred to in this article as the "partners", which speaks to collaboration for the success of the project. The first step was for the Kenyan partner to talk to people in Ndware about the potential for the project, and seek a donation of land at a central location. The Canadian partner undertook to raise enough money for the initial legal obligations to create a library committee and register the land.

In order to ensure that this was a community project, and not just a dream of the two partners, it was essential to engage community members to win their support, participation and ownership. An interim Library Committee was organized, and began the task of convincing the villagers of the benefits of the project and the likelihood of its success. The Committee decided to ask them to register as library members by paying a small membership fee. Among the first people to join were two elderly ladies in their eighties. It seemed unlikely that they would derive a great deal of benefit from the project; when asked why they were quick to register and pay the fee of Kshs 100 (\$1.20), their response was that they wanted to have a space where their grandchildren could go to acquire knowledge. By becoming registered members and paying fees, community members were able to show a concrete commitment to the project and, even more importantly, demonstrate their sense of ownership.

One of the early decisions of the Library Committee that showed an immediate benefit was to start offering library service immediately, even before building construction commenced. An agreement was made with the local Anglican Church to use church space for a temporary library which resulted in growing use of the library and a concrete demonstration of its benefits before it was even built. A donor paid for two daily papers for a year, creating a level of excitement with villagers who were not able to afford a daily paper. They felt

that there was value for their membership fees, and became dedicated to the success of the “real” library. A small collection of recreational reading was developed through donations, and proved to be very popular with library members.

Youth in the community were a particular target for the Library Committee. By involving them, it seemed likely that they would value the Library and ensure that it was not a target for vandalism. Since many of them were not able to contribute financially, their engagement was sought through physical activities such as collecting stones for the foundation, clearing bushes at the site, fencing the site, digging the building foundation, maintaining the indigenous trees and planting new ones. Their “sweat equity” proved to be a valuable contribution, and resulted in a sense of ownership that was demonstrated through their willingness to provide security for construction material that was stored at the site. No thefts of material occurred during the construction as a result of this voluntary contribution of labour.

Students from Kipasi Primary School were actively involved in the project from the beginning. They took on the role of providing entertainment to guests during various functions including fundraising activities and visits. They created and performed songs and plays that demonstrated the role of libraries in society and how Ndwaru Library would be a significant contribution to the village. The students were also involved in collecting stones and drawing water used during construction.

One of the activities that demonstrated the strong tie between the school and the Library occurred during a visit of the Canadian partner to Kipasi Primary School. Each student from Standard One to Three was asked to find their favourite book in the Library and prepare a short speech to be performed for the Canadian partner, who provided prizes for the best three speeches. The students all took great pride in showing off their favourite library book.

The Library Committee

A major factor in the success of the project rested on the composition of the Library Committee. It was small enough to be manageable, but large enough to bring together various elements of the community. Members had to be individuals who commanded respect in the village, and shared the vision of the project. From the beginning, individ-

uals chosen were those who could influence decision-making both in the village, the larger area, and with the provincial administration. The Committee’s responsibilities included planning and executing strategies to support the project, and to mobilize community members to take on responsibilities and undertake activities. While some people embraced the project right from the beginning, others were more skeptical and, thus, advocacy activities became an ongoing responsibility for the Committee. Committee members also worked with local administrative government to get necessary registration documentation with local primary schools to encourage student use of the library, and surrounding areas to encourage them to support the project. The original Committee was made up of five people who included the two community members who donated the land for the building, the local church leader, the Chair of the Widows and Orphans Society and a local primary school teacher. They were enthusiastic about the project and were willing to take on the responsibilities required to launch the project. The committee was assisted by the two professional librarians, who declined to take on any more formal role, as they were insistent that community ownership was essential to the project’s success.

Promotion of the Library

One of the biggest challenges, for the partners and the Library Committee was how best to use information technology and social media to tie Ndwaru to potential funders in other countries, and share activities within the community. Since the project depended on a growing group of friends who would be committed to supporting it over the long term, it was important to plan a strategy that would allow donors to feel like participants although most of them would never have the opportunity to travel to Kenya.

The first effort was to create a web site www.ndwaralibrary.com that detailed the development of the Library. It provided a location for a connection to a commercial service that supports online donating. This website is still used to post pictures that document the development of the Library. It did not, however, prove to be as dynamic as needed to provide constant updates. For that, a Facebook page, “Ndwaru Community Resource Centre” (<https://www.facebook.com/pages/Ndwaru-Community-Resource-centre/132760400099962>) proved to be much more lively and interactive. It appears that potential friends look at the web site, but once they get

involved, follow the changes in activity through the Facebook page.

Our second effort came about accidentally. While visiting in Korea, one of the partners was offered the opportunity to be a guest speaker in a program that provides lectures for individuals who are studying English as a second language, and for the English speaking expatriate community. This opportunity was used to detail the development of the Library and the needs of the community, and triggered the development of a strong group of supporters in this Korean community. After seeing the photographs of Ndware, they were concerned to see that many children were barefoot in an area where much of the native flora is cactus-like. The Korean community offered to collect rubber shoes in various sizes and send them to Ndware. While this was not part of the plan for community development, this offer was accepted as it allowed for the development of a group of "Friends of the Ndware Library" who later followed up with donations of backpacks for students and cash donations.

One of the members of the Korean Friends of the Ndware Library was a radio announcer on the local English-language radio station, and offered to interview one of the partners for a radio talk show. This increased the number of supporters as well as the level of donations. The death of a family member of one of the partners led the Korean Friends of the Ndware Library to set up a scholarship in his memory which provides funds for vocational training for girls from Ndware.

The main lesson from this was the need to be ready to talk about the project whenever and wherever possible and which was accomplished by having several messages always prepared: a slide show to demonstrate the development of the Library; a funding message – essentially why should someone contribute and what would the funds be used for; and a link to further information, both on the web site and on the Facebook.

Skepticism

One of the biggest challenges faced in the development of the Library was a high level of skepticism, both in Canada and Kenya. In Canada, there were several concerns: how much of the funding actually went to Ndware? How the money was controlled, and would it actually make a difference to the community? In Kenya, the questions reflected a long and uneven history with

community development projects: would the money actually get to the community? Who would get rich from the money? And would the money be spent in any way that would benefit Ndware?

For the Canadian skeptics, the website and the Facebook site again proved to be ideal tools. Being able to actually show photographs at each stage of development, helped people to see that the money was going where it was needed. The Library Committee provided financial statements that detailed the money received and spent, and again, the detail helped to allay concerns. After each trip to Ndware, the Canadian partner hosted lunch with the major Canadian funders to tell stories of what had happened since her last visit. These luncheons helped to bind the Canadian Friends of the Ndware Library into a team, who recruited other donors in turn.

In Kenya, the regular visits of the Canadian partner helped to personalize the funders. Rather than a faceless NGO, the Ndware community came to recognize that their Canadian and Korean sponsors were individuals who supported the community. By staying in the village, and taking part in many activities, the Canadian partner was able to develop a relationship of trust and respect with many people in Ndware. This became an essential part of a true partnership for building the Library rather than an act of charity.

The Role of Partners

From the beginning, both partners were committed to community ownership of the Library. Although both are professional librarians, they were determined to bring their training to the project in a consultative rather than a directive way. At first, the local Committee wanted to defer decision-making to the partners, but as the project evolved, the Committee began to make decisions about it, relying on the partners for input. One of the criteria for decision-making was the need for community ownership which was demonstrated through employment of local labour, the sale of memberships, and the decision to allow a community member to use Library land to grow trees for sale. It was predicted, and has so far proven to be true, that the involvement of many members of the community would not only ensure that the Library was used, but also provide protection against vandalism.

In addition to fund-raising, and sending books, the Canadian partner played an unanticipated role. Because visits to the community were

infrequent, she was able to observe and comment on progress each time she visited. This external validation and recognition seemed to encourage the people of the village to take a great deal of pride in accomplishments. Knowing that their work was being discussed in Canada seemed to keep up morale when things went more slowly than hoped or when challenges arose.

Construction

Construction began immediately after the first round of fundraising raised enough money to build the foundation and start the walls of the building. This required a decision about the size and the layout of the Library. Rather than start with a small building and hope to expand later, the Library Committee agreed to construct a building sufficient for all of the intended purposes. Thus, the building includes dedicated space for a children's library and an adult library, a meeting place for village seniors, and a space designated for cultural activities.

The Library Committee decided to use the concept of Labour Based Approaches (LBAs), which refers to optimum and flexible use of local labour and locally available materials, where feasible (ILO, 2010). Some of the benefits of LBAs are: job creation in the community, development of skills that can be applied elsewhere, encouragement of small enterprises within the community, and income multiplication in the community through wage spending (Overseas Development Institute, 2010). As a result of this decision, and aligned with the vision of the Library as a source of community development, the work of building the library was handled by local labour from Ndwara which also helped to reduce the cost of the building. While some of the workers came without any formal instruction, many of them showed ability and willingness to learn on the job. The skills needed included carpentry, masonry, welding and general labour. Local labour also increased local ownership of the Library, particularly with the youth who may not have seen the value of the Library prior to this involvement with it.

Supervision of construction was done by a community member with formal training in Masonry and several years of experience supervising similar construction locally. His knowledge of local building materials and conditions proved invaluable in ensuring that the building was appropriate for this community. The construction showed an immediate benefit to the community in a variety of ways.

Some villagers, mostly women, were able to supply and sell food to the workers. The workers earned wages to purchase food as well as other goods and services for their families, some of which were provided by community members, spreading the benefit of wage earning widely through the village.

The leadership role of the Library Committee, and its decision to use local material and labour also fulfilled the International Labour Organization (ILO) definition of Community Driven Development (CDD). The ILO defines CDD as an approach that gives community groups and local governments control over planning decisions, and states that with clear policies, access to relevant information and financial support, poor people can effectively organize themselves to identify community priorities and address local problems with the help of supportive organizations (ILO, 2010).

Community Development

As the Library project continued to grow, the vision of making it the centre of community wide development began to emerge. One of the first projects grew out of an offer from a community member who wanted to start a tree nursery: he would take responsibility for maintaining the Library grounds in exchange for the use of some space for planting trees that would be sold. Some of the trees would be used for an environmentally friendly green fence around the Library's property. The Library contributed to this project by providing information about types of trees that would grow well in this climate, but were somewhat goat-resistant. In this way, it was possible to demonstrate the synergy between the Library's information role and economic development of the village. The small amount of cash needed for tools and equipment was donated by a Canadian who was interested in environmental projects, but not donating to the Library. By tracking potential donors who were not interested in libraries, the Canadian partner was able to go back and ask for support when an alternative opportunity arose.

The second business development project was the start-up of a beekeeping business. A literature review of economic potential in this area identified beekeeping as an opportunity that was not being fully realized and illustrated the effects that lack of information has on community and economic development (Kenya Honey Council, 2013). For example, there is a great deal of information available from the Food and Agriculture Organization of

the United Nations, but without a Library or internet connection, this was not available in Ndwara. A young man in the village had taken training in bee-keeping, but lacked startup funds to purchase equipment. A small donation, again from a Canadian donor, provided the necessary boost to start this business.

As the Library continued to grow, residents began to feel strongly that there was need for a local secondary school. The Library was being heavily used by secondary school students from surrounding areas, causing villagers to feel that their children were being left behind. Although this need had been identified many years before, the community energy and sense of forward momentum generated by the Library provided the impetus for starting a secondary school. It was accomplished by having two classes in the elementary school share space and using the freed up space for the secondary school. The fees were set at a moderate amount, so the school would be self-funding, but were still too high for many village families.

When fund-raising, in Canada, Korea and Kenya, it became evident that many people were not convinced that a library was the right vehicle for community development. They were, however, interested in investing in education. So, the Canadian partner was able to raise money for school fees for eight students who would not otherwise have been able to attend secondary school. Although when in the planning stage, we anticipated 10-12 students from the village, the actual registration was 30 as many students came from outside Ndwara. The additional revenue from the fees helped to make the school more financially viable. These students also created another mini-industry as the Widows and Orphans Group were able to make and sell school uniforms.

One of the potential donors was only interested in vocational training. So, after discussion with the Library Committee, funding was accepted to send one young man to a local Technical Institute to train as a mason. This will allow him to continue to live in Ndwara, but earn a living wage, with the potential of starting his own business and, in the future, hiring and training other young people from the community. Similarly, two female donors, with personal commitment to education for girls, sponsored two students to boarding schools for secondary education.

The Ripple Effects

While there had been numerous previous attempts by the community to engage in some form of community projects, most of them never reached their potential. Some were never realized due to political factors, but often the community lacked the necessary cohesion. One example is the numerous attempts to establish a secondary school. Despite land having been set aside for the project it had never left the planning stage. It was, however, easily accomplished after the Library started taking shape and community members saw the potential for similar development projects in the village.

With the energy created in the community, different groups arose and existing ones were rejuvenated. The Ndwara youth group, previously very reluctant to come together, revitalized itself and started meeting and contributing money on a monthly basis. They have now registered and are actively engaging their members in economic activities such as table banking. Table banking encourages members of the youth group to save money every month; this money is loaned to group members to start small businesses.

The Widows and Orphans was another group entity that thrived from the Library development. Members tailored uniforms for secondary school students and began selling second hand clothing donated from Canada. Funds generated were used for social programs such as purchasing food for elderly widows, buying school uniforms and general upkeep of the orphans in the community.

Another positive outcome for the community has been the development of social responsibility by both individuals and groups. For example, the youth group has begun environmental conservation efforts, including fixing village roads and paths destroyed by rain using stones and using aloe plants to stop soil erosion. They have begun a cassava farming initiative as a source of income for the group and as a way to enhance food security for the community. The youth have also formed a security network to ensure village safety, particularly at night.

One secondary student from Ndwara has volunteered to help young people in the village during school breaks to realize their talents through songs and drama. She has been part of the group that organizes the annual children's fete every 26th December where local children engage in a whole day of activities, including singing, dancing, athletics, football, fashion show, storytelling and read-

ing. This spirit of volunteerism is growing and contributing to the development of the community.

Challenges

This project presented the partners with a number of challenges. There were obvious cultural differences: the Canadian partner needed to develop an understanding of the legislative and tribal cultures within Kenya. The struggle of the Canadian partner to learn enough Dholuo to at least be courteous resulted in a great deal of laughter, and an appreciation on both sides of the effort required to learn about each other. Communications involving different time zones, lack of computer access and different uses of language gradually became routine as strategies were developed and implemented. The use of a commercial provider for sending money from Canada and Korea to Kenya provided its own set of challenges due to fluctuations in currency exchange and the fees charged to transfer funds.

Accomplishments and Lessons Learnt

Perhaps the biggest accomplishment was our recognition that with good will and persistence on both sides, most problems could be resolved. A sense of humour also provided relief when things did not go smoothly.

One of the ongoing questions asked in both Kenya and Canada was why we chose to undertake this project ourselves, rather than apply to an existing NGO for a library building. After considerable discussion, and review of several NGOs, we were unable to find one that aligned closely enough with our vision for a Library that would drive community development. The local control over decision-making, the strategies for community engagement, and the employment of local labour were essential to achieving the larger vision of the project. Getting the Library built, while important symbolically as well as pragmatically, was only the focal point of the entire project.

One of the surprises of this project was the number of other communities who heard about the development of a public library in Ndwara, and approached the partners asking for advice and help. To date, this help has been limited, as many of the lessons learned need to be learned the same way that we did, by trial and error. One of the major lessons that we needed to keep on learning was that not everyone shared our passion for libraries, or our belief that a library would re-

sult in widespread benefits for the community. Developing community support takes time, and is an ongoing activity. Whenever there is money available to be invested, there are diverse opinions about how it should be spent. This was fairly easy to manage as long as we were only using donations targeted for specific activities. It became more of a challenge when a Constituency Development Fund grant was applied for, as this money could be applied to any one of a number of community activities.

The other lesson that any community needs to learn in its own way is that it takes time to develop trust with an outside partner. Originally, the Canadian partner was viewed by some as a source of money. Over time, villagers came to view her as a member of the community, albeit one who lived far away and only visited occasionally. The development of trust relationships, however, no matter how long it takes, is essential to the success of a community development project.

While the project is not yet complete, it shows every sign of success. The library building is nearing completion, its collection is partially built, several small businesses are taking their first steps, and the community is demonstrating a sense of pride in its accomplishments.

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Libraries Shaping Indigenous Economies of the Rural Villagers, With Special Focus on Women's Information Needs: A Case Study in South Africa

By

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Abstract

Libraries are important agents of change (Forsyth 2005, 321). They play an important role in the globalisation of Africa's indigenous knowledge (IK) by capturing, documenting, storing and providing web-based access (Chisenga 2002, 19). But libraries cannot achieve this on their own. They need to collaborate with government, donors, and all relevant stakeholders in order to be able to manage indigenous economies productively. The aim for this propped study is to highlight main challenges that rural communities, especially women and girls, face in managing their IK. In order to be able to manage indigenous economies for sustainable development, information literacy, social structures and libraries and their resources and services are viewed as important elements. The theory of diffusion of innovation (Dol) has been adopted in order to understand the challenges of information access and IK management at Dlangubo Village in South Africa. Research methodology used is an inductive qualitative approach of grounded theory (GT).

Keywords: *Information Literacy; Women Information Needs; Libraries, Rural Libraries; South Africa; Indigenous Economics; Villages*

Introduction

Boven & Morohashi (2002, 13) argue that there are varied definitions of IK and differ depending on the specific aspects that the writer wants to stress. The common and simple definition that is adopted for this study is that, IK is traditional or local knowledge or large body of knowledge and skills that have been developed outside the formal educational system. IK is embedded in culture and is unique to a given location or society. It is the basis for decision-making of communities in food, security, human and animal health, education and natural resource management (Hart & Vorster 2006:9; Mpofu & Miruka 2009: 85; and Mwaura 2008: 21). IK includes cultural heritage in the form of traditional stories, songs, dances and ceremonies that reflect beliefs related to spirituality, family, land and social justice (Akinwale 2012: 5).

Indigenous knowledge (IK) has gained momentum due to its importance as a strategic resource for development in the lives of the majority of the world's population. IK plays a significant role in various aspects of life like poverty alleviation, medicinal treatment, conservation of natural resources and it is also helpful in decision making and problem solving at local, national and international levels (Mwaura 2008, 9-13; Raphesu, 2010, and World Bank, 1998: 1). Africa's wealthiness, in terms of IK, particularly agricultural IK cannot be over-emphasized as it has been reiterated in many studies. Approximately 90% of the food produced in Sub-Saharan Africa comes from traditional farm-

ing (Dakora in Normann, Synman & Cohen, 1996: 109). Despite these successes, some African countries are still haunted by poverty. It is estimated that 45% of the people still live in extreme poverty while 35% in moderate poverty, and resulting into an average of 75% of the population who are poor (Mchombu, 2007: 31).

The Bread for the World Institute (2010: 12-13); and Gumede, Bob & Okech (2009: 104) argue that women and children make up the majority of the poor and hungry, and yet reducing hunger and poverty is goal number one of the United Nations Millennium Development (UNMDGs). Further, the World Institute (2010, 43) indicates that in sub-Saharan Africa, women perform 60 to 80 percent of small scale agricultural farming, but they own only two percent of the land and receive only five percent of farming information and services. But it was not explained how this farming information is received. The findings of a study conducted by the Human Sciences Research Council (2005) confirmed that young women have an HIV prevalence rate of roughly four times higher than that of young men (Malisha, Maharaj & Rogan 2008, 585).

Here are some challenges that hinder rural communities from managing their IK effectively for sustainable development as highlighted by (Mchombu: 1999: 213):

1. Low literacy levels
2. Gender stereotypes and social exclusion

3. Lack of resources (Financial, materials and skills)
4. Time, distance and other household chores

Ramphela in World Bank (2004: 13) argues that it is important that women are provided with the relevant information in order to cope with the household needs and other general needs, including the ways of dealing with stress of being overburdened. According to Mchombu (1999: 214) women's requirements for information falls within three categories:

1. Basic information like economic, educational environment and opportunities.
2. Information to support the change agent role of women in their struggle for upliftment and empowerment (to deal with gender stereotypes).
3. Information to support execution of the traditional and cultural roles, including primary health, family upkeep, and provider of basic provisions for the community (to change themselves and the society around them).

An Overview of Literature Review

In order to be able to contribute scientific findings about the information needs of the rural villagers focusing more on women in managing their indigenous knowledge for socio-economic development, the literature for this study will be reviewed under the following headings: basic information literacy skills; indigenous knowledge and its impact in their lives; social structures and organizations that work as social change agents in the area of study and their advantages and disadvantages, and lastly, the role of libraries and its resources, including ICTs and other services. The ultimate goal is to develop a policy that will serve as a guiding framework in information and knowledge management processes. It should also explain access protocols and protection of IK from abuse. Most importantly, the community should be guided in developing a knowledge management model that suits their information and knowledge management needs.

Information Literacy (IL)

Article 27 of the Universal Declaration of Human Rights (UNDHR) which was adopted in 1948, and the Constitution of the Republic of South Africa, no. 108 of 1996, articulate clearly that everyone has the right to freely participate in the cultural life of the community, to enjoy the arts and share in

scientific advancement and its benefits. Therefore, recognizing such rights would mean defining and understanding the knowledge society and information society as inclusive. The International Federation of Library Association (IFLA), (2007) asserts that libraries can play a crucial role in facilitating the projects for the collection, preservation, dissemination and sharing of IK (Ocholla 2009, 21).

An information literate person must be able to independently realize the need for information retrieval use and also to disseminate it (Boekhorst & Britz 2003: 63). De Jager and Nassimbeni (2005: 33) suggest that an information competent person must be computer literate; have information and knowledge skills; be a problem solver; be a team player; and have some social and mediation skills. Some scholars argue that there is less information published about Information Library training for townships and rural communities. They assert that there are many challenges that affect IL training projects in townships and rural communities and which include: sustainability; contextualisation; lifelong learning; empowerment; personal well-being and maintaining dreams and hopes (Fourie & Krauss 2010:109). This study argues that it might be important to involve government; local donors and business men, and other stakeholders in order to sustain these projects. These projects are imperative as women still suffer major disparities in terms of access to information resources and other areas like education, especially in developing countries of Africa. For example, pastoralist girls in Kenya do not attend schools in the same numbers as boys. Women and girls pastoralist communities are often the main losers from state discrimination and government failure to provide security in the areas they live. Despite the existence of positive constitutional laws in Kenya and other African countries, there is no provision to ensure that benefits are realized by women and men in rural areas in Africa (Young, 2012: 8, 12-13).

Several factors have been identified as the main factors that prevent women from having free access to information and they include: time, poverty, low levels of literacy or illiteracy, customs and traditions, the stereotype that knowledge seeking is the domain of males, and various forms of gender oppression (Mchombu, 1999: 213). It has been argued that access to capital, services and technology is the cornerstone to rural development, but women are found to be lacking access to all (Gumede, Bob, Okech, 2009: 121).

Therefore, improvement of information literacy skills of rural communities, especially women, is imperative for socio-economic development purposes. Similar projects in some African countries have proven to be successful and need to be diffused more and librarians can be proactive in collaborative projects.

Indigenous Knowledge (IK)

According to the Bread for the World Institute (2010) women perform about 60 to 80 percent of the agricultural labour. World Bank (2004) has highlighted in its IK notes a number of agricultural farming related projects in which women are involved. But this does not seem to be improving their lives hence there is a suggestion that poverty alleviation projects must target areas that will improve gender imbalances and socio-economic development of women (Gumede, Bob & Okeck 2009: 115). This has improved in some African countries, but there is a room for more improvement. For example in South Africa the government has introduced a department that caters specifically for women and children. Such departments need to be proactive in diffusing as widely as possible constitutional information about the rights of women and children to freely access information for socio-economic development.

Support Structures (Agricultural Extension Workers; Government and Non-Governmental Organizations; and Others)

Momodu (2002) indicated that a study conducted in Nigeria about the information needs and information seeking behaviours of rural dwellers in Nigeria revealed the following as their main information needs: agricultural information like where to purchase fertilizers and how to use them; health information like how to handle the outbreak of certain epidemics and get treatment for various ailments; political information like traditional leadership, civic rights, political parties and voting rights; community development information like how to mobilize people for the projects, and what government agencies to contact for financial help or other resources and educational information like school calendar, opportunities for educational self development and information about higher education ; continuing education; career choices and other relevant information (Alemna & Sam, 2006: 237). There are many governmental and non-governmental groups and other agents of social change that function as support structures in line with the information needs of rural communities.

In some African countries and other developing countries, women have realized the importance of their IK and have used it as a knowledge base with exogenous knowledge to fight inequalities and various pandemics. For example, in Tanzania, Tanzanian women started a consortium called TANGA AIDS Working Group including traditional healers, doctors, nurses and community members. The consortium has managed to treat more than 4,000 patients with HIV- related diseases with herbs prescribed by traditional healers. The treatment helped them in living normal lives and also in prolonging their lives (Sibisi in World Bank 2004, 35). Uganda is known to have had 66 percent reduction of HIV infections because of their zero-grade motto, meaning graze your beast in your own field (i.e. no extra-marital sex). THETA Group, the non-governmental organization in Uganda used IK as a base in curbing the scores of HIV infections. Uganda and Senegal are known as the first two success stories of Africa that used their IK as a base to fight HIV/AIDS pandemic (Green in World Bank, 2004: 18-19).

Furthermore, in Senegal, women empowered through adult literacy training were able to do away with traditional practice of female genital mutilation (Easton in World Bank, 2004: 76). In Zimbabwe indigenous technologies were integrated with exogenous ones in order to improve IK farming system. They have also managed to form Zimbabwe Traditional Healers Association that helps with herbs in order to help prolong the lives of the infected patients (Sibanda in World Bank, 2004: 77). In Burkina Faso meteorologists and farmers work together to do weather forecast (Sibisi in World Bank, 2004: 34). In Malawi old and new technologies related to sanitation, soil fertility and education are combined for the development of an agenda for researchers and communities (Sibisi in World Bank 2004: 35). In India a woman started a project of animal husbandry using only two cows. The feeding scheme focused mainly on traditional foods with a little bit of exogenous products. The project was successful and the knowledge was adopted by many community members (Shroff-Mehta & Gupta in World Bank, 2004: 268). In Mali and Uganda local communities used literacy and numeracy programs in their own local languages as platforms to manage development activities that affect their daily lives like agricultural farming and high infant and maternal mortality challenges (Easton in World Bank, 2004: 76).

There are many lessons that can be learnt from the above-mentioned projects and also be applied at Dlangubo Village for socio-economic development purposes.

The Role of Library: Its Resources and Services

In this study, public and community libraries are viewed as social institutions that can play a critical role in the repackaging of IK so that it becomes a usable knowledge to all who need it (Raju & Raju 2010:5). This study acknowledges the overlapping roles of libraries, knowledge centres, and telecentres in the literature. In this study, these terms will be used interchangeably to mean community libraries. According to Gill (2001:15) the International Federation of Library Associations (IFLA) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) describe the public library as an organisation established, supported and funded by the community organisation. It provides access to knowledge, information and works of imagination through a wide range of resources and services, making it available equally to all members of the community regardless of race, nationality, age, gender, religion, language, disability, economic and employment status (Nampombe & Zimu, 2013:3). Despite the debates in the literature that public libraries are governed by the government and community libraries by the people (Mostert 1998), these two types have shown overlapping roles because they both serve the community's information and knowledge needs in South Africa and other countries (Nampombe & Zimu 2013:3). Richmond (2005:31) asserts that the term 'knowledge centre' has many interpretations; hence, when the NTLIS was developed in Australian libraries, it was based on the role of the community library. The model was developed in line with the community's needs. The aim was to sustain it by giving ongoing support and training (Richmond, 2005:31). Chisenga (2002:19) indicates that telecentres can play an important role in the globalisation of Africa's IK, by capturing, documenting, storing and providing web-based access.

Lwoga, Ngulube & Stilwell (2010:179) indicate that effective KM activities need to construct a conducive environment for individuals to share and utilize tacit knowledge. Mchombu (2007) underlines that information sharing is important in ensuring that information and knowledge do not stay in silos isolated from the day-to-day problems facing the society. In order to remain relevant, simple and compatible to the needs of the local people,

libraries can provide spaces for information sharing like agricultural information; health related matters; political; social; entrepreneurship; apprenticeship and educational. They should help communities develop that can be used as guiding framework when managing their information and knowledge. For example, the Tanzanian TANGA AIDS Group or Uganda THETA groups can be provided space to share knowledge or to use various library resources like radios, computers and internet to access relevant information. Libraries are an economical way of facilitating change (Forsyth 2005). Similarly, to all other sectors, whether educational or commercial, etc, libraries have been permeated by ICTs. Libraries cannot function without ICTs (Bopape, 2010:129). But governments have not given sufficient support to the LIS sector especially in developing countries so that they can be able function effectively with all the needed resources (Cesar, 2004:134; and Mchombu 2006). In order for them to be able to keep up with the trend of offering open; semi-restricted and restricted databases, libraries need ICTs.

In the LIS sector, many theoretical and empirical studies have been conducted in line with the role of ICTs in managing IK. Some scholars view them as tools for rural development as they connect and facilitate information flows among communities. They can also be used to reduce poverty (Mthoko & Pade-Khene, 2013: 36). Jiyane & Mostert (2010, 54) also reiterate that they can be used to alleviate poverty. They are of the view that they can help improve the informal sector productivity and incomes. But, empirical findings of some studies seem to have not confirmed the major role of ICTs in the rural development projects. For example in Ghana, they used them to provide agricultural, health, political, community development and educational information. Although few advantages were noted such as efficient and effective communication for socio-economic development and efficient information gathering, storage, dissemination and fast access to information, rural communities rarely used them even in areas where they are available for use. In Ghana the use of radio, television and video in education plays a pivotal role in educating farmers about agricultural farming (Alemna & Sam, 2006: 237). Lwoga, Ngulube & Stilwell (2010:182) confirmed that farmers rely more heavily on verbal communication than ICT although ICT were made available for them. This seems to answer Britz & Louw's (2004: 217) questions on 'if African documentary heritage is digitized, how many Africans will be able to benefit? It can be concluded that librarians still have a lot of

work to help improve computer literacy skills and information literacy skills of the rural communities, especially agricultural farmers.

African countries have also used various library models to help develop information literacy skills of rural communities and women. For example in Malawi, the National Library Service has attempted to meet this challenge through its Extra-Mural Services Department. The department works to set up libraries and information centres in rural schools and communities (Mchombu, 2006:8). Furthermore, Mchombu (2006:8) asserts that the lower levels of literacy especially amongst the poor people in rural areas, are the determining factors for the provision of appropriate information resources for the rural communities. In one of the rural areas of Malawi, the Chiwamba Community Information Centre model was developed in line with needs of the local people. The Centre also provides space for skills training and lessons about how to start a business, manage health and agricultural farming. Meetings, free video shows and radio listening groups are convened regularly at the Centre.

The Bibliotecas Rurales and Acku Quinde, Cajamarca in Peru; and the Illubabor Community Library and Information Centres in Ethiopia offer similar services (Mchombu, 2006: 12-17). In Bilhai, India there is rickshaw based mobile library which visits six slum areas each week with books and toys for loan. In Northern Thailand, they have satellite-enabled elephant mobile libraries which provide library services to remote areas. In Zimbabwe donkey powered mobile libraries use solar power for access to the Internet. It provides services to areas without fixed libraries or electricity (Forsyth, 2005:319). In South Africa, in the Province of KwaZulu-Natal, a pilot project that involved the local people in digitising their IK has been conducted by the network of public municipality libraries. A conclusion was made that in this 21st century by providing access to cultural heritage resources, future access and knowledge sharing will be guaranteed, but there was no mention of how access will be regulated to ensure that the rights of original owners are not violated (Greyling & Zulu, 2010).

In India, they have a digital library called the Traditional Knowledge Digital Library (TDKL) (Hunter 2005,117). The TDKL digitizes India's traditional medicines and ensures that they are protected from abuse through the use of the International Patent Classification (IPC) system (Hunter

2005:117). The Northern Territory Library and Information Service (NTLIS) in Australia is another example of the network of libraries involved in IK digitization projects in order to create their databases for IK sharing. This is done to ensure that their IK and cultural heritage is codified, managed, preserved and protected accordingly (Hunter 2005, 117). In South Africa, the popular one is known as DISA. During its first phase, its participating institutions managed to digitize 40 anti-apartheid periodicals of three decades, 1960-1990. Its other focus was on capacity building (Britz & Lor, 2004:217; and (Peters) 2003:82-84). But, it is not clear whether it has managed to build the capacity of information professionals so that they are able to sustain the digitization projects hence the need for measurable monitoring and evaluation mechanisms in line with predetermined set goals and objectives.

It might be a challenge for rural women and others to use digital libraries if they do not have basic computer literacy skills. It is, therefore, important to educate women about libraries and ICTs, and also how to use them is an ingredient of information and computer literacy development. It is also important to educate them about the South African intellectual property laws as and make them aware that putting their IK on databases exposes it to abuse and loss so they need to know how to protect it. It is important because in Africa IP laws are a contested issue as they focus more on individual property protection at the expense of communal ownership common in African countries. Some African countries use customary laws in order to cater for their local needs (Nwauche, 2010).

Ramphela in World Bank (2004:13) agrees that despite the contributions women make to the lives of their families and communities, they are still faced with a number of constraints in exercising influence over their living conditions. These constraints include excessive workloads; difficulties of accessing information and ICTs and a lack of training opportunities and appropriate information, extension and advisory services. Gumede, Bob & Okech (2009:104) argue that studies focusing on women and technology are scarce. They reiterate that in the South African context there is a weak empirical and conceptual basis for understanding women's experiences, and more generally their needs related to technology and development. Given that it will be interesting to know how many have been exposed to libraries and various ICTs, what have they benefited from the training ses-

sions and how they use that knowledge and how often do they update their knowledge and skills so that it does not get redundant (Mchombu, 2006).

Theoretical Framework

This study has adopted diffusion of innovation (DoI) theory. DoI theory is a theory of social change (Rogers, 2003). Akinwale (2012:7) defines DoI theory as the theory that dwells on the process of adoption and how the adoption affects social change. Innovation is defined as the improvement on and creation of a new product or process for public consumption (Akinwale, 2012:7). Innovation theorists agree that, an innovation is likely to be adopted if it is perceived as advantageous than the known alternative; it is more observable and visible to the adopter; it is compatible and consistent with the existing values, it considers the past experiences and the current needs; it is simple to understand and to use and lastly if it is reversible and capable of being used on a trial basis (Rogers, 2003: 222). In this study information literacy, social structures like government and non-governmental organizations and the library and its resources like ICTs, radios, televisions and others are considered as innovations that can play a crucial role in improving the management of information and knowledge at the Dlangubo village with a special focus on women and girls. This is important for sustainable development.

Research Approach and Design

This study will use qualitative inductive approach of grounded theory (GT) to explore the objectives of the study. GT is a widely used approach in qualitative research. The purpose of GT is to build theory that is faithful to the evidence. It is a qualitative research method that uses a systematic set of procedures to develop an inductively derived theory about a phenomenon. The inductive approach ensures that theory is built from data or is grounded in data. The conceptualization and operationalization occur simultaneously with the data collection and preliminary data analysis. This systematic, inductive, comparative and qualitative approach of GT ensures that data and theory speak to each other. Qualitative researchers remain open to the unexpected and are flexible to change the direction or the focus of a research project. Furthermore, they build theory by engaging in a number of data comparisons (Neuman, 2003:146).

The research design for this study will be guided by the following research questions: what do you

understand by the concept information literacy skills?; why do you think it is important to be information literate?; what are the characteristics of an information literate person?; what are the various IK domains commonly used for daily survival? ; what are they used for and why? ; what are the traditional preservation methods used to preserve IK? ; what are the advantages and disadvantages of traditional preservation methods? ; how was the knowledge acquired about those methods? ; what are the advantages and disadvantages of traditional preservation methods? ; what other methods are used to preserve IK besides traditional methods? what methods are used to share knowledge? ; do you know anything about the South African intellectual property laws; about libraries; about library databases; and about ICTs? ; what are the similarities and dissimilarities between traditional preservation methods like granaries and libraries ? ; what other formal or informal groups, associations and networks that exist in the area, that you think are important but we have not talked about? ; why do you think they are important? ; from the preservation methods discussed, which one/s do you think can best fit IK management needs of the area? What model do you think can best fit the information and knowledge management needs of Dlangubo Village?

In order to elicit qualitative inductive data, various data collection methods will be used such as structured, semi-structured interviews; participant and non-participant observation; audio-visual aids and participatory mapping strategy. Participatory mapping is the process of the identification of IK through the involvement of local people and through the use of various participatory methodologies that gather, analyse and communicate community information (Smith, Herlihy, Viera, Kelly, Hilburn, Robledo & Dobson, 2012:119).

Conclusion

The present discourse is based on that information literacy skills, library and its various resources and services can play a crucial role in improving information and knowledge skills of rural communities, especially women and children. This is important for socio-economic development, especially in this 21st century as the world is faced by a number of challenges like poverty, unemployment, illiteracy; social exclusion; and various diseases like HIV/AIDS pandemic. It is being said that when one invests knowledge in a woman, one invests in a whole nation. Libraries need to become pro-active

in investing in the whole nation. The sections covered in this paper include the introduction, the literature review which covers subtopics on the information literacy, IK, and the role of support structures and libraries in managing information and knowledge for socio-economic development. The theory that has been adopted is that of diffusion. It is important for this study because it is the theory of social change. Lastly, the research approach that will be used is explained which is the qualitative inductive approach of grounded theory (GT). In GT, theory is grounded on data gathered from the participants.

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The Role of Malawi Libraries in Economic Development

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Abstract

Introduction: The development of a country depends much on the literacy level of its citizenry. The more literate a country is the faster the country will realise its economic development. Information is very essential as regards issues about economic development and is regarded as a fifth factor of production. It is a resource and a basic need therefore a driver of economic growth. Libraries are very important institutions which source and organise the information for easy retrieval. They contribute to the nation's economic development. The paper discusses the roles of libraries in economic development of Malawi as they provide timely, pertinent, accurate and reliable information. It will pay attention to the role of libraries in the advancement of education, commerce, industry, science and technology.

Methodology: Literature studies will be conducted to determine the importance of information to economic development.

Analysis: A qualitative analysis will be carried out to match the evidence from the literature studies with achievements the country has witnessed as a result of using libraries.

Conclusion: The successfully use of information for economic development largely depends upon the nature of the information and the literacy level of the citizenry. The ability of the information scientists to understand the development agenda of the country helps as they source and organise relevant information.

Keywords: *Malawi; Role of Libraries; Literacy; Economic Development; Education; Commerce; Industry; Science and Technology.*

Introduction

Economic development is the advancement of economic wealth of countries that results in the economic betterment of their people, improvement of quality of life, and creation or retaining of jobs and better infrastructures. According to Emmanuel (2009), the concept of economic development has been recently greatly broadened so that it now involves not only the reduction in poverty, inequality and unemployment but also an improvement, in the quality of life which includes a cleaner environment, better education, good health and nutrition.

A library is an agency, which engages in the collection, processing, preservation and dissemination of recorded information in the various formats and most convenient to its target users (Olanlokun and Salisu, 1993). Malawi has all types of libraries and they do contribute to economic development of the country within their mandate. This article looks at the roles libraries in Malawi play in the process of economic development. Attention will be paid to the progress of education, trade and commerce, research, youth development, good governance and health.

Education Advancement

One of the core businesses to which library re-

sources are organized is to support the advance of education. For a country to attain economic development, progress of its education system is paramount. Education is one of the valuable resources of national wealth since education and training of an individual is considered in every development plan (Ifidon, 1995). Education is one of the valuable resources of national wealth and no nation can develop with an illiterate people. Ifidon (1995) defines education as the science which trains the mind, which produces well-informed men who poses cultural and expert knowledge in some special field and which teaches men how to learn and how to solve problems throughout their lifetime. All professionals, such as doctors, engineers, economists do go through educational systems. Higher education contributes to people's successful life as well as a country's development. The library provides necessary information in one's endeavours through books and journals. A country realizes a meaningful education when it encourages reading by stocking both school and academic libraries with relevant books. The library is the heart of the school and it plays a crucial role in the teaching and learning process.

The mission statement of the University of Malawi libraries is to support teaching, learning and research which are the core business of University of Malawi. In an effort to support the quality of education as well as inculcating a reading culture

among the children in Malawi, the Mzuzu University library established a children's section which is well patronised by primary school pupils from the Mzuzu city.

The Malawi National Library Service also contributes a lot to the development of education in Malawi. Its mission statement is "to ensure that people of Malawi have access to educational, training, recreational and information materials for national development". It has an effective nationwide public library system offering services through its 12 branches, spread in the three geographical regions of the country. In addition, the National Library Service offers an outreach service that takes information to rural communities and primary schools. The small library units (centres) are operated in district community centers, rural growth centers, adult literacy centres, schools and other population centers and are run on voluntary basis by members of the community.

There is need to promote literacy programmes since they help to extend and deepen public understanding of and support for the national plans for economic and social development. Center for Global Development (2002) indicated that no country has ever achieved continuous and rapid growth without reaching an adult literate rate of at least 40%. Johnson and Lanre (2002) averred that the library contributes to education in a number of ways such as encouraging reading, expanding learning processes, developing learning skills, developing appreciation attitude and value as well as assisting with development task.

Promotion of Trade and Commerce

Libraries, as centers of information, have a pivotal role to play in promoting sustainable development in the country. They provide important resources for prosperity and business as well as equip entrepreneurs with knowledge. There can be little doubt that, historically, trade has acted as an important engine of growth for countries at different stages of development, not only by contributing to a more efficient allocation of resources within countries, but also by transmitting growth from one part of the world to another (Thirlwall, 2000). The Malawi Polytechnic Library is one such library in the country because of the nature of its stock. The Malawi Polytechnic which is one of the constituent colleges of the University of Malawi has the Faculty of Commerce which offers management programmes like Business Administration, Accounting, Marketing and Entrepreneurship. There

are a number of libraries that have good stocks of resources for management programmes besides the Polytechnic Library, and these are Chancellor College, National Library, Malawi Confederation of Chambers of Commerce and Industry as well Import and Export. These libraries are well equipped with current and relevant resources for business persons, entrepreneurs, consumers, lecturers, students and researchers. The resources provide factual knowledge needed for the day to day challenges entrepreneurs, businessmen and chief executive officers face to enable them make intelligent decisions. Consumers are also provided with information about different goods, where to get them and at what price.

The country recognizes the important role libraries play in enhancing trade nationally, regionally and internationally and more specifically in the development of any export promotion programme. As such, the libraries are home to the most comprehensive collections of information on economic development, investment, trade and export for businesspersons and other commercial and information users in Malawi.

Promotion of Research

Research is crucial to human knowledge and scientific advancement (Nwabueze, et al, 2010). It has proved to be very essential to the development of Malawi. According to Reitz (2005), research is a systematic, painstaking investigation of a topic, or in a field of study, often employing techniques of hypothesis and experimentation, undertaken by a person intent on revealing new facts, theories, or principles, or determining the current state of knowledge of the subject. It encourages the habit of personal and individual investigation and research, develops skills and resourcefulness in the use of books and other library materials (Saliu, 2000).

The mission of University of Malawi is focused on teaching and research. Okonofua (2008) states that research is essential to a university's mission for three key reasons. First, without research, teaching will be old-fashioned, monotonous, and static. Second, research helps the university provide special services to its immediate community. Third, only through research can the university make a contribution to the growth and development of the nation. Through research university graduates are full of new ideas and innovative minds. They assist in the growth and development of industries and government, thereby promoting

wealth and development (Nwabueze, et al., 2010).

Malawi as an agricultural based economy has benefitted tremendously from research results. Research stations in the country do produce different varieties of crops which are high yielding, disease resistant and drought resistant. The most recent development is the introduction of three high yielding tobacco varieties by the Agriculture Research Extension Trust (ARET). Lilongwe University of Agriculture and Natural Resources (LUANAR) do a number of both crop and animal research whose results are documented and kept in the institution's library. Recently, LUANAR has come up with a new cotton variety called "Bollgard II" which is resistant to the boll worm and has tremendous high yields, almost twice that of the traditional seed. The LUANAR Library has a very good stock of agricultural resources which researchers use.

The library provides the much needed materials, data, information and literature for quality research. Sadiq (2005) points out that a university library provides research facilities and resources to researchers, and in addition renders technical information services. When the research is done the library collects the results which are usually reported in journals, conference proceedings, or monograph and organise them for future consultations and presentation.

University research is a powerful stimulus for economic growth and community development (Nwabueze et al, 2010). Research projects assist governments and industries save money as well as create new jobs. Furthermore, Okonofua (2008) posits that university research is the opportunity to generate ideas and innovation and to fundamentally alter economic prosperity of nations and the quality of life of the citizens. Also, the influx of inquisitive minds produced by universities help industries introduce new products (Okonofua, 2008).

The economic potential of highly valued research is now evident as national economies shift to dependence on knowledge and knowledge-based skills. Publicly funded universities are being drawn into national economic agendas in ways that are new to them and that challenge many traditional academic values. Research libraries, supporting research with a growing range of new and a shrinking number of traditional services, are also being drawn in, though in widely varying ways.

The main importance of research is to produce knowledge that can be applied outside a research setting. Research also forms the foundation of program development and policies everywhere around the world. It also solves particular existing problems of concern.

There is a substantial and vital contribution in a form of knowledge made by public universities and research institutes in Malawi through research. Researchers require information for their work to enable them to know and appreciate what has been done in their field and also for literature review. Libraries provide the necessary information. Libraries play a crucial role in organising the research findings and their dissemination for the public to utilise them.

For a country to reduce unemployment, poverty or inequality among its citizen, it requires policy makers who have strong information base to discharge their duties diligently and effectively. All decisions they make depend largely on how well informed they are. Ogunsola (2008) observed that at the level of policy formulation, policy errors have been known to occur as a result of inadequate policy analysis and inaccurate and untimely data or outright unavailability of relevant information. He further asserted that this is where the provision of adequate library facilities comes in because some of these adequate policy analysis and timely data and outright relevant information should be made available in well-funded and adequate libraries in their localities. Most of the libraries in Malawi especially the academic, public and special libraries have a strong information base. This enables them to play a big role in providing policy makers with the much needed information.

Youth Development

The development of a country depends on how much information its citizenry is able to acquire (Oyeronke, 2012). There is need to put in place deliberate measures to let the youth acquire information since the youth comprise higher percentage of the citizenry. Apart from a numerical superiority, youth have energy and ideas that are society's great potentials (Oyeronke 2012). They are more creative and more labour power that if a nation utilizes them, can make giant strides in economic development and socio-political attainments. The libraries in Malawi, especially the academic, school and public libraries, are capable of providing the youth with the necessary information because the facilities are equipped with accurate, current and reliable resources. These libraries

encourage reading, expand the learning process and develop the learning skills. The libraries provide the youth with a place for reading and this keeps them away from indulging into bad behaviours.

Improvement of Health

Health is fundamental to one of the main inputs for economic development which is human capital. Good health brings broader benefits, including enhanced economic development. A healthy population is attractive to business because it is more productive and has fewer health costs. A country is likely to realize economic development if it has a healthy population. As a result of health improvements there will be improved productivity, improved learning, reduced family size, reduced treatment burden and more time to work and these result in realization of economic development.

Libraries play a big role in making the population access health resources. In health sciences librarianship, one of the key parameters for measuring the benefits from library service is the impact it has on improving patient care (Weightman & Williamson, 2005). Ogunbode (2004) states that, every country should aim at improving the health of its citizens and plan to expand outreach annually. The World Health Organization (1987) reveals that nearly all developing countries Malawi inclusive are signatories to international declarations on the promotion of health care delivery.

Health literacy, as defined by Burnham and Peterson (2005), is the ability to obtain, read, comprehend, and use health information to make appropriate decisions. The development of appropriate and effective health communication has two main goals which are to increase the role of information in the quality of health life and to eliminate disparities in health and health information among people and groups (Alpi and Bibel, 2004). The library plays an important role in the dissemination of health information and the promotion of healthy lifestyles. Therefore, librarians should strive to meet the health needs of the community.

In Malawi the health institutions have improved library resources manned by professional staff. Among them are the College of Medicine library, Kamuzu College of Nursing Library, Mzuzu University Library, Malamulo College of Health Sciences, The Malawi College of Health Sciences Libraries and St. Johns Hospital and School of Nursing Li-

brary. These libraries collect, organize and make available health materials. They emphasize on readability and comprehension of information in the resources like books, journals, instruction guides, websites, and many more. Hospitals in the country also disseminate health information through the use of non-written materials such charts, diagrams, photographs, picture books, audio and videotapes.

Medical libraries and other libraries too in Malawi are very useful. They play a crucial role in medical education as well as providing health information to the general public for their good health. The information allows users to make informed decisions which are good for economic development.

Good Governance

When people are well informed, they are likely to participate in policy discussions and communicate their ideas and concerns freely. The development of an informed citizenry is one of the basic functions of public libraries. Public libraries are freely open to all persons, irrespective of age, profession, race or colour, and provide free access to any literature required. Good governance includes sustainable development. Libraries are, therefore, expected to contribute to its advancement by providing timely and accurate information on environmental protection and the promotion of the idea of sustainable development within the communities they serve. Good governance, generally, encompasses a broad array of practices that maximise common good. Some of the attributes of good governance are democratic practices, rule of law, and respect for human rights.

Moreover, it is incumbent upon a society to ensure that its citizens have the resources and skills that will enable them to access this information so as to participate effectively in the art of governance. Libraries as preservers of the knowledge of society, therefore, become crucial in this connection. The library enjoys a symbiotic relationship with democracy and, therefore, good governance. It provides access to government information, thus aiding the public to monitor the work of public officials.

The National Library Service with its philosophy of unfettered access to recorded information and knowledge to all people is not the only library that is better placed to provide the necessary information. The Chancellor College Library and the

Malawi Polytechnic Library too because of the nature of the programmes offered by colleges like Public Administration, Law, Human Rights and Journalism, have enough resources for good governance.

Good governance is the concept that has dominated international discussion about development and international assistance since 1980s (Wohlmuth, 1997). Good governance encompasses a broad array of practices that maximize common good and its attributes are democratic practices, rule of law, and respect for human rights (Arko-Cobba, n.d). There is a relationship between economic development and good governance. A country cannot realize economic development if there is corruption both in the public and private sector. Wohlmuth (1997) reported that in Africa the decline of production or the slow growth for decades can be related first of all to mismanagement and bad governance. Promoting good governance in all its aspects, including ensuring the rule of law, improving the efficiency and accountability of the public sector, and tackling corruption is an essential element of a framework within which economies can prosper (The Economist, 2010).

There is need for a country to adhere to good governance in order to attain economic development. Good governance is a precondition for economic development. The quality of governance plays a vital role in the economic development of countries. The need for good governance is widely recognized in contemporary discourses on development. The exhortation for good governance to achieve economic development is widespread.

The parliament or legislature plays an important role in the life of a nation. It thus, perform three main functions: a) make new laws, change existing laws and repeal laws which are no longer needed; b) represent and articulate the views and wishes of the citizens in decision making processes and c) oversee the activities of the executive so that the government is accountable to the people. Achieving good governance requires the existence of a strong, effective and efficient parliament. This is so because parliament plays a crucial role in gauging, collating and presenting the views and needs of the people, articulating their expectations and aspirations in determining the national development agenda. As an oversight body, parliament helps to identify problems and policy challenges that require attention and assists in overcoming bureaucratic inertia.

In a nut shell, effective democracy is impossible without a library (Rugambwa, 2010). In a parliamentary democratic system, the representatives of the people need objective, factual and timely information with a view to making informed decisions and ensuring executive accountability to the legislature. To that effect, the parliament of Malawi established a library and has resources to serve the parliamentarians and researchers.

Conclusion

All over the world the core business of libraries is providing free and equitable access to information for all, be it in written, electronic or audiovisual form. Libraries play a key role in promoting literacy by offering relevant and attractive reading material for all ages-creating a literate citizenry. It is only a literate people that will bring real economic development. Libraries assist in finding, using and interpreting appropriate information that opens up opportunities for lifelong learning, literacy enhancement, informed citizenship, informed decisions, recreation, creative imagination, individual research, critical thinking, and ultimately, empowerment in an increasingly complex world.

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The Impact of Libraries and Information Services in Shaping Vision 2030 in Kenya

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Abstract

Information is increasingly becoming accepted as an important factor of socio-economic production besides land, labour and capital. Credible information and its effective use is a potentially powerful socio-economic development tool. Due to their position as the trusted source of information for many people, libraries play a pivotal role in facilitating socio-economic development by promoting good governance, literacy, social reconstruction, innovation and better decision-making. This paper analyses the impact of libraries and information services on the realisation of Kenya's Vision 2030. The study was conducted using a survey research method. Data was collected from librarians, the general public and national development planners, using key informant interviews. The findings indicate that libraries have so far had a low impact on the realisation of Vision 2030 in Kenya. One of the major challenges hampering the effective support of the Vision 2030 by libraries is the perceived laid-back nature of librarians. Therefore, it is suggested that librarians should be more assertive in their involvement in national issues.

Keywords: *Kenya, Vision 2030; National Development; Role of Libraries; Impact of Information Services*

1. Introduction

The Kenya Vision 2030 is the country's development programme covering the period 2008 to 2030. It was launched on 10 June, 2008 by Kenya's third President Mwai Kibaki. Its objective is to help transform Kenya into a newly industrialising, middle-income country, providing a high quality of life to all its citizens in a clean and secure environment by 2030 (Government of Kenya, 2012).

The Vision is anchored on three key pillars: economic, social, and political governance. The economic pillar aims to achieve an average economic growth rate of 10 per cent per annum and sustaining the same till 2030 in order to generate more resources to meet the MDGs and Vision 2030 goals. The social pillar seeks to create a just, cohesive and equitable social development in a clean and secure environment. The political pillar aims to realise an issue-based, people-centred, result-oriented, and accountable democratic system.

The Vision identifies six key sectors to deliver the 10 per cent economic growth rate per annum envisaged under the economic pillar. These are tourism; agriculture; manufacturing; wholesale and retail trade; business process outsourcing (BPO); and financial services. Similarly, the social cohesiveness and justice is planned to be achieved through strategic investment in education and training; health; water and sanitation; the environment; housing and urbanisation; as well as in gender, youth, sports and culture. The transformation of the country's political governance system under Vision 2030 is planned to be realised through improvements in the rule of law; electoral and political processes; democracy and public service delivery; transparency and accountability; as well as

security, peace building and conflict management.

The Vision 2030 is being implemented in successive five-year Medium-Term Plans (MTPs), with the first such plan covering the period 2008-2012, by a semi-autonomous government agency, known as the Vision 2030 Delivery Secretariat. The second MTP (2013-2018) is currently being developed.

If successful, Vision 2030 would alleviate poverty, food insecurity, unemployment and occurrence of preventable diseases. It would also create a democratic society in which the rule of law and respect of basic human rights are upheld for the corporate and individual good of all. Negative effects of globalisation such as market liberalisation, rapid population growth and its impact on social amenities and natural resources, effects of multilateral trading arrangements such as Common Market for Eastern and Southern Africa (COMESA) and the East African Community (EAC), inadequate infrastructure, high costs of energy, inefficient socio-economic systems, bureaucracies in government, Kenya's vulnerability to climate change, increase in the occurrence of non-communicable diseases, low levels of Public-Private-Partnership (PPP) engagement, lack of funds, and inadequate human resources are some of the challenges which are likely to hamper the realisation of the Vision.

2. Problem Statement

Information is increasingly becoming accepted as an important factor of socio-economic production besides land, labour and capital. Credible information and its effective use is a potentially powerful socio-economic development tool. It is the link pin of national development. For a nation to devel-

op, it needs to provide reliable, relevant, updated and adequate access to credible information to its citizens.

Due to their position as the trusted source of information for many people, libraries play a pivotal role in facilitating socio-economic development, for instance, by supporting good governance, literacy, social reconstruction, innovation and better decision making. It is not surprising, therefore, that numerous papers on the role and impact of libraries in buttressing democracy, human rights, millennium development goals and myriad national development blueprints exist (Fine, 1990; Waizer and Gruidl, 1997; Calvert, 1999; Glass et al., 2000; Hamilton-Pennell, 2008).

Information on the actual or potential role and impact of libraries and information services in supporting the realisation of Kenya's Vision 2030 remains scanty. The situation is further exacerbated by the fact that neither information nor communication management is listed as a significant factor in the implementation of the Vision. The only reference to this theme is made under the training of engineers, technologists and technicians where a progress report of the first MTP identifies low capacity to utilise knowledge and information in the design, production, manufacturing and marketing as a challenge to the Vision (Vision 2030, 2013). This apparent neglect underscores the misperception of the role of information as a facilitator of socioeconomic development. This paper analyses the role public, academic, research and special libraries in Kenya have and can play in helping the country to achieve its Vision 2030 as a way of mainstreaming information as a core enabler of the realisation of Vision 2030.

3. Methodologies

The author used survey research methodology to gather primary data from librarians, general public and national development planners, using key informant interviews. The interviews were conducted personally by the author using interview guides. A total of 31 respondents participated in the study. The respondents were selected through a combination of stratified, information-oriented purposive sampling and snowballing. First, the potential respondents were divided into three categories. The categories were librarians, general public or planners. Seven respondents were then selected from each of the three strata using information-oriented purposive sampling. The researcher also used snowballing to identify and in-

terview additional respondents suggested by the other respondents based on their expertise on the subject. Additional secondary data was collected through relevant documentary analysis. The data was analysed through content analysis.

Findings and Discussions

The findings of the study are presented and discussed hereunder.

Vision 2030 is not Achievable

The majority (78%) of the respondents said that they believed that the Vision is not achievable. They explained that the achievement of the Vision is affected by the seemingly constant cases of corruption which raise the costs of doing business in the country as well as other forms of fiscal indiscipline; lack of supportive political goodwill; inadequate infrastructure; high costs of energy; natural disasters such as floods which devastate the already poor infrastructure; the consequences of climate change and global warming; non compliance to laid down procedures and standards of practice; slowdown of economic growth in the recent past; the inclusion of corrupt persons in successive governments; inadequate levels and pace of governance reforms; inequality in wealth distribution; rapid urbanisation; lack of clear and adequate funding mechanisms; consequences of globalisation; the consistently high unemployment among the youth; and the consequences of brain drain.

These respondents also said that the Vision is elitist and seems to cater for the interests of the wealthy. They opined that the majority of the citizens, who are poor, feel the initiative does not address their interests and so do not feel a sense of ownership of it. These respondents also pointed to myriad similar failed projects in Africa and asserted that Kenya's Vision 2030 will suffer the same fate. Critically, Maina (2011) points out that the *Sessional Paper No. 10 of 1965 on African Socialism and its Application to Kenya* and *Sessional Paper No.1 of 1986 on Economic Management for Renewed Growth* which were meant to facilitate equitable development have not been fully implemented to date. Some respondents also cited the failure of the Government to harness the full potential of rail transport. These failures have been cited as indications of the Government's apparent lack of commitment to implement its own strategies; hence, the scepticism over the magic Vision 2030 will ap-

ply.

On the other hand, 22% of the respondents asserted that the Vision is achievable. They pointed to the remarkable economic growth achieved under Kibaki's presidency; the facilitative legal environment created by the new constitution; the accomplishment of major projects, such as the construction of Thika Superhighway; the rising remittance of funds from Kenyans in the Diaspora; the development of technological infrastructure, such as laying of fibre optic cables; the establishment and use of Constituency Development Fund (CDF) to facilitate economic development at the grass-roots; participation in regional trading blocs thus expanding Kenya's markets and economic competitiveness; and the relatively successful implementation of free primary school education programme. They also point out that the Government has a clear roadmap to achieve the Vision, and cited planned projects such as the road to link Lamu Port, South Sudan and Ethiopia as well as the modern techno-based Konza City.

The respondents suggested that improving the quality of and access to education; diversification of the economy; increased access to capital resources to boost economic productivity; increased food security through diversified and improved agriculture; and creation of employment opportunities will likely increase the chances of the Vision getting realised.

4. Involvement in Vision 2030

The majority (76%) of the respondents have not been involved in any way in a Vision 2030 project. Similarly, 80% of the respondents do not know any library or librarian which is involved in any project associated with the Vision 2030. Notably, most of the respondents, apart from the planners, who claimed to have been involved in Vision 2030 projects, said they were doing this as individuals. Furthermore, their involvement revolved around membership to youth empowerment groups or promotion of peaceful coexistence. This indicates that the majority of the respondents are either involved peripherally or not involved at all in any Vision 2030 project. This finding seems to lend credence to the view that the Vision is elitist and does not involve or resonate with the common people. Kenyatta University, the Presbyterian University, and the Catholic University of Eastern Africa librarians were cited as supporting the realisation of Vision 2030 through modernised information services. It is noteworthy that all these

libraries primarily serve their parent academic institutions and are not generally accessible to the public. Therefore, it can be deduced that the majority of Kenyans do not have access to library services which support the realisation of Vision 2030.

4.3 Role of Libraries in Vision 2030

The findings of the study revealed that none of the libraries sampled offers information services specially tailored to support the implementation of Vision 2030. Nonetheless, all the respondents concurred that all library typologies have a potential to support the realisation of the Vision by promoting information literacy; facilitating knowledge creation, transfer, preservation and learning; promoting the development, nurture and sustenance of democratic governance; developing a facilitative national information policy; promoting formal and informal education; providing relevant information resources; enhancing social inclusion and coexistence; promoting and supporting research and innovation; promoting lifelong learning; providing relevant information to support effective socioeconomic planning and decision making; and supporting civic education on the vision.

4.4 Effectiveness of Libraries in Supporting Vision 2030

The majority (40%) of the respondents were of the view that libraries have been ineffective in playing their potential role in the realisation of Vision 2030. Thirty-six per cent (36%) of the respondents stated that libraries have been average in supporting Vision 2030 while 8% were of the view that the libraries have been very ineffective. Only 16% felt the libraries have been effective in supporting the realisation of Vision 2030. This implies that 48%, nearly half, of the respondents felt the libraries have been generally ineffective in supporting the realisation of Vision 2030 in Kenya.

The respondents pointed out that inadequate funding; slow implementation of technology in libraries; inadequate information resources; the prevalence of the digital divide; lack of adequate support from the government and their parent institutions; lack of support from or invitation by Vision 2030 secretariat; ignorance about Vision 2030 among librarians; poor national reading culture; lack of technical capacity amongst librarians to support socioeconomic development programmes; laid-back nature of librarians; lack of a facilitative national information policy; the feeling of inferiority complex amongst librarians; as well

as the lack of involvement of librarians in national policy formulation or implementation are the factors currently affecting the effectiveness of libraries in supporting the realisation of Vision 2030. The other challenges identified by the respondents as impeding the effective support of Vision 2030 by libraries include inadequate financial and physical resources; lack of appreciation and support of libraries and librarians from the general public; inadequate use of technology to conceive and deliver dynamic information services; low literacy levels and poor reading culture in Kenya; low motivation of librarians; lack of cooperation between the librarians and also between them and the other stakeholders; political interference; and the immature state of libraries in Kenya.

4.5 Impact of Libraries on the Realisation of Vision 2030

The majority (48%) of the respondents were of the view that libraries have so far had a low impact on the shaping of the Vision 2030 in Kenya. Thirty-two per cent (32%) of the respondents, however, were of the view that libraries have had no impact at all on the current status of the Vision 2030. Nonetheless, 20% of the respondents felt that libraries have had an average impact on the Vision. Therefore, an overwhelming majority (80%) of the respondents were of the view that libraries have not had a meaningful impact on the realisation of the Vision 2030 in Kenya.

The respondents suggested several ways through which libraries can enhance their impact on the shaping of the Vision 2030 in Kenya. These include proper planning of library activities and services; advocacy, networking and alliance building amongst libraries to boost their visibility and influence on the national agenda; effective use of modern technology to increase access to library services; shifting of focus to the users and striving to meet their unique needs; serving the long tail through disintermediation; collaborating with the relevant institutions to disseminate information on Vision 2030; training of librarians on what Vision 2030 is; providing financial support to libraries to design and deliver services facilitative of Vision 2030; marketing of library services and products; conducting relevant research studies and disseminating the results to the government and the public; motivating the librarians by the parent organisations and government; developing and enforcing standards for service delivery; restructuring to offer more relevant services; promoting reading and literacy amongst the citizens; as well as mobilising

essential resources from diverse sources to enhance service development and delivery. The respondents also suggested that librarians and libraries should not stand aloof, but get actively involved in national issues such as Vision 2030 through personal initiative.

4.6 Potential of Libraries in Supporting the Realisation of the Vision 2030

The respondents were unanimous that libraries have a great potential in supporting the realisation of Vision 2030 in Kenya. Some of these suggestions are discussed hereunder in the respective key economic sectors.

4.6.1 Agriculture

This is the backbone of Kenya's economy. Apart from its contribution to the Gross Domestic Product (GDP) as a foreign exchange earner, agriculture is also the main source of food in Kenya. Therefore, it is almost unimaginable that Vision 2030 can be achieved without sustainable development and improvement of agriculture. Any dynamics in agricultural productivity have direct effects on Kenya's national economic development. Libraries can support agricultural development by facilitating research and development of relevant evidence-based policies by collecting, organising and providing access to relevant and timely information in the appropriate format (Rhoe, Oboh and Shelton, 2010). Libraries can also act as sources of critical information on various topics of interest in agriculture. Libraries can also document, validate and promote indigenous knowledge on agriculture in specific communities. Furthermore, they can support agricultural extension and farmer education services through the provision of relevant information services. Particularly, the libraries may offer translation, interpretation and repackaging services to customise information to the needs of the farmers or extension officers. Library spaces and premises can also be used as community centres for learning, dialoguing and networking resulting in the effective sharing of knowledge, development of roadmaps, rallying of calls to action and building of alliances which are supportive of sustainable agricultural production, better marketing of agricultural products and enhanced postharvest practices. Library spaces and premises can also be used to host exhibitions, demonstrations and other agricultural development programmes. Libraries, especially in the rural settings, can also offer access to technology which farmers can use to organise, process, and disseminate information.

4.6.2 Tourism

Tourism is one of the major income earners in Kenya besides tea and horticulture. The then Ministry of Tourism reported in 2010 that Kenya had attracted 1,095,945 tourists and earned 73.68 billion Kenya Shillings that year. This critical source of national revenue is hampered by local insecurity as well as piracy in the Indian Ocean, affecting the number of cruise ships docking in the country's ports; rising incidents of terrorism-related attacks leading to unfavourable travel advisories; socio-economic challenges such as Euro Zone in its traditional tourist baskets; poaching of wildlife; as well as inadequate infrastructure and accommodation facilities in some areas.

Libraries can support the development of tourism by providing information of interest to tourists such as history or basic facts of the place, hosting cultural events, preserving and holding local cultural artefacts or photos, hosting of cultural and other events of interest to tourists, providing space for the display and sale of unique Kenyan handicrafts. Libraries can also be used to distribute tourism marketing materials, especially to promote local tourism. Importantly, libraries can also be attraction sites to which tourists turn to interact with the local communities and access collections of local works and also promote cultural exchange. Libraries can work with their communities, local tourist guides and other stakeholders to mainstream libraries and make them more visible in the major tourist trails. One of the simplest strategies libraries could use is to produce and distribute souvenirs. They can also develop rare collections of works published in or by the residents. These collections and souvenirs could be managed by specially trained reference librarians.

4.6.3 Education

The fact that libraries facilitate human resource development by supporting education is not in doubt. All library typologies support education in one way or another. Boucher and Lance (1992) explain that libraries provide access to education by teaching information skills by providing leadership and expertise in the use of information and information technologies, and by participating in networks that enhance access to resources outside the school or community. They also explain that libraries help ensure equity in education by: (1) helping children start school ready to learn; (2) addressing the needs of most at risk students; (3)

providing access to information and ideas unimpeded by social, cultural, and economic constraints; (4) ensuring free and equal access to information and ideas without geographic constraints; and (5) helping students stay free of drugs and violence by providing an environment conducive to learning. The third role, they argue, is that of impacting academic achievement for individuals and assisting them in lifelong learning, preparing individuals for productive employment, promoting the enjoyment of reading, promoting functional literacy among adults, and preparing individuals for responsible citizenship. By supporting education, effective library services support human resource development by imparting business, entrepreneurial, technological and social skills which are essential for socioeconomic development. This marks a major shift in the perception of libraries as centres for mere passive and recreational reading to active research institutions and socio-economic development agents. Highly educated and technologically skilled workers are essential for the achievement of the Vision 2030.

4.6.4 Health

The fight against disease in Kenya was declared at Kenya's independence in 1963 when the founders of the new nation identified disease, poverty and ignorance as the major challenges which would hamper rapid national development. In spite of the myriad initiatives to improve the delivery of health services, Kenyan households are still entrapped in a vicious cycle of poverty and ill health. Indeed, the Government of Kenya in its Community Health Strategy published in 2006 acknowledges that Kenyans carry one of the heaviest preventable health burdens in the world (Government of Kenya, 2006). Vision 2030, among other strategies, seeks to improve healthcare in the country by developing community health information systems to enhance the communities' awareness of preventive and promotive health.

Community and public libraries can particularly play a pivotal role as hubs in the community health information systems throughout the country. Libraries can provide the space, digital or physical information materials, information services and network which can be used to share health information and thus promote healthy living and avoidance of preventable illnesses. These services will educate communities about risky health behaviours, home-based health care provision, alternative health practices, as well as promote the right attitudes to health issues and conditions. Li-

brary spaces can also be used as health service delivery centres, for instance, for Voluntary Counselling and Testing (VCT) for HIV/AIDS, blood sugar or pressure testing. Libraries can further support health through bibliotherapy which Arulanandham and Navaneethakrishnan (2013) define as the use of reading materials to help in solving personal problems or for psychiatric therapy.

4.6.5 Climate Change

Climate change is one of the greatest and most complex challenges facing the world today. Studies have shown that ninety percent of natural disasters result from severe weather and extreme climate change phenomena (Kaser et al., 2004; Patz et al., 2005; Government of Kenya, 2010). Climate change researchers predict that if the current trends of climate change are not reversed then over the next decade, billions of people will face greater life and health risks emanating from water and food shortages (Patz et al., 2005; Government of Kenya, 2010). Developing countries like Kenya are the most vulnerable to climate change impacts because they lack adequate social, financial and technological resources to adapt to or mitigate it.

Libraries can enhance Kenya's capacity to mitigate or adapt to climate change through the provision of essential information which demonstrate that climate change is real. They can also provide information on climate change projections in Kenya, weather patterns, as well as climate change adaptation and mitigation techniques. Libraries can also provide platforms for dialogue on climate change, leading to the development of facilitative legal and policy frameworks, climate change response strategies and mechanisms, institutional and technical capacity to manage climate change, innovations to enhance Kenyans' resilience in the face of inevitable climate change conditions, as well as the adoption and validation of indigenous knowledge on climate change. Furthermore, libraries can provide services and information materials sensitising the communities of their individual and corporate roles in mitigating climate change.

4.6.6 National Reconciliation, Cohesion and Coexistence

One of the greatest challenges facing Kenya today is negative ethnicity, tribalism, clanism and lack of patriotism. This situation was exemplified by intra or inter-ethnic clashes and conflicts by the 2007/2008 post-election violence which nearly

grounded the country's economy. Libraries can support national reconciliation, cohesion and coexistence through the provision of information services and materials that repair or nurture the social fabric holding the country's communities together. One of the creative information service models libraries may apply is the 'borrow a person' concept, which emerged in Denmark in 2000. It is known as the 'human library' approach. The foundation of the concept is to create a forum for library users to meet people whose perspectives, experience or skills they are interested in. Libraries, such as Toronto Public Library, actually have volunteers who act as 'human books' whom users 'borrow' and converse with in the library. In Sweden, the concept has been expanded to enable library users to come face to face with their prejudices in the hope of altering their preconceived notions.

Community and public libraries in Kenya can use this model to confront negative ethnicity and stereotypes in the country. Strategic 'human books' can be used to provide insights into their communities and thus enhance an understanding which would reduce stereotyping. The 'human books' can also be used in peace building initiatives to make appeals for calm and dialogue. Besides the 'human books', libraries can provide information services and collections which promote nationalism and reduce ethnic animosity. Library spaces can also be used for reconciliation and peace building events. These services can be offered in the physical library buildings or through mobile library models. Similarly, library communities can form the nuclei of peace building groups which can be used to champion national reconciliation and healing. Variations of these services can also be used to facilitate the reduction or elimination of gender-based conflicts. The service model can also be used to promote human rights and thus creating an equitable society which is likely to be peaceful.

4.6.7 Accountability and Transparency

Corruption is one of the greatest challenges to socio-economic development in Kenya. Indeed, the vice is one of the factors which have hampered great development plans in the country since independence. The country has witnessed major corruption scandals. In spite of the declaration of zero tolerance for corruption by successive governments and establishment of an Anti-Corruption Commission, Kenya was still ranked number 139, with just 27 points, in the 2012 corruption perception index published by Transparen-

cy International (TI, 2012).

Libraries can enhance the fight against corruption by promoting the use of good record keeping and seamless flow of information. Libraries, as documentation centres, can also heighten the fight against corruption by providing information resources that promote transparency and accountability. They can also preserve records which can be used as evidence in corruption cases, act as places for the local communities to report corruption cases, and can also train the general public on information literacy, thereby building their capacity to seek, analyse, interpret and use credible information on corruption cases.

4.6.8 Wealth Creation and Poverty Alleviation

Library spaces can also be used to support wealth creation. For instance, a community library can provide the space and Internet connection which can support the provision of business process outsourcing (BPO) services by a local youth group. This way, local youth can access business opportunities globally and offer services to offshore companies cost-effectively. BPOs can create job opportunities and alleviate the socioeconomic consequences of unemployment.

Library spaces can also be used to host trade events which can generate revenues for the communities. For instance, the library parking can be used on designated days by women groups, such as a "Maasai Market" to showcase and sell locally produced handicrafts and other artefacts. Youth can also use sections of the library to offer secretarial and reprographic services. Other business opportunities which may benefit from the library space and community include café, gyms, gift shops, theatres and restaurants.

Importantly, libraries can provide business incubation services and support start-ups. For instance, libraries can organise, or host business incubation programmes which may provide opportunities for networking, partnering, exchanges, sharing, and mentoring. Business incubation through libraries may also enable innovators to translate their ideas into commercially viable products, access markets as well as access financial and other essential resources. Incubation may also include advisory on documentation and patenting of innovations to protect the intellectual property rights of the originators.

4.6.9 Democracy and Good Governance

Hyde and Marinov (2008) assert that information plays a significant role in democratic governance. An effective flow of information promotes democracy in several respects. One, the sharing of information on good governance practices facilitates the adoption and use of the same. Two, awareness that information on any malpractices will be shared widely may discourage such practices. Three, access to the right information empowers the citizens to participate effectively in democratic activities such as general elections and thus determine their future. Four, effective flow of information enables the citizens to hold leaders accountable for their governance practices, be they good or bad. Five, citizens empowered through access to information understand their rights and obligations better. Thus, they are able to promote democracy and justice in their societies.

Libraries as custodians of information and knowledge undoubtedly play an important role in creating, collecting, organising, sharing, preserving and promoting the use of information which can stimulate and nurture democracy in the communities they serve. They can organise, host, promote or sponsor activities on democracy and good governance. Library communities can also form networks and alliances which can be used for promote democracy and good governance.

5 Conclusions

It is evident from the foregoing that libraries have the potential to play a pivotal role in facilitating the realisation of Vision 2030 in Kenya. As discussed above, this potential can be realised through the provision of relevant information services and materials; organising, hosting or sponsorship of relevant events which support the achievement of the Vision 2030 in one respect or the other; as well as by stimulating the development, nurture and sustenance of networks and alliances which can be used for activities which support Vision 2030. Unfortunately, libraries are ineffective in playing these roles. Therefore, they have either no or low impact on the shaping of Vision 2030. In spite of the fact that libraries face many challenges in their efforts to support the implementation of Vision 2030, their greatest impedance seems to be the laid-back and passive attitude of librarians. Librarians need to be assertive, active and visible on the national platforms of interest so as to enhance the impact of libraries on socioeconomic development programmes such as

Kenya's Vision 2030.

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Knowledge Needs and Sharing amongst Librarians in Zambia in the University of Zambia Library

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Abstract

The University of Zambia Library system was established in 1966 and consists of the Main Library, Medical Library and Veterinary Library. The libraries are administered in a single centralised library system. The study investigated knowledge needs and sharing among librarians in the University of Zambia Library system. A descriptive research design utilising a case study approach was adopted. Participants for the study comprised all librarians across all departments of the library. The study revealed that librarians need knowledge about technical, operational, and process-related aspects of their jobs. The study addressed areas such as knowledge needs for job-related tasks, attitude of the respondents towards knowledge sharing, intra-departmental sharing, preferred communication channels, and barriers to knowledge sharing. Limited intra-professional knowledge sharing was observed. The preferred channels for knowledge sharing were face-to-face-communication and email. Librarians were seldom using the organisational intranet and online collaboration tools for information and knowledge sharing.

Keywords: *Knowledge Sharing; Knowledge Needs; Zambia; Librarians and Libraries.*

1. Introduction

Within the overall knowledge management domain, a critical area that needs more attention is knowledge sharing. Knowledge sharing is embedded within the knowledge-processing scope where knowledge is generated and put to use. Effective knowledge management strategies must emphasise the role of knowledge sharing to achieve maximum results for organisations, academic libraries included. In this vein, knowledge sharing is defined as the extent to which knowledge is being shared (Wang, Hjelmervik & Bremdal, 2001). Knowledge sharing refers to the 'process of capturing knowledge or moving knowledge from a source unit to a recipient unit' (Wang, Hjelmervik & Bremdal, 2001).

Knowledge sharing is a process, whereby a resource is given by one part and received by another and for sharing to occur, there must be exchange. Knowledge sharing refers to the exchange of knowledge between at least two parties in a reciprocal process allowing reshape and sense-making of the knowledge in the new context. Increasing knowledge sharing would have a positive effect on organisation performance. Knowledge sharing has been greatly facilitated by modern computer based technology. They further defined knowledge management as generally understood to mean the sharing of knowledge inside or outside of an organization. However, there is no

agreed definition of Knowledge Management, even among practitioners. The term is used loosely to refer to a broad collection of organisational practices and approaches related to generating, capturing, and disseminating know-how and other content relevant to the organization's business (Wang, Hjelmervik & Bremdal, 2001).

According to the literature on the studies of knowledge, knowledge can be classified as explicit or tacit. Polyani (1997) defines explicit knowledge as knowledge that is formal, systematic, and can be codified into records such as databases and libraries (cited in Nonaka & Takeuchi, 1995). Nonaka & Takeuchi (1995) define explicit knowledge as knowledge that can be documented, created, written down, transferred verbally or through some medium of communication such as emails, telephone or information systems. Another definition by White (2004) summarizes explicit knowledge as knowledge that can be processed by information systems, codified or recorded, archived and protected by organisations. Tacit knowledge, on the other hand, is informal knowledge that is embedded in mental processes, is obtained through experience and work practices, and can be transferred by observing and applying it (Nonaka & Takeuchi, 1995). White (2004) defines tacit knowledge as knowledge that exists in people's mind and is quite difficult to transfer. Polyani (1997) defines tacit knowledge as knowledge that is highly personal and is embed-

ded in a person's daily work practice (cited in Nonaka & Takeuchi, 1995).

2.0 Institutional Context

The University of Zambia Library was established in 1966. The library system is made up of the Main Library, the Medical Library in the School of Medicine and the Veterinary Library in the School of Veterinary Medicine. The library system is administered as a single centralised library system. The main library has a designated sitting capacity of 1,600 readers and over 300,000 volumes of library resources. The Library supports the University of Zambia's mission to serve the learning, teaching, and research needs of its students, teaching staff, research affiliates, and researchers. In order to support the work that the university does, it is important that knowledge is produced and shared. The benefits of knowledge sharing in improving the work efficiency and effectiveness are well known. Therefore, the purpose of this study was to investigate factors influencing knowledge sharing among librarians in the University of Zambia library system (University of Zambia, 2009).

Despite the awareness of the benefits of knowledge sharing in improving the work efficiency and effectiveness among the librarians in the University of Zambia Library, there exists a wide range of views and perceptions (including unfavourable views) on knowledge needs and knowledge sharing among the librarians (source). It is not clear for many librarians how knowledge sharing can be initiated and implemented and how knowledge sharing can contribute to professional growth and development. As a result librarians in the University of Zambia Library do not share their knowledge under all circumstances. They have enough reasons not to share as much as the organisations would like them to. Therefore, the purpose of this study is to investigate factors influencing knowledge sharing among university librarians.

3.0 Objectives

The objective of this study was to investigate the knowledge needs and knowledge sharing among librarians in the University of Zambia Libraries.

Specifically the study sought to:

To investigate knowledge needs and knowledge sharing among Librarians in the University of Zambia Libraries.

To identify the methods used in knowledge sharing

To identify the factors motivating knowledge sharing

To identify the barriers in knowledge sharing

4.0 Literature Review

A review of the literature revealed that there is no well-defined knowledge sharing theories. Most of the views on knowledge sharing are embedded in knowledge management theories. Most of the writings or research on knowledge are rooted in various disciplines under different names such as the knowledge-based view, communication theory, voluntary, informal and knowledge sharing and technology transfer view. However, understanding the practice of knowledge sharing within organisations is a serious concern for organisations of today. More and more, organisations become aware of the necessity to stimulate circulation of knowledge. Libraries, like other organisations, can benefit from knowledge management initiatives.

Some researchers from the library profession have attempted to identify the requirements by which libraries can promote knowledge sharing among librarians, their customers and suppliers in their everyday activities (Foo et al., 2002). However, this is an emerging interest that is relatively new in this field, and therefore approaches that deal with these issues are mainly general in nature. Among the first librarians who introduced the concept 'knowledge management' to the Library and Information Science (LIS) profession are Xiaoping (1999) and Rui (1999). Shanhong (2000) also describes how libraries can manage the creation and sharing of knowledge among their staff. She proposes that libraries should create and develop their own "document information resources". She also emphasises that, in sharing of knowledge, libraries should make comprehensive utilisation of expert systems and all media.

White (2004) reports finding of a case study she carried out at Oxford University Library Services (OULS) and found how academic libraries can benefit from Knowledge Management in integrating librarians' knowledge into the whole process of library services. She concludes that an effective knowledge sharing culture exists at OULS and that librarians consider their organisation as a learning organisation. Similarly, Sinnote (2004) explores Knowledge Management in terms of its relevance for library and information science professionals. In a general approach, Sinnote describes the key points where LIS professionals can be involved in Knowledge Management initiatives. Parirokh,

Daneshgar, & Rahmatollah (2008) report how sharing of knowledge among librarians can improve organisational learning in academic libraries.

Jantz (2001) maintains that many consider knowledge management to be primarily a business activity in which the use and reuse of knowledge creates business value in terms of profits, improved return on investment or some other quantitative measure. As corporate libraries are closely bound to their parent companies, there is a compelling need for them to support their companies for the survival and success in the business world. Jantz (2001) examined important issues of knowledge management within academic libraries and how reference librarians can become more effective as information intermediaries. Stover (2004) points out that no matter how erudite a reference librarian may be, it is impossible for him or her to be an expert in all disciplines. Therefore, he stresses the need for reference librarians to make explicit and codify their tacit knowledge base if reference services are to be provided efficiently and effectively.

Branin (2003) surveyed the field of collection management over the last fifty years and discerned an evolutionary path from "collection development" to "collection management" and now to "knowledge management". In that sense, he echoes Corral's claim (1998) that Knowledge Management, when applied to libraries, often becomes how to manage recorded knowledge, that is, library materials. Digital library is another area Knowledge Management has been actively applied. Rydberg-Cox, et al. (2000), equates Knowledge Management to the new document delivery and knowledge management tools in a digital library. Turvey & Letarte (2002) argue that the library world is characterised by fast-paced change, and perhaps in no other area as much as the field of cataloguing. And they tried to define cataloguing as a very important aspect of Knowledge Management in an increasingly digital world.

According to Grant (1996) only 10 per cent of an organisation's knowledge is explicit (cited in White, 2004). That estimation might be low. But it points to the fact that a large portion of knowledge in an organisation is tacit, deeply embedded within an individual's experience, judgment and intuition (Ahmed, Lim, & Loh, 2002). As such, it is difficult to express and communicate (Nonaka & Takeuchi, 1995). On the other hand, Nonaka & Takeuchi (1995) maintain that tacit knowledge lies at the very heart of organisational knowledge. Therefore,

it is too dear to ignore or not to manage. Library human resources and staff development should be charged to work closely with managers at all levels to identify staff with valuable tacit knowledge and take every measure to retain such staff. How to motivate staff to contribute and share their knowledge is not an easy task. Some staff may not want to share their knowledge for fear that once their knowledge is shared, they might no longer be valued or deemed indispensable. Some staff may not share their knowledge for free, as there are free riders (Susarla, Liu, & Whinston, 2003) who only take for granted others' knowledge but never share their own. They further argue that in order to encourage staff to contribute their knowledge, there is need to have an incentive or reward system in place.

Ghosh & Jambekar (2003) highlight the fact that the largest share of a library's budget is allocated to its staff and the acquisitions and cataloguing of library materials. How to effectively use our staff (human resources) and how to improve the efficiency and effectiveness of our technical services operations should be the real focus of Knowledge Management in academic libraries. They argue that the impetus for embracing Knowledge Management in academic libraries is mainly from a combination of library budget shortfall and higher user expectations. Rather than adopting an often-trumpeted high-tech approach, it is more practical to utilise the existing staffing, technology and management structure for academic libraries.

The goal of Knowledge Management is to make full use of the knowledge existed in a corporation to increase the productivity and/or operational efficiency so as to build an edge in the competition. Budget shortfall is a primary driving force for the implementation of Knowledge Management in academic libraries. In recent years, budgets in academic libraries are stagnant at best and declining in general. At the same time, students, faculty and university administration have a greater expectation of academic libraries, due in part to the advancement of information technology and in part to the explosion of knowledge in the digital age. To provide the right amount of information at the right time (Ghosh & Jambekar, 2003) is more critical than ever to the fulfilment of the mission of academic libraries and their parent institutions. It is, therefore, paramount for academic libraries to operate more efficiently with reduced financial and/or human resources. Knowledge Management is such a tool that could help in this regard and at this crucial moment as it has often been argued

knowledge is power and access to it gives one a competitive advantage over others (Ritter & Choi, 2000).

5. Research Methodology

A case study approach was used in this study, with data being collected through interviews. In order to ensure fair and equal participation in the study by the sampled librarians, the interview guide with structured questions was designed to obtain quick responses from a relatively small sample within the specified time limit. A structured interview was chosen in order to standardise or systematise the interview process. This was meant to save time and eliminate needless questions.

5.1 Study Sample

The targeted population of this study was thirty-seven (37) librarians working in the University of Zambia Library. Thirty (30) librarians (respondents) were selected as a sample.

5.2 Sampling Method

The university library was selected for the study using a purposive sampling method. Thirty (30) librarians were selected as respondents using convenience sampling method for this study due to limited time in which this study carried out. A further ten (10) assistant librarians were conveniently selected for in-depth interviews. These respondents were selected because of their key roles and functions in the library. Initial contact was made with each of the potential interviewees and each interview lasted for about 10-15 minutes.

5.3 Data Collection

Interview guide questions were divided into five sections. Section one was structured to elicit the following demographic information: sex, and qualification. Section two asked questions which sought to understand how librarians share knowledge. Section three was to elicit information on methods librarians use in knowledge sharing. Section four looked at motivation factors of knowledge sharing. On the day of interviews, permission was sought from the Heads of the Sections and Divisions to allow the respondents to attend the interviews. Out of the target population of 37 librarians, 24 (65%) respondents were interviewed and interviews generally lasted about 10 to 15 minutes. The sensitive issue of disclosing one's age was taken care of by allowing the respondents to tick

in the box against their ages on the interview guides. The interviews were conducted between 22nd and 23rd March 2010.

5.4 Data Analysis

The study used descriptive research methods to analyse qualitative data obtained from interviewing Librarians in order to give accurate information on their knowledge needs and knowledge sharing in the University of Zambia Library. In this regard, data analysis was done by categorising the descriptive materials according to themes. These were then tabulated and coded to see the frequency by which each of them was supported by data. Categories were established of the whole list of responses. The answers were listed by grouping those with the same code together. Then each category of answers was interpreted. This was followed by reporting the numbers and percentages of respondents that fell into each category using frequency tables, in order to gain insight in the relative weight of different opinions or reasons.

5.5 Significance of the Study

This study was intended to focus more on the knowledge needs aspect with greater emphasis on knowledge sharing which is the key element in the implementation of knowledge management. This study hoped to provide useful insights into how knowledge was being shared among librarians in the University of Zambia Library. The University of Zambia Library was chosen for the purpose of this study because higher learning institutions play a key role in knowledge creation. It was, therefore, necessary to seek the views of the librarians on the barriers to knowledge sharing and the methodology that could be used to encourage knowledge sharing among librarians in the University of Zambia Library.

5.6 Limitations of the Study

This research served as a case study for investigating knowledge sharing in the University of Zambia Library. However, due to the time limits, this study failed to explore more suitable approaches to knowledge sharing. In this regard, the findings of this study may not be applicable in some university libraries due to a different social context. Therefore, future studies could aim to develop a more systematic knowledge management strategy tailor-made for librarians, so as to make more sophisticated suggestions for improv-

ing their practices.

6. Findings of the Study

6.1 Profile of Respondents

A large majority of the respondents were males 13 (54%), while 11 (46%) of the respondents were females. The majority of the respondents, 8 (33%) were between 30 and 39 years old with the remaining ones almost evenly split between the ages 20-29 were 6 (25%), 40-49 years 6 (25%) and the smallest age group were over 50 years 4 (17%). The respondents work across various sections of the library with the major ones being the Issue Desk (Circulations Desk) 4 (17%), Cataloguing and Classification Department 5 (21%), Collection Development Department 2 (8%), Short Loan (Reserve Section) 4 (17%), Serial 3 (13%), Special Collections Department 4 (17%) and Veterinary Library 2 (8%).

In terms of educational background, 11 (46%) of the respondents have an undergraduate degree, 11 (46%) of respondents have diploma, one (4%) of the respondents has a postgraduate degree and one (4%) of the respondents has a certificate in library and information studies (see Table One) and this shows the demands of the profession in terms of keeping skills current. In addition to the qualifications, some of the academic librarians interviewed indicated that they keep updating their skills especially when new multimedia products are installed in the library.

6.2 Knowledge Sharing is Power

The majority of the respondents, 24 (100%)

agreed or strongly agreed that knowledge sharing was power in the library. None of the respondents strongly disagreed or disagreed that knowledge sharing was power in the library.

6.3 Knowledge Sharing Among Librarians (N= 24)

Respondents in the study were asked to identify how important it was for them to share knowledge with librarians or other people. Sixteen (67%) of the respondents said that the knowledge sharing was mostly done among senior staff in the library. Five (21%) of the respondents mentioned that junior staff in the library were the next important target people with whom the respondents would share knowledge. The minority, three (12%) of the respondents would prefer to share knowledge with non-librarian staff within the library. This indicates that it is important for librarians to share knowledge inside the library. The study wanted to find out the level of knowledge sharing in the library. This is shown in Fig 1 below:

6.4 Level of Knowledge Sharing in the Library

Overall, 10 (42%) of the respondents said that knowledge sharing in the library was poor, 9 (37%) mentioned that it was on average, 3 (13%) said it was good and another 2 (8%) said that it was unsatisfactory. See Fig. 2.

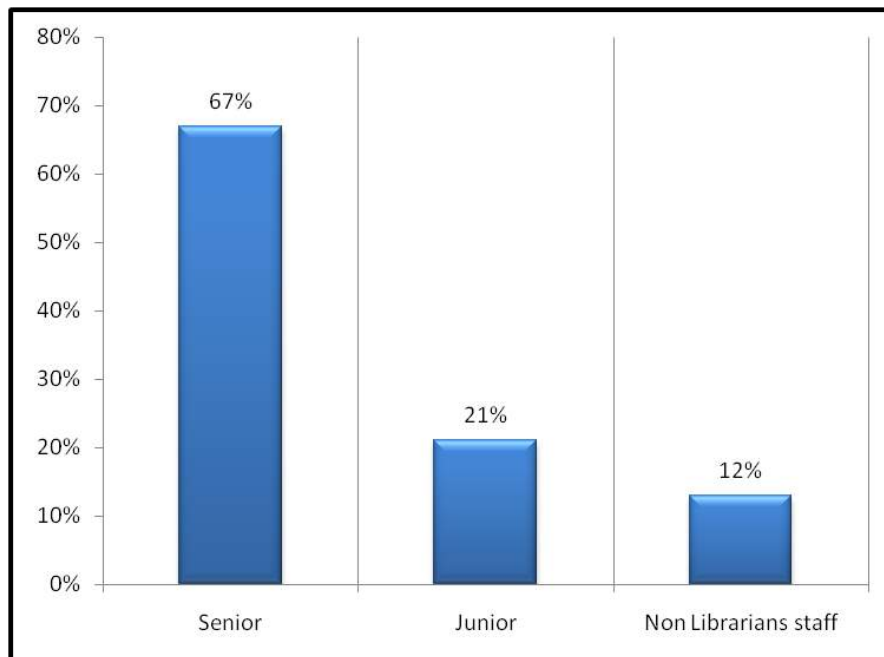
6.5 Methods of Knowledge Sharing

As shown in Fig. 3, the most frequently used knowledge sharing method adopted by respondents was face-to-face communication followed by

Table 1: Demographic characteristics of the respondents (N=24)

Characteristics	No. of respondents	Percentage
Sex		
Male	13	54%
Female	11	46%
Total	24	100%
Age group		
20-29	6	25%
30-39	8	33%
40-49	6	25%
50+	4	17%
Total	24	100%
Educational Qualification		
Postgraduate degree	1	4%
Undergraduate degree	11	46%
Diploma	11	46%
Certificate	1	4%
Total	24	100%

Figure 1: Knowledge Sharing Among Librarians (N= 24)



an e-mail. Eleven (46%) of the respondents mentioned that they preferred using face-to-face communication. This was next followed by use of an e-mail, where six (25%) of the respondents said they preferred using an e-mail when sharing knowledge with others/colleagues. This is related to the earlier findings, where respondents indicated that it was important to share knowledge with both junior and senior staff inside the library.

Three (13%) of the respondents most frequently used professional contact methods to share knowledge within the same profession, regular knowledge sharing meetings and phone calls.

6.6 More Effective Methods of Knowledge Sharing

Figure 2: Level of Knowledge Sharing in the Library (N= 24)

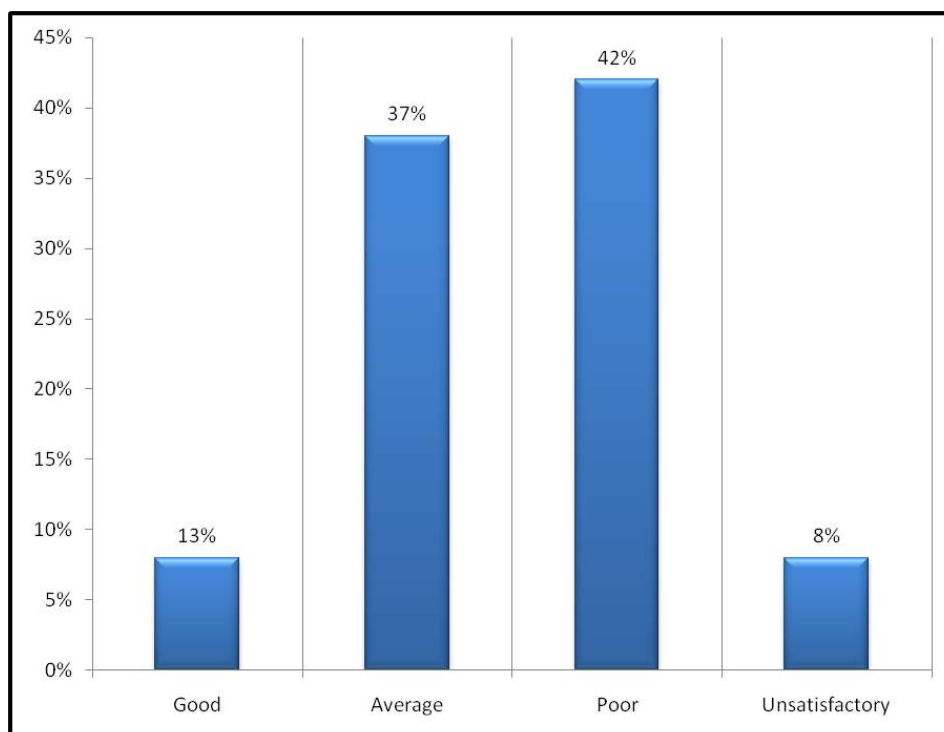
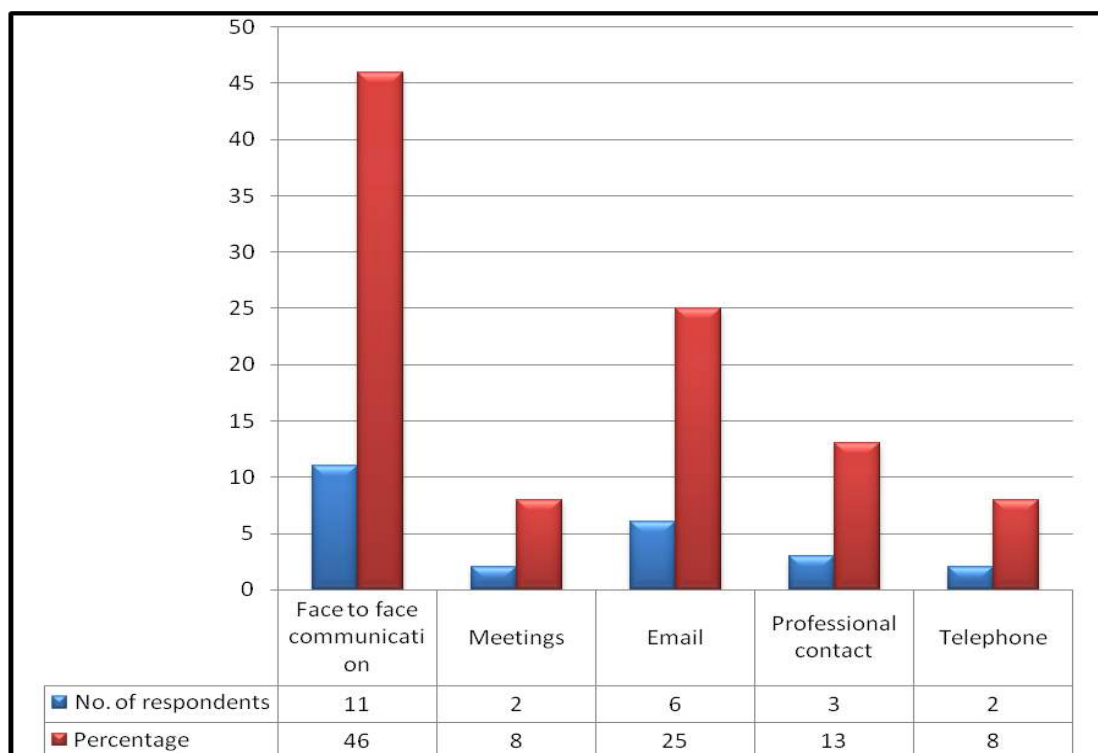


Figure 3: Methods of Knowledge Sharing (N= 24)

In order to investigate which methods of sharing knowledge are more effective, the respondents were required to rank the methods, with 17 (71%) of the respondents indicated that the most useful knowledge sharing tools was selected because it gave fast feedback, while seven (29%) of the respondents indicated that they preferred a method that was accurate in conveying the message. Respondents may have many face-to-face-communications within the same profession, and librarians know they are useful so they often use them.

6.7 Motivation Factors of Knowledge Sharing

Respondents were asked to identify factors motivating them to share knowledge. Thirteen (54%) of the respondents said that an intention to learn from each other motivated them to share knowledge with fellow professionals within the profession. Six (25%) of the respondents mentioned the desire to help others as a motivating factor to share knowledge.

Only 3 (13%) of the respondents agreed that they were motivated by the top management to share knowledge. Sharing knowledge for receiving reward or recognition and opportunity to develop the image of an expert among librarians were the least motivating factors to knowledge sharing

mentioned by the respondents; each at 4%. See Fig. 4.

6.8 Factors Inhibiting Knowledge Sharing

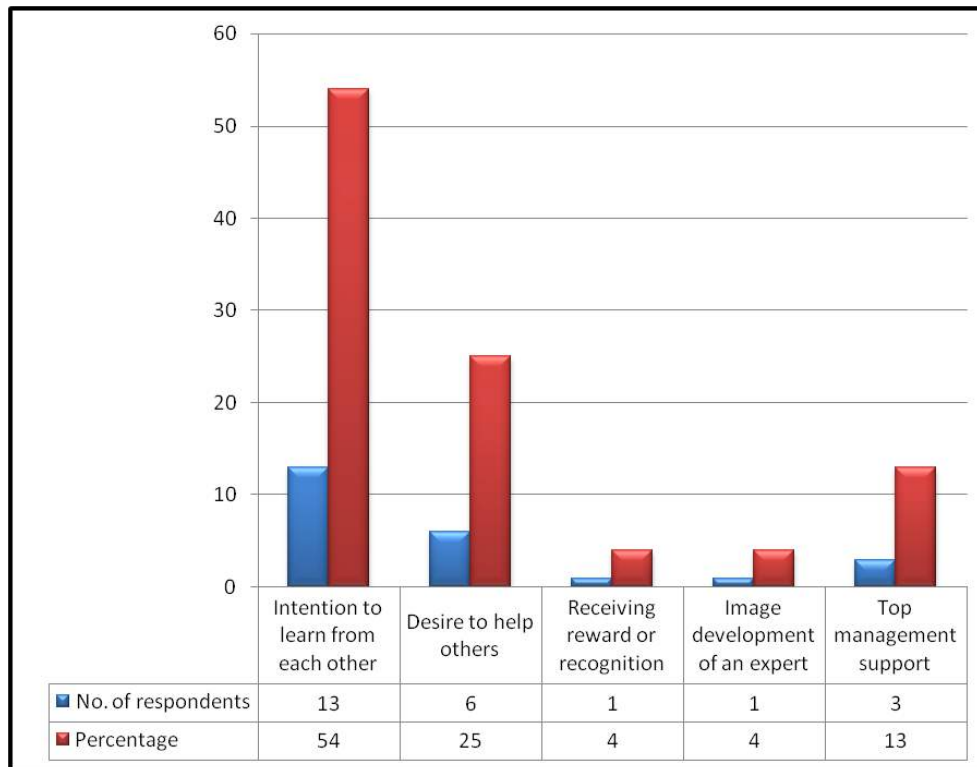
The majority, 10 (42%) of the respondents identified lack of time as the main inhibitor to knowledge sharing. Six (25%) of the respondents said lack of top management support was among many other factors that hindered knowledge sharing in the University of Zambia Library.

The minority, 3 (13%) of the respondents agreed that fear to be outperformed by fellow librarians inhibited them from sharing knowledge. Only 2 (8%) of the respondents strongly agreed that apprehension to be perceived as a show-off and weak culture of knowledge sharing among librarians were factors that inhibited them from sharing knowledge, respectively. See Fig. 5.

7.0 Discussions

This section provides a synthesis of the study findings with the findings reported in the current literature. The majority of the respondents (100%) agreed or strongly agreed that knowledge sharing was power in the library. Knowledge was often considered as power in literature (Ritter & Choi,

Figure 4: Motivation Factors of Knowledge Sharing (N= 24)

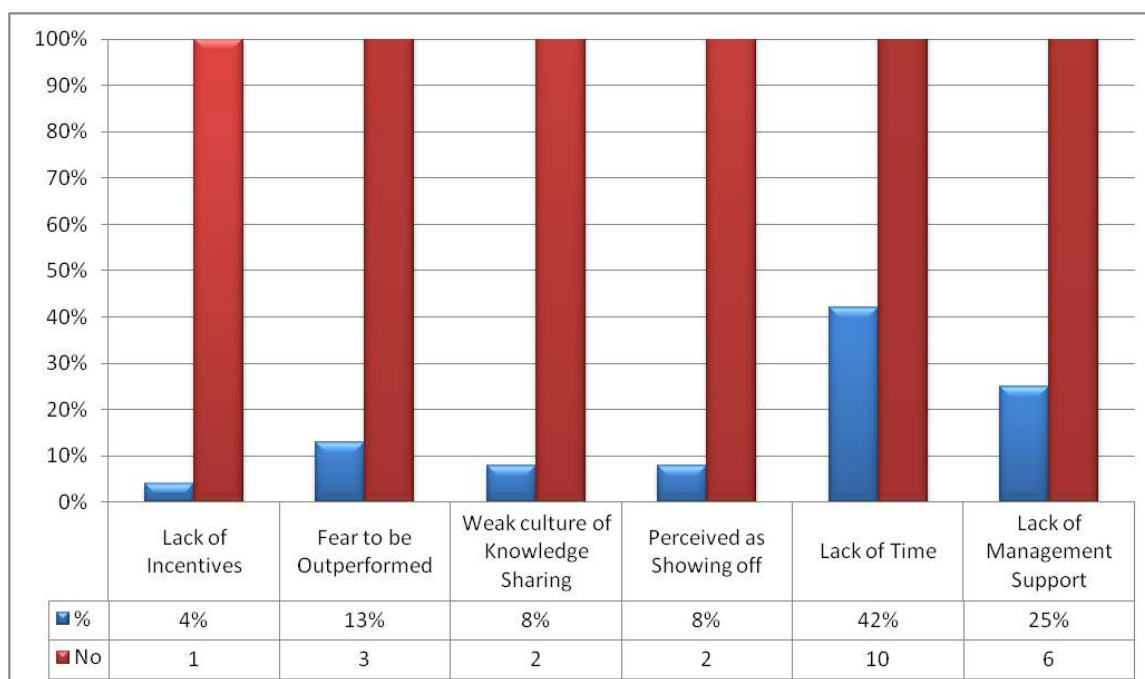


2000). This strong perception could have prevented the respondents from sharing knowledge. Since the majority of the librarians consider knowledge sharing as power, some librarians could be afraid of losing power and becoming less competitive and that could hamper knowledge sharing in the

library. Knowledge hoarding is a danger to a successful development of knowledge management in the library (Ritter & Choi, 2000).

The study wanted to find out if librarians were aware of any written knowledge management poli-

Figure 5: Factors Inhibiting Knowledge Sharing



cy and strategy in the University of Zambia Library. An overwhelming majority of the respondents claimed that the Library had no written knowledge management policy and strategy. Further, another significant number of the respondents said that they were not aware of the existence of any knowledge management policies or strategies in the University of Zambia Library. The findings of the study indicated that knowledge sharing is not seen as an integral part of the Library's mission and objectives. In addition, the findings of the study indicated that there was a low awareness of knowledge management in the library. Further, the findings of the study showed that the University of Zambia Library did not systematically or formally harness and manage their knowledge management activities. With the follow-up interviews conducted, 10 Assistant Librarians argued that if the Library had to implement knowledge management, there was a need for the support of top management and that the University Librarian should play a leadership role in knowledge management activities.

Respondents in the study were asked to identify how important it was for the librarians to share knowledge with fellow librarians or other people. The findings of the study showed that the most important target persons for sharing knowledge were senior staff in the Library. Junior staff in the Library within various departments were the next important target people with whom the respondents would share knowledge. The findings also suggested that people with less experience (less than five years) preferred to share knowledge with senior staff, while people with more experience (more than five years) preferred to share knowledge with both senior and junior staff. This finding of the study was in agreement with Connelly (2000) who observed that lower level employees shared knowledge with more senior people, either out of respect, perceived obligation, fear of retribution, or in order to curry favour. On the other hand, higher status employees shared knowledge with junior colleagues because they did not feel as though there was any competition between them, or as an act of charity helping the less able employees.

The study also wanted to find out the level of knowledge sharing in the Library. The majority of the respondents mentioned that knowledge sharing was poor in the University of Zambia Library. It could be argued that though the librarians did share knowledge to some extent, however, there was little systematic sharing of knowledge taking

place among librarians in the Library. More emphasis should be placed on formalising knowledge sharing activities.

The findings of the study found that the most frequently used knowledge sharing method adopted by the respondents was face-to-face communication followed by email. This revealed that librarians preferred direct interaction with others. These practices were good for transferring tacit knowledge and also helped receivers to clarify issues and develop their skills in decision making and judgment. This finding provides support for Lee (2000) who pointed out that the knowledge and experiences of library staff were the intellectual assets of any organisation and should be valued and shared. The success of academic libraries depends on their ability to utilise information and knowledge within. The least frequently used knowledge sharing methods were library phone and meetings. However, the major problem with this method is that such interpersonal communication method is generally considered, as a less valid source for capturing knowledge about information needs of users. Several authors believed that providing a formalised procedure for improving validity of results obtained from face-to-face communications, in the form of appropriate Information and Communication Technology (ICT) infrastructures supporting such socialisation process could certainly enhance effectiveness of knowledge sharing processes in a university library (Lee, 2000).

Librarians were asked to identify factors motivating them to share knowledge in the University of Zambia Library. An overwhelming majority of the respondents claimed that they liked to share knowledge within the library. Most of them liked to share knowledge within the library because it might benefit their colleagues and organisation as well as improve their working relationships with colleagues. Some respondents mentioned that by sharing knowledge with others, they could encourage others to share and obtain feedback to refine their own work for their own benefits. This finding is consistent with Mayo (1998) who observes that developing the skills to learn from other people is an important factor for motivating respondents to share knowledge. The same applies to academic libraries, in that librarians need information and knowledge to effectively improve their services for users in an increasingly complex and sophisticated information environment.

However, a significant number of the respondents

disagreed that they were encouraged and motivated to share knowledge in the library due to low management support. Research suggests that organisations with successful knowledge management functions are those with appointed senior-level executives to carry out the role of full-time chief knowledge officer (Gopal & Gagnon, 1995). In a similar vein, empirical evidence also shows that employees' perception of top management support of knowledge management is critical in the promotion of knowledge sharing (Martensson, 2000).

Respondents were also asked to identify what factors inhibited them from sharing knowledge. It was found that the main inhibitor was lack of time. This is in agreement with Skyrme (2002), who stated that lack of time was the major reason why in many organisations people were unwilling to share knowledge. The second inhibitor of knowledge sharing was lack of top management support. Daghfous (2004) identified lack of top management support as one of the obstacles to knowledge sharing in many organisations. Surprisingly, inadequate rewards and fear of losing superiority were not among the major factors which impeded respondents from sharing knowledge.

This finding is in contradiction with Richards and Kabjian (2001) and Sinha (2006), who state that incentives and rewards could encourage knowledge sharing (cited in Nonaka & Takeuchi, 1995). It is also consistent with the result of this study that incentives and rewards is the least important motivator. This means that knowledge sharing would not be inhibited by inadequate rewards or fear of losing a supervisory position in one's job. This finding is strongly supported by Davenport & Prusak (1998) who have argued that having employees who seek out and were not afraid of sharing their knowledge without the fear of losing their jobs is critical in fostering a positive knowledge-oriented culture. However, the effort of changing from an organisational culture of not sharing knowledge to a knowledge-sharing culture had proven to be costly, time-consuming and at times even impossible. It has also been argued that trust is crucial for any business relationship, including the sharing of knowledge. Knowledge recipients need to be able to trust that the knowledge they receive is accurate and could be reused (Buckman, 1998).

8.0 Conclusion

It has been established that knowledge sharing is an important contributor to an organisation's per-

formance. The study has revealed that although librarians in the University of Zambia do share knowledge; the sharing levels is not enough and is not done in a systematic way. Librarians produce and constantly create knowledge in their daily operations that libraries not only need to tap into but must find ways in which to codify that knowledge and share it for the benefit of their libraries. This case study discovered that librarians felt very strongly about the significance of knowledge sharing in the library. The study also found that knowledge sharing should be continuously promoted and barriers to its sharing should be overcome. The strategies for promoting knowledge sharing should be organisation-specific. However, no strong support was found for linking knowledge sharing with rewards and performance appraisal in the library. It was also strongly felt that support from the top management in encouraging librarians to publish and disseminate knowledge via various available methods were critical to the success of knowledge sharing activities in any library.

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Using Indigenous Knowledge (IK) As a Tool for Development: Role of Rural Libraries in Zambia

By

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Abstract

This conceptual paper argues for the establishment of indigenous knowledge resources centres through the already existing infrastructure of the provincial and branch libraries under the Zambia Library Service. Their sole mandate will be to collect, catalogue, manage, preserve, repackage and make available to the Zambians living in those areas access the indigenous knowledge in solving their daily problems. It is my belief that by using indigenous knowledge our people will be making a major contribution towards the economic development of our country.

In the argument, this paper endeavours to highlight on the value, characteristics and the significance of indigenous knowledge in light of enhancing economic development, especially among the young generation of Africa who seem not to appreciate the value of indigenous knowledge as they have completely abandon its application. Furthermore, the paper appreciates the critical factors that indigenous knowledge plays in sustainable development as it can be used to solve the daily immediate problems and better the lives of our people in their communities.

Finally, the paper argues that the establishment of indigenous knowledge resource centres would not only benefit the locals by making available the needed indigenous knowledge in solving their daily problems. This action would also add value to the library and information professional. Thus, librarians working in those centres would have to employ new ways of how to collect, preserve, catalogue, manage and disseminate indigenous knowledge which is available in many different formats. This is a challenge that as professionals we have no any other way other than overcoming it.

Keywords: *Indigenous knowledge; Local knowledge; Zambia Library Service; Libraries; Knowledge; Information; Zambia.*

Introduction

Of late, people have come to realize that the breakdowns in the indigenous knowledge transfer are impacting negatively on both the physical and social environment. And out of this realization many people have already started working towards raising awareness and pooling their forces together to capture, store and disseminate indigenous knowledge.

This paper attempts to introduce indigenous knowledge as an important resource which should be harnessed and managed in such a manner that it contributes to the efficiency, effectiveness and sustainability of the development process of local communities in rural Zambia. In the discussion, the paper also demonstrates how provincial libraries could be used as centres to manage, preserve, repackage and provide access to Zambia's indigenous knowledge.

The paper concludes by suggesting that through the establishment of indigenous knowledge centres in rural Zambia under the supervision of the Zambia Library Service would empower the local communities in decision making and could help in improving their livelihood. Lastly, with all such ef-

forts put together, it would result into the establishment of our own indigenous knowledge centre to be called Zambia Indigenous Knowledge Resource Centre (ZAMBIKRC).

Conceptual Framework

The conceptual framework of this paper is based on the understanding that the current existing infrastructure of the Zambia Library Service is well placed to accommodate the establishment of indigenous knowledge resource centre and be able to catalogue, manage, preserve, and make available of that vital information resource to all the citizens who would use it in their everyday lives in communities. Currently, major efforts towards capturing and documenting indigenous knowledge in Africa are a part of larger global projects for the documentation, preservation and sharing of indigenous knowledge being conducted by both national and international organizations and Zambia should not be left out.

What is Indigenous Knowledge?

Burtis (2009) reports that since the 1980s, indigenous knowledge has been a hot topic of discussion among scholars of anthropology and other disci-

plines related to development studies and yet today, there is broadening interest from a variety of fields; ecology, soil science, health, medicine, botany, water resource management and many more. And not to be left out the Library and Information Science field has only recently joined the other disciplines and has taken note of this important topic of concern. Much as indigenous knowledge is represented in most library and archival collections often times these information professionals do not make attempts to put such information into the cultural context. Yet, when it comes to supporting its intellectual freedom, it is the librarians who can skillfully catalogue, digitize, manage, repackage, preserve, and disseminate indigenous knowledge to the public.

Although in Zambia we do not yet have an indigenous knowledge resource centre, Zambia like any other country has a rich body of such indigenous knowledge which developed over many centuries. This body of accumulated knowledge has for a long time played a very important role in agriculture, animal and human health, natural resource management, education, and other activities. (Camble & Aliyu, 2008). There are several terms that are often used interchangeably to refer to indigenous knowledge, for example traditional knowledge, local knowledge, indigenous skill, indigenous technical knowledge, folk knowledge, peoples' science, rural peoples' knowledge, ethno science and cultural knowledge. In this paper, the World Bank (1998) definition of indigenous knowledge as local knowledge that is unique to every culture and society well suffice. It is the basis for local decision making in agriculture, health, natural resource management and other activities. Indigenous knowledge is embedded in community practices, institutions, relationships and rituals. It is also part of the everyday life, such as herbal medicines and acupuncture. Indigenous knowledge comprises of many parts, ranging from culture, religion, mythologies, economy, governance, medicine, and agriculture to taboos, poetry, art and crafts and many more. It is often related to oral history, archives and oral tradition. The above mentioned definition encompasses technologies, know-how, skills, practices, and beliefs that enable communities to achieve a stable livelihood.

Indigenous knowledge is collectively owned and exists as stories, songs, folklore, proverbs, cultural values, norms, beliefs, rituals, local languages, and agricultural practices. (Nakata & Langton, 2005). Recently, there has been a growing appreciation of the value of indigenous knowledge. Thus, it has

become valuable not only to those who depend on it in their daily lives, but also to the modern industry and agriculture as well. Warren (1991) notes that IK has made a tremendous contribution to crop production by the poor farmers. (Okuneye & Ayinde, 2004) add that small scale resource farmers have good reasons for sticking with their local knowledge and farming practices, because modern technologies can only be successful and sustainable if indigenous knowledge is taken into consideration.

Apart from what has been mentioned above there is so much that the library and information science professionals can do in the overall management of indigenous knowledge. Mabawonku (2002) remarks that information professionals as development agents have definite roles to play in understanding, locating, collecting, interpreting, disseminating and preserving indigenous knowledge. The public library, for instance, has been an appropriate anchor and partner in indigenous knowledge system related programmes because of its stable position both within the community and within the government structure through which it is established (Greyling & Zulu, 2009). Apart from providing social services, this type of library is well positioned such that it could ensure free and equal access to information and knowledge. In fact, Adam (2007) reports that, community and public libraries have shown strong tendency in preserving local culture in digital and paper formats and promoting exchange of information in many countries. In addition to the above mentioned, the International Federation of Library Association (2003) asserts that in the discipline of indigenous knowledge libraries could help greatly in:

1. Collecting, preserving and disseminate indigenous and local traditional knowledge
2. Publicizing the value, contribution, and importance of indigenous knowledge to both non-indigenous and indigenous peoples
3. That library should diffuse its traditional role of collecting, preserving and providing access not only to materials of scientific origin but to indigenous knowledge resources so as to make all information available

These could help policy makers and implementers on why and how libraries could be brought on board and provide access to indigenous knowledge not only in Zambia, but also the world at large.

Why is Indigenous Knowledge Important?

In the emerging global knowledge economy, a country's ability to build and mobilize knowledge capital, is equally essential for sustainable development as the availability of physical and financial capital World Bank (1997). The basic component of any country's knowledge system is its indigenous knowledge. Indigenous knowledge encompasses the skills, experiences and insights of people which they apply to maintain or improve their livelihood. In medicine and veterinary medicine with their intimate understanding of their environments, indigenous knowledge is developed and adapted continuously to gradually changing environments and passed down from generation to generation and closely interwoven with people's cultural values. Indigenous knowledge is also a social capital of the poor, their main asset to invest in the struggle for survival, to produce food, to provide for shelter or to achieve control of their own lives.

Despite all this, indigenous knowledge is not always understood because it is an ingrained part of a culture's life ways. Indigenous knowledge is part of experience, part of custom, religion, community laws, and the attitudes of a society that concerns their lives and the lives of other living things in their local surroundings. Although local knowledge has been ignored because of the ideas being passed on from the 19th century, through colonialism, to date and in social sciences it is regarded as being primitive, simple and static, development professionals began to recognizing the value of this knowledge within the last ten years. In his article, "A Mail-order Catalog of Indigenous Knowledge," John Herbert (1993) discusses the recent explosion of indigenous knowledge resources and lists several of the 19 indigenous knowledge centres that have gone into operation worldwide in the last years. For example, the catalogued library at the Centre for Indigenous Knowledge for Agriculture and Rural Development (CIKARD) contains over 4,000 titles concerning indigenous knowledge and the collection has been growing since then as new materials for the library keep coming everyday.

Furthermore, indigenous knowledge is important for several reasons. Among those reasons is that indigenous knowledge can help find the best solution to a development solution. Familiarity with it can help extension officers and researchers understand and communicate better with local people. Indigenous knowledge represents the successful

ways in which people have dealt with their environments. In fact, the theme of utilizing the existing indigenous knowledge to create appropriate solutions occurs repeatedly throughout the development literature. Thus, indigenous knowledge can help find the best solutions for a culture. In fact, solutions created with the appreciation of indigenous knowledge turns out to be economically and culturally acceptable to the society that is being helped.

Another way to demonstrate the importance of indigenous knowledge is by taking a look at McCorkle's Farmer Innovation in Niger where he illustrates this idea of the Niger farmers who often had uncomplimentary things to say about the extension service in their area because it would not extend credit for agricultural inputs. Yet, the service would order the farmers to pay for and plant experimental seed that was unknown and not requested. This passage from McCorkle's and other experiences sums up the feelings many developing cultures have towards extension workers and scientists, In fact, the majority of the population in the developing world thinking that "the extension service is not 'honest' because it refuses to work with the realities of our village."McCorkle (1994) on the other hand, when an innovation has parallels with indigenous practices, there is often widespread acceptance of the innovation. Thus, McCorkle writes about the successful adaptation of seed dressings in Zarma villages. The story is that the sarkinoma or traditional chief of agriculture in these villages often sold powdered seed dressings along with powerful incantations to ensure a good crop. This innovation worked because West Africans consider powders to be an ancient and ubiquitous form of magical and medicinal treatment.

In this story, possibly the most basic answer to the question of why indigenous knowledge is important is that the extension workers should possess a clear understanding of the people's present situation and allows for better communication between scientists and local people. On the other hand, the extension worker should have a familiarity of cultural customs; also have a rapport that can be built between the scientist and the local people which should include respect. It is this mutual respect that fosters a relationship as partners who are seen to be looking for a common solution to a problem together and encourages participation of everyone at a local level. Another important aspect to take into account is that solutions that are not acceptable locally can lead to the waste of millions of developmental resources.

The Preservation of Indigenous Knowledge Through the Zambia Library Service System

Today, many indigenous knowledge systems are at risk of becoming extinct because of the rapidly changing natural environments and fast pacing economic, political and cultural changes on a global scale. Indigenous knowledge practices vanish as they become inappropriate for new challenges or because they adapt too slowly. However, many practices disappear only because of the intrusion of foreign technologies or development concepts that promise short-term gains or solutions to problems without being capable of sustaining them. The tragedy of the pending disappearance of indigenous knowledge is most obvious to those who have developed it and make a living out of it. This pending disaster can be detrimental to us all we should by all means try to avoid it from happening. Imagine how a community would survive with lost skills, technologies, artifacts, problem solving strategies and expertise are lost.

The reasons as to why indigenous knowledge should be preserved and make a contribution to the economic development of a country are the same this paper is suggesting for the establishment of indigenous knowledge resource centres throughout the country by using the already existing infrastructure of the Zambia Library Service system of provincial, branch and centre libraries. After the establishment of these centres, the paper suggests that attempts should be made to identify a national indigenous knowledge resource centre among them. The National Knowledge Resource Centre would have the mandate to coordinate and network all the activities of the provincial and branch centres. In this way, we think that Zambia would have gained a mileage in the African Resource Centre for Indigenous Knowledge (ARCIK) and join countries like Burkina Faso, Cameroon, Ghana, Kenya, Nigeria, South Africa and Madagascar, African countries that already have national knowledge resource centres. In the end, in our country we would have a Zambia Indigenous Knowledge Centre (ZAMBIKC)

The Role of Zambia Library Service (ZLS) in the Enhancement of Indigenous Knowledge

Zambia Library Service (ZLS) came into existence in 1962 as a department of the Ministry of Education (MOE). Currently, it is under the Ministry's Directorate of Teacher Education and Specialized Services (TESS). Zambia Library Service is a public

library system, which provides library and information services all over Zambia through provincial, branch libraries and library centres. At the moment, there are six (6) provincial libraries in Chipata, Choma, Kasama, Mansa, Mongu, and Solwezi. Each one of them has a collection of over 10,000 books of all kinds for use by the residents of the town and surrounding area. Apart from that, there are nineteen (19) existing branch libraries and these are in Chadiza, Chama, Chinsali, kabompo, Kalabo, Kalomo, Kaoma, Kawambwa, Lundazi, Luwingu, Maamba, Mwense, Mumbwa, Mwinilunga, Samfya, Pemba, Petauke, Senanga and Zambezi. These have collections of 2,000 to 5,000 books. In addition, there are hundreds of library centres all over the country.

Since there is an argument already advanced that indigenous communities face a threat to the survival of their indigenous knowledge. In this regard, our paper supports Stevens (2008) who states that, while libraries have not traditionally focused on indigenous knowledge, librarians can help the threatened indigenous communities to manage and preserve the local community indigenous knowledge, by providing the necessary resources and their expertise in the collection, organization, storage, and retrieval of indigenous knowledge. Already, it has been observed that libraries have made much progress in the preservation of some local culture in paper and digital format, including promotion of the exchange of information. Librarians, as information professionals, should still help in:

1. Collecting, preserving, and dissemination of indigenous knowledge
2. Publicizing the value, contribution, and importance of indigenous knowledge to both non-indigenous and indigenous people
3. Involving elders and communities in the production of indigenous knowledge
4. Encouraging the recognition of intellectual property laws to ensure the proper protection and use of indigenous knowledge

Although there is so much indigenous knowledge in different indigenous communities of developing world, the availability of such knowledge does not mean its accessibility or use. Zambia Library Service, through its libraries, should promote access to indigenous knowledge by creating an environment which permits face-to-face forums and network formation to discuss and debate on issues that might be useful to members of the communities. For example, these libraries can organize talk shows involving traditional rulers, elderly people

and professionals to gather and record information on various local vocations from different subject areas ranging from agriculture, ecosystem, medical care and conflict resolution. Furthermore, these libraries should work in partnership with school libraries to create indigenous knowledge collections, which can be repackaged and made accessible to local communities in the areas they exist. On the other hand, information professionals should work with family members from the older generation to the younger and the indigenous communities in looking at the broad issues involved in the preservation of indigenous knowledge.

It is because of the fore-going that this paper strongly suggests that through the existing infrastructure, let all Zambia Library Service libraries establish an indigenous knowledge collection within their collections. Scholars have widely reported that the collection of indigenous knowledge would ensure its preservation and, thus, enhance its eventual use (Mabawonku, 2002; Ranasinghe, 2008). A lot has been done to create access to indigenous knowledge. Today, there are many programmes that have been initiated at local, national and international levels (Magga, 2005). The United Nations Education, Social and Cultural Organisation (UNESCO) created the Local and Indigenous Knowledge System (LINKS) in 2002. LINKS works with local knowledge holders to promote the recognition of their expertise about local environment and reinforce their role in biodiversity governance. Magga, reports that LINKS also recognizes the importance of keeping indigenous knowledge alive within local communities by reinforcing its transmission from elders to youth. Many libraries recognize indigenous knowledge as an important source of developmental information. Nakata and Langton (2005) observe that the library and information profession has a lot to learn if they are to meet the information needs of indigenous people and appropriately manage indigenous knowledge. To meet such a challenge, it is obvious that library and information professionals and their libraries for that matter would have to move outside their comfort zone. In other words, what we are saying here is that the development and service delivery of an indigenous knowledge resource centre is demanding. It requires the acquisition of new skills and disciplines, new technologies, networks, collaborations and so on and so forth. Indigenous people have always been willing and continue to be generous in sharing their knowledge with libraries, and so libraries must maintain the momentum.

As demonstrated above, it is clear that there are many roles that the Zambia Library Service would play once they establish or incorporate indigenous knowledge resource centres in the existing provincial and branch libraries.

Conclusion

In conclusion, this paper has demonstrated that the management of indigenous knowledge through the establishment of indigenous knowledge centres is possible and a welcome idea. Library and information science professionals through their long experience in preserving and organizing human knowledge, and serving as effective mediators between the information and its users, have a unique part to play by becoming active partners in the whole process of management of indigenous knowledge thus, ensuring that indigenous knowledge is preserved, managed, processed, stored, and disseminated to rural people in a manner that it helps them in solving their daily challenges thereby making a contribution towards national development.

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SUB-THEME: 9

**The Role of Agricultural Information Services
in Socio-Economic Development**

The Role of Agricultural Information Services in Socio-Economic Development of East Africa: A Critical Review

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Abstract

Diverse agricultural extension services and approaches have been pursued in East Africa with varying degrees of success. The paper explores the extent to which agriculture extension services provided by both public and private sector have been translated into meaningful socio and economic development of farmers.

Several dynamics in the pursuit of extension programs include shortage of extension staff and poor working facilities leading to inadequate capacity of unbalanced technologies and low participation of private sector were noticed.

The paper outlines a number of recommendations including but not limited to strongly involve stakeholders in technology development and transfer. This will assist farmers identify their felt needs rather than the needs being determined by extension service providers.

Key Words: *Agriculture Services; Agriculture Extension Services; Socio-Economic Development*

1.1 Introduction

Poverty reduction is the hub to the arena of development economics. With more than 75% of the world's poor living in rural areas, the question of balancing extension agricultural services for improving socio-economic development of peasant farmers is viewed as among the leading fundamental agenda to worlds' campaigns for improving rural economy (Laporte, 2013). Agriculture extension services is basically aimed at transforming and strengthening pluralistic agricultural wing and advisory systems in moving toward the broader goal of increasing farm income and improving rural livelihoods. Anderson (2007:6) defines the terms *agricultural extension* and *advisory services* as "the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills and technologies to improve their livelihoods".

A critical review from a wide range during implementation of agriculture extension services across Kenya, Tanzania and Uganda has it that, each country underwent dynamic and diverse agricultural transformations. To what extent changes have met the desired outcomes of agriculture services; this paper aims to unveil the impact of those implemented programmes in a wider perspective. Further, the paper discusses the role of agricultural extension services in socio-economic development of farmers in East Africa.

The paper is organized into various areas including; the introduction, origin and development of

extension services, models and impact of extension services in East Africa. It additionally highlights challenges and underlines recommendations.

1.2 The Antiquity and Development of Agricultural Extension Services

The sharing and use of progressive agricultural technology and management practices can be drawn back thousands of years in different parts of the world, including China, Mesopotamia, Egypt, and even in the Americas (Swanson, 2011). The origins of public- or government-funded extension and advisory systems can be traced back to Ireland and the United Kingdom during the middle of the nineteenth century. During the potato famine in Ireland (1845–1851), agricultural advisors helped Irish potato farmers diversify into different food crops. Various European and North American governments observed this development, and "traveling instructors" started being used in the second half of the nineteenth century by many countries. The term *extension* itself was first used to describe adult education programs organized by Oxford and Cambridge universities in England starting in 1867; these educational programs helped extend the work of universities beyond the campus and into the neighboring communities (Swanson, Ibid). This term was later formally adopted in the United States in conjunction with the land grant universities that were originally established as teaching institutions during the 1860s. Research activities were added in 1887, and extension activities were started in the 1890s and then formally added in 1914 as part of each university's official mandate.

The India's green revolution in the 1960s practice has provided substantiation on ways to uplift production, livelihoods and food security for the rural poor. Indeed, it influenced agricultural improvement strategies in other developing countries (Ravallion & Datt, 1998). Agricultural extension services are one of the most common forms of public-sector support for knowledge diffusion and learning. Extension has the potential of bridging discoveries (and mitigation methods) from research laboratories and the in-field practices of individual farmers (Birkhaeuser & Evenson, 1991). Broadly, agriculture extension services in developing countries were mainly designed to facilitate technology transfer from agricultural research institutes to the farmers. The package consists of advice, know-how and technology transfer as well as input provision directly to farmers.

1.3 Problem Statement

Agricultural extension services have a role to increasing farm income and improve rural livelihoods. Indeed, it provides market opportunities that may be tapped by households engaged into scientific and technological farming.

However, strengthening agricultural extension and advisory systems is too complex (Swanson, 2009). For the nation to improve livelihoods of the rural poor, especially small-scale farmers, then a serious strategy is needed.

Diversely, various extension programs undertaken in East Africa does not show the extent, magnitude and levels such programmes have fully translated into individual peasants' life transformations. Much remained unknown on the assessed role of agricultural extension services contributing to the socio-economic development of small and medium farmers in East Africa. This study responds to examine the unknown phenomena played by agricultural extension services to the development of farmers in Kenya, Tanzania and Uganda.

1.4 Methodology

This paper employed desk research and documentary analysis. The material reviewed is based on case studies and impact assessments of various large scale agricultural extension programs carried out across Kenya, Tanzania and Uganda. Most of the empirical data from this study comes from five in-depth case studies of Farmers Field School (FFS) by IFPRI in Tanzania, National Agricultural Advisory Services Program on Household Production and Welfare in Uganda (NAADS), National

Agriculture and Livestock Extension Program (NALEP) Impact Assessment in Kenya, Farm-level Applied Research Methods Programs for Eastern and Southern (FARMESA) program, a regional collaborative initiatives for Kenya, Malawi, Tanzania, Uganda, Zimbabwe, Zambia, Botswana, Mozambique and South Africa as well as the World Bank Agriculture and Rural Development Discussion Paper number 44.

1.5 Theoretical Models and Evidence

1.5.1 Overview

A diversity of approaches to extension delivery has been endorsed over the years, across the world and East Africa in particular. Early models focusing on transfer of technology using a 'top-down' linear approach were criticized due to the passive role allocated to farmers, as well as the failure to factor in the diversity of the socio-economic and institutional environments facing farmers and ultimately in generating behaviour change (Chambers and Ghildyal, 1984; Birner et al., 2006). A number of models have been implemented since the 1970s, combining approaches to outreach services and adult education, including the World Bank's Training and Visit (T&V) model (Anderson et al., 2006), participatory approaches and most recently farmer field schools (FFSs) (van den Berg and Jiggins, 2007). Additional extension modalities include ICT-based delivery which provides advice to farmers on-line and other approaches such as the promotion of model farms (Birner et al., 2006). For more scrutiny detailed theoretical understanding presented hereunder allot to various models with its roles as implemented in various developing countries.

1.5.1.1 Ministerial-Based Agricultural Extension or Advisory Services Approach

This was the primary extension model introduced into various developed and developing countries after independence. As illustrated in Figure 1.0, below most of these extension systems were based on a linear concept of technology transfer, which was expected to serve as an effective link among research, extension, and farmers. This technology transfer approach was greatly reinforced during the Green Revolution when new crop varieties and accompanying production practices were formally introduced to all types of farmers as many countries worked to achieve national food security. However, the model was not sufficient to serve the diverse aroused needs of rural farmers beyond food security.

Figure 1.0 Traditional Technology Transfer System for Staple Food Crops

(Source; Swanson, 2010)

1.5.1.2 Participatory Extension Approaches (Animation Rural)

Animation rural was the first systematic attempt to introduce participatory methods into extension systems. This approach, introduced by the French in francophone Africa, was based on a participatory, emancipator philosophy with parallels to the philosophy of Paulo Freire in Brazil (Nagel, 1997). The approach helped raise group consciousness and collective action to define, understand, and address local problems and to integrate rural areas into national systems and programs.

1.5.1.3 Farmer-Based Extension Organizations

The best example of a fully demand-driven extension system is one that is directed, operated, and financed by farmers themselves. Depending on the country, these extension systems generally operate under different management structures and with different sources of financial support (Cox and Ortega, 2004). It is important to note that large-scale commercial farmers, who have better leadership and better organizational and technical skills, as well as more economic power, frequently dominate these farmer-controlled extension systems.

1.5.1.4 Market-Oriented Extension Approaches (Commodity-Based Advisory Systems)

Advisory services for major export crops have been in existence since colonial times and are still common in many developing countries that produce major export crops such as rubber, tobacco, coffee, cocoa, sugar cane, oil palm, bananas, oranges, and cotton (Bingen and Dembélé, 2004). Generally, a private-sector firm or a parastatal organization is responsible for operating these commodity-based advisory systems.

1.5.1.5 Innovative, Market-Driven Extension Approaches

The emerging market-driven model of organizing extension systems is a 180-degree change in direction from the traditional linear model of linking research to extension to farmers. This innovative, market-driven approach is consistent with the agricultural innovation systems framework, especially within a rapidly changing global economy (Katz et al, 2008)

1.5.1.6 Non-formal Education/Extension Approaches (Farmer Field Schools)

The Farmer Field School (FFS) approach to organizing extension programs began in Indonesia over two decades ago as a means of educating farmers how to incorporate integrated pest management (IPM) practices into their farming systems, especially for rice production. This approach primarily uses non-formal education methods to teach farm leaders in each community how to reduce pesticide use, which in turn helps increase farm income. Based on an impact evaluation of 25 different case studies, van den Berg (2004) concluded that Farmer Field Schools had a significant impact on reducing the use of pesticides and increasing yields. Perhaps more importantly, however, this approach stimulated continued learning and strengthened the social and political skills of farmers. In some countries such as East Africa, these developments triggered a range of local development activities, relationships, and policies (Davis et al., 2009).

One central concern about the FFS model is the number of field extension workers needed to conduct these educational programs (generally 10 or more weekly training sessions per growing season), plus the program and travel costs required to effectively implement this approach. In short, this is a relatively expensive, labor-intensive extension model that reaches a small number of interested

farmers (Rajalahti et al, 2005).

1.5.1.7 The ICT-Based Agricultural Extension Service Delivery (IAESD)

The Information, Communication and Technology based agricultural extension services is the most current and up-to-date model resulted from the fastest growth and advancement in technology across the globe (Nyamba, 2012). Evidence from various farmers' activities in the world such as India, China and Indonesia indicates quite a large number of ICT users in farming activities. This includes mobile phones for communication and market updates, internet facilities for drawing knowledge and skills for farm projects start up as well as market searches. Although it is mostly an individual centred, this popular approach of the current age is probably the most efficient, less costing and convenient for majority in developing nations who can significantly afford the purchase of such ICT electronic services.

Almost all models discussed were experienced in the region of East Africa, although few of them were successful including farmers field school and currently ICT based extension services. Given their acceptance and affordability in East Africa these models seems to render direct benefits to the farmers with speed and accuracy unlike other models.

1.7 Critiques to the Role of Agriculture Extension Services in East Africa

Although all countries of East Africa (i.e. Kenya, Tanzania and Uganda) pursued a transformative agricultural revolution through extension services provision, the nature of services were unequal. Such inequalities have also brought a diverse and dynamic roles outlook. Indeed, it was very difficult to clearly have research reports on how socially and economically farmers' in East Africa have benefited from agricultural extension service programmes. For instance, in Tanzania a report on Farmers Field School only was able to establish both nature of extension service practiced and little knowledge on social and economic impact. Data on characteristics and impact of extensions services in Uganda captured through National Advisory Services Programme (NAADS) provides nature of extension services pursued in Uganda with highly mixed grill i.e. agriculture and livestock projects. The report does not directly provide the role of extension services to the farmers' socio-economic development, unlike that of Tanzania

that was largely based on agriculture. In Kenya, the situation was more-less similar to Uganda in terms of nature and scope on the type of extension services provided.

The National Agriculture and Livestock Extension Programme (NALEP) was responsible for providing extension services in Kenya. Moreover, report on NALEP performance rarely provides that direct farmers felt social and economic impact of extension services characterised in Kenya. To this end, more of characteristics are being captured from the identified sources than the impact of extension services in East Africa. In such situation, a research is highly needed to study social and economic development indicators of farmers served with agricultural extensions services in East Africa. Subsections below gives further discussion on the impact and characteristics of agricultural extension services in the surveyed countries;

1.7.1 Agricultural Extension Services (FFS) in Tanzania

Tanzania responded diversely to the provision of extension services. As part of the Tanzanian government's efforts to improve access of small-scale farmers to research and extension, the decentralization policy has helped increase the relevance of extension services for farmers through shifting planning to Local Governmental Authorities (LGA). This led to the creation of 6,700 Farmer Field Schools, training of 70,000 farmers, and the provision of fertilizer subsidies to 2 million farmers among other improvements.

Tanzania public extension comprises 75 staff members and is managed by a team of 13 senior staff according to the IFRI report (2011). Only four staff member have a Master of Science degree, ten of them hold a bachelor degree and the rest of the team completed a 2-3 year agriculture diploma. Women account for 69% of senior management staff. There are 9 subject matter specialists, none of them has a graduate degree and 55% of which are female. Field level extension workers constitute the bulk of staff (70%); all of them holding a 2 to 3 year agricultural diploma, and 86% are female. There are two other groups of workers: Information, Communication & Technology (ICT) Support Staff and In-Service Training Staff. The MEAS report (2010) indicated that the public sector does not employ in-service training staff, and ICT support services personnel.

Moreover, the current expenditure on agricultural

research as a proportion of agricultural GDP is only 0.3 percent. In 2009/10, 75 private Agricultural Service Providers (ASPs) and 118 Local Government Authorities staff were trained on contracting out provision of extension services delivery to farmers. It was noted that most agricultural service providers have inadequate capacity for service provision. On top of that, IFPRI found that Farmer Field Schools (FFS) are a popular extension approach in Tanzania.

Since the aim of extension services was to increase farmers' incomes and to raise the living standards of the rural population in Tanzania, the impact on the ground was too limited to achieve a significant breakthrough in terms of socio-economic improvements. In order to witness a visible impact in terms of development, it is necessary that a significant number of farmers adopt and implement successfully new technologies. Moreover, sketchy literatures expose clear-cut evidence on the extent farmers have socially and economically benefited.

1.7.2 National Advisory Services Programme (NAADS) in Uganda

Examining the Uganda's National Agricultural Advisory Services (NAADS) program, impact on agricultural households' access to extension services, dynamic understanding was revealed. The findings from the NAADS household production and welfare survey in Uganda indicate a lower participation rate of vulnerable households in NAADS. Irrespective of vulnerability status, households participating in NAADS had higher access to extension services and credit, but the quality of services was of concern. No clear evidence of the program's impact on the increased use of improved technologies, crop yield and sales by households was observed (NAADS, 2007).

Reviewing Households' Participation in NAADS it was further indicated that, While the issue of vulnerable groups in the NAADS program might have meant to target individuals, The share of households participating in NAADS program in 2005/6 and 2009/10 by household type, indicated only 27 percent of about 5 million agricultural households in the country, having increased from 6 percent of 4.2 million agricultural households in 2005/6.

One of the short-term benefits of household participation in NAADS is access to extension services provided by the ASPs. The relationship between participation in NAADS and life transformed show

that up to 90 percent of households participating in NAADS in 2009/10 had increased their productivity up 60 percent, compared with only 28 percent of non-NAADS households. Benin and colleagues (2011) also found a high and statistically significant increase in access to advisory services by farmers participating in NAADS in the period 2004 to 2007 of which this translated into peasants' economic development mostly in livestock farming. Evidence from FGDs revealed that the apparently low level of access to extension services by NAADS beneficiaries in 2005/6 compared with 2009/10 was due to the fact that in the early NAADS (2001/2–2005/6), extension service delivery was undertaken by local government extension staff who were few in number (one staff per sub-county), and in most instances doubled as sub-county NAADS coordinators (NAADS, Ibid).

Generally, the NAADS revealed that, over 82.3% of respondents agreed that the programme had scored some substantial benefit compared to 11.94% who disagreed that the programme had benefited them in any way. The areas of recognizable benefits mentioned were; income levels, productivity, improved technology, skills and practices, diversification of production base, and access to markets among others. It is important to note that more benefits for the programme had accrued in terms of skills and knowledge development as compared to food security and income improvement of the household.

1.7.3 Extension Services on Farming Households in Western Kenya

In Kenya, as of 2012, 75% of the population was employed within the agriculture sector (World Bank, 2013). At the same time, climate change is believed to affect adversely the highly productive lands, representing only 16% of the territory, that are subject to high and medium rainfalls. Those factors conjugated threaten rural household's livelihoods, income and food security. Kenya has suffered from 28 droughts over the last hundred years, four of which have occurred during the last ten years. Responding to such scaring drought situations, the Government of Kenya differently proposed variation of means to help small scale farmers' pluralism through Rural Advisory Services (RAS). Among others introduced, was the Swedish International Development Agency (SIDA) funded National Agriculture and Livestock Extension Programme in the year 2000 which lasted until December 2011.

Although, the advocacy created confusion of farmers and duplication of efforts it aimed at uplifting productivity, encouraging commercialization and enhancing resilience through the increased use of agricultural technologies. As well the programme aimed to improve inputs, using demand driven and participatory agricultural extension approaches. The programme targeted rural populations engaged in agriculture, livestock and fisheries, with a specific focus on pro-poorness and non-discriminatory access to the program. NALEP covered first the high-potential agro-ecological zones and expanded its coverage in 2007-08 to all districts in Kenya. NALEP strived to support initiatives at different levels: supporting institutional set-up, collaboration and networking with other actors (NGOs, Private sector, Other Ministries).

However, assessing the impact of the adoption of technological packages in agriculture sector in Kenya promoted by (NALEP), several observations were taken into consideration. Remarkably, out of 1000 households surveyed in Lugari in western Kenya, the following were observed, I) program beneficiaries picked up a set of practices and technologies; II) treated households increased their fertilizer dosage by at least 24.91%; III) treated households were more likely to use improved water harvesting techniques; IV) in terms of production, treated household appear to have followed the promoted practices of crop rotation, yet productivity per acre is not affected by the treatment; V) treated households also improved post-harvesting handling and marketing (NALEP,2013).

Evidence has it that the National Agriculture and Livestock Extension Programme (NALEP) is seen as a leader in Sub-Saharan Africa (SSA) in terms of coverage and participatory methods. Yet, the programme has not generated a great deal of academic research. In 2006, a report claimed "that 80% of the households part of the program that formed a producer group – called *Common Interest Group* (CIG) by the programme, stated that the introduction of the programme has offered new opportunities for men, women and youth in agriculture (NALEP, Ibid). More than 70% of the farmers interviewed claimed that the NALEP approach had led them to regard farming as a business rather than a way of surviving".

Generally, it was somehow difficult to justify the real socio-economic advantages gained by the small farmer in Kenya. From the findings of the participatory assessments of extension services results are consistent. Comparing the 1994 Action

aid study and the current situation at the interval of 15 to 20 years ago, most farmers noted a decline in their quality of life and in agricultural productivity as of 2000(Gautam, 2000). The poor, in particular, had little access to information. The theory on the ground suggested that, extension cannot be expected to reach every farmer hence, the need for selectivity and reliance on farmer-to-farmer dissemination was imperative. Currently, it is indicated that poor targeting and a lack of responsiveness is a challenge. Instead of working with representative groups of farmers, the extension workers generally target the better-off and those who can afford the new technologies. Not surprisingly, more of the better-off farmers consider extension advice to be relevant to their needs. Poorer farmers are less satisfied. They want advice on less costly technologies, marketing, and diversification, along with information about crops that the wealthier farmers do not grow. Hence, the most direct way to measure impact would have been to relate the supply of extension services to farm productivity. With the data available, the paper could not establish a significant positive impact of the supply of extension services, either on farmer efficiency or on farm productivity.

1.8 Challenges of Agricultural Extension Services in East Africa

Overall, the dilemma facing most public extension systems in East Africa is the continuing commitment to technology transfer, and their lack of adequate financial resources. Most governing systems are neither prepared nor able to effectively increase farm income and improve the livelihoods of the rural poor. In addition, these public extension systems lack the necessary resources (especially training and program funds as well as information and communication technologies, or ICTs) to keep their staff up to date and able to actually carry out more innovative extension program activities in the field.

Other important challenges include:

- Lack of decentralized planning programs and specific management functions to the district and, where needed, sub district levels. .
- Difficultness to convince national and provincial- or state-level extension directors and senior managers to delegate decision-making authority to more junior-level staff members at the district and sub district levels.
- Cases of scheduling conflicts between schools and other local activities or in some cases local

administration and chiefs scheduled meetings at the same time in Kenya and Tanzania.

- Conflict of interest between facilitating agencies on the use of methodology were as well observed in Tanzania and Uganda, where by Gender balance in (FFS), was predominant in participation of female farmers only in all countries of East Africa.
- Availability, allocation and sustainability of financial resources. (Governments are under great pressure to provide a wide range of different educational, health, and other social services to their citizens).
- Intense competition among the different ministries for the limited public resources, and the urban population generally has more political influence over resource allocation issues than the rural poor do.
- Largely, across all countries, there was lack of national-level commitment to the (FFS) concept as a result many (FFS) are donor funded in Tanzania
- Low level of participation and involvement of policy makers from village up to regional level more especially in Tanzania.

1.9 Conclusion

Although extension services have significantly served a great deal the transformations of agricultural system in East Africa, consulted literatures in this study points out that it is very difficult to establish a clear relationship between supply of extension services and socio-economic development. Being diverse and dynamic in nature, East Africa is largely characterized mainly by public extension services than the private ones especially in Tanzania and Uganda.

The Kenya experience portrays a little different picture whereby together with the government extension scheme, private organizations have greatly occupied the field, operating on purely profit making set up. This has been seen effective and value sensitive in some cases, but regarding the nature and scope of pluralistic farmers in East Africa, affordability to private extensions is limited to a good number of small farmers. For attracting more small farmers to such individual purchasing of extension services, more nonprofit making organizations were critically needed to deduce the purely market based business. However, slightly emergences of private organizations providing agricultural extension services that are increasing in Tanzania and Uganda, shows the prospective fully fledged markets driven agricultural extension ser-

vices in East Africa in the next ten or so years.

1.10 Recommendations

Realizing numerous challenges across all countries of East Africa, for agriculture services to realize their role in economic development of farmers in East Africa, the paper recommends the following;

- (a) There should be extremely more disciplined and proper use of public agricultural incentives/funds. (Responsible officers for extension project i.e. agricultural experts, accountants and other extension service-related-activists in responsible organizations should be audited beyond traditional tendencies on how accurate money was spent, for example what value for the investment has been brought about).
- (b) Promotion of pluralism approach in extension services by mobilization of farmers association is the best practice model for ensuring full benefits of the target bunch.
- © More money should be spent at farmers' level rather than at individual levels.
- (d) Contracting of farmers' extension services from advanced regions should be defined from the grassroots level (farmers' level).
- (e) A sound management structure should be built at national level, for administering and right channeling farmers' collected revenues.

Education curriculum should include agriculture modules as core subjects at both lower level and high levels of schooling.

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The Role of Kasisi Agricultural Training Centre in Providing Information on Organic Farming to the Small Scale Farmers in Kasisi Area of Chongwe District, Zambia

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Abstract

This paper presents the findings of a study that was undertaken to investigate the role played by Kasisi Agricultural Training Centre (KATC) of Chongwe District in Zambia, in the provision of agricultural information to small scale farmers in Kasisi area, with specific focus on organic farming. Both quantitative and qualitative methods were used in which data from forty (40) small scale farmers was collected using semi- structured questionnaires while five (5) members of staff at KATC were interviewed. The results revealed the different types of information that small scale farmers needed, their knowledge of programs offered by the training centre and challenges they face in accessing such information. The paper concludes with recommendations to help improve the dissemination of information to the small scale farmers, thus resulting in increased production and ultimately improving their economic situation.

Keywords: *Agricultural Information; Organic Farming; Small-scale farming; Economic development; Kasisi Agricultural Training Centre.*

Introduction

Agriculture plays a very important role in the development of any country as it is one of the fundamental sectors that are cardinal for national development. It is the primary sector of a country that can lead to industrialisation as well as the development of other vital sectors in the country such as transport. In addition, agriculture can improve overall national food security, eliminate poverty, hunger and chronic malnutrition (Grigg, 1995). However, for effective performance of the agricultural sector, there is need for use of information efficiently and effectively. Farmers need to know how they can have maximum production output from their yields and this can only be possible if they have the right information and know how to use it. In today's world, information is regarded as the most important factor of production far more important than land, labour and capital. Having all these factors of production without effective information use does not usually yield the intended results. Likewise, agricultural production without including information use is not effective. When farmers do not know for example the soil type, seeds and rainfall patterns due to lack of information, their productivity will be affected and result in food insecurity. However, with the right

type of information in the right quantities and quality as well as format, farmers become knowledgeable about production, management, storage, preservation, and marketing of their agricultural produce. When such knowledge is used effectively, it can lead to increased production and ensure food security in the country.

The ineffective use of information or its unavailability causes poor management of farms as well as farm produce. For a developing country like Zambia whose economy is mainly agrarian, issues of food insecurity arise causing hunger and starvation among the local people who cannot access food because they can neither produce it nor purchase it due to lack of purchasing power. With its vast resource endowment in terms of land, labour and water, Zambia has potential to expand its agricultural production. Of Zambia's total land area of 752,612 km², 58% is classified as medium to high potential for agricultural production, with rainfall ranging between 800 mm to 1400 mm annually and suitable for the production of a broad range of crops, fish, and livestock. However, since most of the farmers in Zambia are small scale farmers, who can hardly afford agricultural inputs such as fertilizers and pesticides, organic farming is the best option because it is affordable and also en-

tures the sustainability of natural resources. In this regard, Canadian Organic Growers (2001) submits that organic farming is an integrated system of farming based on ecological principles. Farmers who farm organically use natural systems to control pests and disease in crops and livestock, and avoid synthetic pesticides, herbicides, chemical fertilizers, growth hormones, antibiotics or genetic modification.

The Ministry of Agriculture considers a small-scale farmer to be someone who cultivates less than 5 hectares of land (Zambia Ministry of Agriculture, n.d.; Chomba, 2004). For the purpose of this paper, a small scale farmer is regarded as someone with little financial means as well as one with less than 5 hectares of land where different crops are grown. In any case, those with limited financial resources are unlikely to own several hectares of land since they cannot even manage to cultivate them.

Kasisi Agricultural Training Centre (KATC)

Kasisi Agricultural Training Center (KATC) was established in 1974 and initially offered a two-year course in conventional agriculture. In 1990, the institute changed its training programme to focus on short courses in organic and sustainable agriculture. The overall objective of KATC is to empower local people in Chongwe district and those who come from elsewhere to enable them to improve and sustain their lives through use of appropriate and ecologically sound agricultural techniques. Currently, KATC offers a variety of three to five days and two weeks courses in organic agriculture, including residential, on-farm courses and study circles. On-farm courses allow small-scale farmers to learn how to practice organic farming. At the end of the programme, they are given pieces of land where they are able to practice organic farming techniques that they have learnt. Principally, KATC teaches farming techniques that do not require fertilizers, pesticides and that require reduced water input or irrigation. This is appropriate because small-scale farmers cannot easily afford the expensive fertilizers and pesticides and the water reservoirs are drying up. Within 35 years of trial and error, the members of KATC had become pioneers in developing the knowledge of sustainable agriculture, and simple, inexpensive, yet effective tools for small-scale agribusiness in the country.

KATC's five-day courses encompass broad knowledge in the production of organic vegetables

and cotton, biological pest management, agroforestry, beekeeping, administrative tasks like farm management and internal control systems. Their programmes aim at training rural families as well as agricultural extension officers for government and field staff of NGOs. The participants come from Zambia and from neighbouring countries such as Malawi and Zimbabwe. In addition to residential training, KATC offers village based training. Some staff members offer extension services in the district. KATC works with approximately 1,200 small scale farmers. Some research on organic agriculture is also done at KATC and in the villages. A workshop in Appropriate Technology researches and develops equipment and tools suitable and affordable for use in rural areas, such as fuel efficient stoves. This workshop also undertakes the repair and maintenance of farmers' equipment. KATC has always relied on donor aid for its work. Since it is becoming increasingly difficult to fund core expenses, the centre is expanding into Production Units. Currently, it has a dairy herd of 30 animals and sells the milk to a cheese factory. It also set up some irrigation schemes and there are 80 hectares presently under irrigation (KATC, 2001).

The Importance of Information on Organic Farming

Lack of information has been identified frequently as a barrier to organic farming and or conversion to organic farming (Blobaum, 1983; Fairweather, 1999; Midmore et al., 2001). Emphasising the importance of information on organic farming, Padel (2001) argues that organic farming is not typical of technical innovations, but is instead an information-based innovation, with those engaged actively seeking information outside the mainstream of agriculture and from others involved in organic farming. Studies on conventional farmers' opinions about organic farming reveal, among other issues, their limited knowledge and interest in more information (Fairweather, 1999; Wynen and Edwards, 1990). In a similar vein, Lockeretz (1991) asserts that expansion of organic farming would be associated with an acceleration of knowledge accumulation among organic farmers (along with an increase in the technical support available from governments and farm advisors). External inputs would be replaced in part by information and management; yet little is known about what information is needed, when farmers might require it, and where it could come from. Lockeretz maintains that organic farming would be a

mainly software-based innovation and, like other low-input systems of agriculture, information-intensive.

Wynen (1993) in a case study on organic conversion in cereal/livestock farming found that information about organic agriculture was important in technical, regulatory and marketing areas. The study concluded that with regard to farmers' decisions whether to switch to organic farming, it was extremely important that they be well-informed about organic farming. Waltz (2004) equally found that the most severe barriers to organic farming transition were lack of information and experience in organic production, and an inability to identify markets.

Niemeyer and Lombard (2003) in a study of organic farmers in South Africa, examined socio-demographic aspects, farming operations, motivations, and problems of conversion. They recommended that conversion to organic farming be supported, not necessarily via direct financial support to the organic farmers, but by different instruments such as the development of an improved infrastructure for marketing, networking and information exchange.

Two studies by Fair-weather in 1999 found the number of farmers with an interest in organic farming to be considerably greater than the number adopting or actively enquiring about organic farming, highlighting the role that better technical, financial and marketing information could potentially play in influencing farmers' attitudes.

Statement of the Problem

The Ministry of Agriculture and The National Agricultural Information Services (NAIS) and other key stakeholders do provide agricultural information to farmers in the country. However, much of the information provided is on conventional farming and little attention has been given to organic farming. Since a considerable proportion of the Zambian population is involved in small scale farming as a means of their livelihood, there is need to assist them to increase their productivity in order to improve and sustain their lives through use of appropriate and ecologically sound agricultural techniques, such as organic farming. Other relevant information for farming is that on climate patterns, soil types, seed and water. KATC is a pioneer in developing the knowledge of sustainable agriculture, and in developing simple, inexpensive, yet effective tools for small-scale agribusiness in the

country. Over 35 years of developing and training in sustainable agriculture, very little information has been documented about its activities and the outcomes and impact of its training programmes, especially that of organic farming to small scale farmers. It was thus, imperative that this study be carried out to assess the contribution that the Institute was making to national development through empowering small-scale farmers and how this could further be enhanced.

Research Objectives

3.1. General Objective

To investigate the role that Kasisi Agricultural Training Center plays in the provision of information to small scale farmers in the Kasisi area of Chongwe District.

3.2. Specific Objectives

- To discover the information needs of small-scale farmers in the Kasisi area.
- To establish whether small scale farmers in Kasisi area are aware of the programmes at Kasisi Agricultural Training Centre on organic farming.
- To determine the effect of the information on organic farming that Kasisi Agricultural Training Centre (KATC) was disseminating to small scale farmers in the area.
- To find out the challenges faced by small scale farmers in accessing information provided by the training centre.
- To suggest ways of enhancing the provision of information to small-scale farmers.

4. Research Methodology

A survey method was used to conduct the research using both qualitative and quantitative approaches. Saunders, Lewis and Thornhill (2007), state that surveys are used to answer questions on who, what, where, and how much. In this regard, the method helped to identify who provided information to the small-scale farmers, what information was sought and why the information was sought. Bless, Higson-Smith and Kagee (2006) point out that qualitative research is concerned with studies pertaining to peoples, perceptions or feelings towards certain policies, actions or other occurrences that cannot be measured numerically. Cooper and Schindler (2001) assert that quantitative research involves measurement in terms of quantities or numbers). The qualitative approach

brought out the farmers' perceptions and feelings regarding information that was provided by KATC while the quantitative approach was used to bring out statistics of the small scale farmers that had accessed information from KATC.

The target population consisted of 60 small-scale farmers within the Kasisi area of Chongwe district. Out of these, a sample of 40 farmers was randomly selected to participate in the study. Data was collected using semi-structured questionnaires, which were administered to the respondents. This involved reading the questions to the respondents and the options for answers in the case of closed-ended questions. Where the farmers responses matched with the answers on the questionnaire these were ticked. With regard to open-ended questions, farmers' responses were written down. Questions were translated into Chinyanja and Chibemba for 21 farmers whose level of education was below secondary school and responses were recorded by either ticking the appropriate option or writing out the answers from the respondents. In addition to questionnaires, interviews were held with five (5) members of staff from the training centre. Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS) while qualitative data was analysed using content analysis. The latter involved interpreting the views and perceptions of respondents that were given both during the interviews and from the questionnaires. The statistical package was used to generate frequencies and tables.

5. Research Findings and Discussion

The research yielded 100% response rate as all the 40 questionnaires were completed. The respondents comprised 18 male and 22 females whose level of education did not go beyond secondary school education. Nineteen respondents had attained secondary education. Another nineteen had only gone as far as primary school level while two had never been to school. Information was elicited from the small-scale farmers on how

long they had been practicing organic farming. The responses revealed that 32.5% had engaged in organic farming for less than five years, 47.5% for 5 years, 15% for 10 years and only 5% had practiced for 20 years. Table 1 below portrays the findings. It can be seen that 80% of the respondents had engaged in organic farming during the last five years an indication that more small-scale farmers are turning to organic farming. This is in contrast to 20 years and 10 years ago when only 2 and 6 of these farmers respectively were practising organic farming. This is likely because more farmers are getting to learn about organic farming.

5.1 Information Needs of Small-Scale Farmers in Kasisi

The study sought to find out in what areas small-scaled farmers required information. As shown in table 2 below, the results revealed that 22.5% needed information on organic farming, 55% were in need of market information for their organic products, 7.5% required information on how to control major pests while 22.5% were in need of agro-credit information. Other information the farmers needed to have was on what cooperatives existed in their area (indicated by 20% of respondents), and field supervision programmes conducted by KATC (indicated by 7.5% respondents). Cumulative totals do not add up to 40 or 100% since some respondents indicated more than one type of information needed.

The study further revealed the various sources of information that farmers accessed. Although information was obtained through radio (indicated by 45% of respondents), other farmers (25% of respondents) and agricultural extension officers (17.5% of the respondents), the largest number (62.5%) indicated Kasisi Agricultural Training Centre as their chief source of information. Ten percent indicated that they had obtained information from all the different sources including radio, other farmers, agricultural extension officers and KATC.

Table 1: Years engaged in organic farming

Years of Organic Farming	Respondents	Percentage
Less 5 years	13	32.5
5 years	19	47.5
10 years	6	15
20 years	2	5
Total	40	100

Table 2: Farmers' information needs

Types of information	Respondents	Percentage
Organic farming	9	22.5
Marketing information	22	55
Pest control	3	7.5
Agro- credit	9	22.5
Cooperatives	8	20
Field Supervision programmes	12	30

Table 3 below portrays the findings. It should be noted though that some respondents indicated more than one source of information, hence the cumulative percentages here do not add up to a hundred. What is remarkable though is that all the farmers obtained all their information about organic farming from the training centre, which is indicative of the important role it is playing in providing the needed information to the small-scale farmers.

The frequency of access to information was another issue that was investigated and results showed that 30% of the respondents accessed information from the centre on a weekly basis, 5% fortnightly, 57.5% monthly, 5% quarterly and 2.5% every farming season. As can be seen from table 4 below, majority of the respondents accessed the needed information on a monthly basis while only 30% received information every week. Failure to access information more often can be attributed to great distances that farmers have to travel to reach the training centre.

5.3 Impact of Programme on Small Scale Farmers

From the responses by small scale farmers, it is evident that generally, they are satisfied with the programmes that KATC is running as indicated by 38 (95%) of the respondents. When further probed for what specific programmes or aspects of information they had been provided which they

appreciated most, 47.5% indicated organic farming. They acknowledged that knowledge on organic farming had greatly impacted on their farming as they were now able to grow various crops and use organic methods of treating pests without having to spend money they could ill afford on expensive pesticides and other chemicals. Thus, organic farming had proved to be cost effective and helped small-scale farmers who had undergone the training programme to maximise their production output from their yields, thus, increasing household food security for their families. In some cases, maize yields had increased by 50% ,while other farmers had seen production increase up to 100% from what they used to get under conventional farming. This demonstrates that if more small-scale farmers embraced organic farming, it would substantially contribute to economic development since farmers can produce more food and have surplus to sell.

5.4 Challenges Faced in Accessing Information from KATC

The major challenges that small-scale farmers faced in accessing information from KATC were investigated. One of the major challenges was that of language of instruction in the various short programmes as well as the literature used to disseminate information such as brochures and flyers. As it has already been revealed the highest level of education attained by the respondents in

Table 3: Sources of information

Sources of information	Respondents	Percentage
Radio	18	45
Other farmers	10	25
Agricultural Extension Officers	7	17.5
KATC	25	62.5
All the above sources	4	10

Table 4: Frequency of access of information

Frequency	Respondents	Percentage
Weekly	12	30
Fortnightly	2	5
Monthly	23	57.5
Quarterly	2	5
Every farming season	1	2.5
Total	40	100

this research was secondary education with some respondents not having been to school at all. Since the language of instruction in the programmes run by the institute is mostly in English, farmers found it difficult to follow what is taught. In fact 75% of the respondents indicated that they faced this challenge. The other challenge mentioned by both the farmers and staff of KATC is that of distance from the far flung areas where farms are spread to the training institute. Small-scale farmers are thus unable to frequently visit the agricultural training centre to find out latest information about national pricing of commodities and other issues affecting them. For the same reason, agricultural extension officers rarely managed to visit their farms, especially that they were very few as well. The officials from KATC confirmed this inadequacy of agricultural officers asserting that there was one (1) agro-extension worker serving a thousand (1000) small-scale farmers.

5.5 Ways to Improve Information Dissemination to Small Scale Farmers

Concerning the ways in which KATC should improve its programmes, 35% of the respondents indicated that it should introduce new programmes, 22.5% indicated that it should improve on its existing ones by providing instruction in lo-

cal languages such as Chinyanja, Lenje and Chibemba and having the literature translated in the said languages so that the farmers can easily follow the programs. Twenty five percent (25%) of the respondents said KATC should increase the duration of the courses from between three to five days to two weeks and the two weeks programs to one month, and 17.5% indicated that it should increase in the number of its trainers. Respondents who proposed the introduction of new programmes were those who had already taken part in the already existing programmes. A good number of these farmers had recently switched from conventional farming to organic farming and hence needed more information on the practice.

6. Recommendations of the Study

Based on the findings of this study, the following recommendations were made:

KACT should provide information in local languages so as to reduce the current difficulties in which most agro-literatures are published in English.

The government should train and deploy more agriculture extension workers to help and disseminate agricultural information especially on organic farming to small-scale farmers.

Various stakeholders in the agricultural sector

Table 5: Programmes farmers participated in

Programmes	Respondents	Percentage
Production of organic vegetables and cotton	11	27.5
Biological pest control	10	25
Agro-forestry	3	7.5
Bee-keeping	9	22.5
All the programs	7	17.5
Total	40	100

must recognize the importance of organic farming by ensuring that adequate market information for organic products is made available to extension officers and eventually small scale farmers.

The government should enhance national organic agricultural policies in order to make the necessary resources available so that national, regional and international development partners can identify priority areas of support.

7. Conclusion

This study has demonstrated that organic farming is a feasible option for small-scale farmers who cannot afford expensive fertilizers and pesticides in order to increase their yields. By engaging in organic farming, the study has shown that small-scale farmers have been able to grow a variety of crops to ensure food security for their households and even spared some produce to sale, thus improving their economic situation. With appropriate national organic agricultural policies in place, more small-scale farmers could be empowered to improve their economic status and thus contribute to the economic development of the country as a whole. It is hoped that if and when the above recommendations are considered by the concerned authorities then information will no longer be a missing link as it currently is.

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A Hidden Factor Hindering Agriculture in Bringing Socio-Economic Development and Poverty Alleviation in Tanzania and Other Sub-Sahara Countries

By

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Abstract

Historically, Tanzania has undertaken vigorous development initiatives prioritizing agriculture as a focal sector for alleviating poverty and bringing socio-economic development. Ever since, the nation has had developed and undertaken different popular slogans and campaigns to promote agriculture. In spite of good slogans and campaigns undertaken, so far Tanzanian agricultural sector is still dominated by smallholder farmers, growing food crops and using the hand hoe, and highly dependent on an uncertain rainfall. Similarly, despite the tremendous effort taken by Tanzania to alleviate poverty, the country is still languished in a low-income trap, with low levels of socio-economic development. Although scholars have identified a number of constraints limiting the growth of Tanzania agricultural sector, this paper limits itself on farmers' negative mindset/perception on agriculture as the core obstacle hindering growth of agricultural sector, hence, proving fruitless efforts in alleviating poverty and bringing viable socio-economic developments.

Key words: *Farmers Mindset; Poverty Alleviation; Nontraditional Agricultural Crops; Socio-Economic Development*

Introduction

In any socio-economic sector, people can influence the type of economic structure through their voices. Government needs to reflect values, goals and voices in the public. If citizens develop negative perceptions toward a particular sector, that sector might deteriorate. Importantly, misperceptions about sectors can be corrected. However, misperceptions cannot be corrected unless they are well and clearly understood. The understanding of misperceptions can help an industry select strategies to communicate its values to the public. Along this reflection, little is known about farmers (peasants) hereafter "farmers" perception of agricultural production in Sub-Sahara African countries particularly in Tanzania. This information is very important, especially for Tanzania which is determined to reform its agricultural sector. Therefore, among other things, this paper specifically identifies farmers' misperception of agricultural as a hidden factor hindering its growth which could fortunately leads to socio-economic growth and poverty alleviation. The paper is divided into seven sub-headings: the country's profile, the overview of Tanzania agricultural sector, statement of the problem, scope and methodology, defined farmers negative perception, farmers' negative perception on agriculture, and conclusion and recommendations.

Country Profile

The United Republic of Tanzania (URT) is a unitary Republic formed by the Union of Tanganyika and

Zanzibar in 1964. Tanzania is located in East Africa between latitudes 10 – 120 South of the Equator and longitudes 290 - 410 East of Greenwich (URT, 2009). It shares the borders with eight countries: Kenya, and Uganda to the North, Rwanda, Burundi and Democratic Republic of Congo to the West, Zambia, Malawi and Mozambique to the South and to the East Indian Ocean. The total land area of Tanzania is 945,000 km which includes a land area of 881,000 km of Mainland, 2,000 km for Zanzibar, 62,000 km inland water and 3,350 km of forest and woodlands (URT, *ibid*). According to URT (2013) the population of Tanzania has increased from 12.3 million in 1967 to 44.9 million in 2012. The 2012 Population and Housing Census results show that Tanzania has a population of 44,928,923, of which 43,625,354 is on Tanzania Mainland, and 1,303,569 is in Zanzibar (URT, *ibid*).

Overview of Tanzania Agricultural Sector

In Tanzania agriculture is the backbone of the country's economy as indicated in the National Development Vision (NDV) 2025 and National Strategy for Growth and Reduction of Poverty (NSGRP), 2005, and comprises sub-sectors such as crops, livestock, forestry and hunting (URT, 2008). The sector is a homestead to approximately 80% of the population that is mainly engaged in farming activities for their livelihoods and providing employment for 70% of the population although dominated by small farming production, where a large proportion is for subsistence (Rutta, 2012; URT, 2008).

Although a larger proportion is for subsistence, still the sector contributes about 45 % of GDP, brings approximately 66 % of the foreign exchange and provides the bulk of raw materials for local industries (Rutta, 2008). Crop production accounts for 55% of agricultural GDP, livestock for 30%, and natural resources for 15% (Larsen et al., 2009). The main export crops are sugar, coffee, cotton, tobacco, and tea. The most prevalent staple crops in Tanzania include maize, cassava, rice, sorghum, and millet.

The majority of farms in Tanzania vary from less than one to three hectares, with an average farm size of 2.4 hectares and worse farm size varies across regions (Minot, 2010; Conforti & Sarris, 2009). For example, in the predominant tobacco area of Ruvuma, farms average 2.47 hectares while in the smallholder coffee region of Kilimanjaro, farm sizes average at 1.08 hectares. This is at least in part due to higher population density in Kilimanjaro, making land scarcer and more expensive than in Ruvuma (Salimi et al., 2010; Christensen & Sarris, 2007).

Most smallholder operations occur in farming systems, whereby the family is the centre of planning, decision-making and implementation, operating within a network of relations at the community level (Salimi, 2010). Despite the number of sound agricultural policies adopted, implementation has been lagging in most countries (Salimi et al., 2010). Worse still, the diversity of agricultural sector and low productivity has remained to be a key challenge in Tanzania.

Nevertheless, a number of initiatives aimed at improving the performance of the agriculture sector in the country had been implemented over years. These include the Arusha Declaration of Vijiji vya Ujamaa (communal villages) of 1967 and the Iringa Declaration of Siasa ni Kilimo (Politics is Agriculture) of 1974. Other initiatives taken include Kilimo cha Kufa na Kupona (*Agriculture as a matter of life and death*); chakula ni Uhai (Food is Life) and ukulima wa Kisasa (Modern Agriculture), (URT, 2012). There were other slogans such as Mvua za Kwanza za Kupanda (first rains are for planting); and a recent slogan Kilimo Kwanza (agriculture first).

These slogans and campaigns have had philosophical thinking. For example, Kilimo cha kufa na kupona strived to empower rural producers and cautioning the masses on the need for increased

food production (Mvena, 1995; Mwapachu, 2005). The siasa ni kilimo came as a result of deteriorating performance in the agriculture sector followed by another policy statement kilimo cha umwagiliaji to underscore the need to use irrigation in agriculture (Mvena, 1995), to mention a few. Also the country has taken different agricultural campaigns, including nationalization of all big private farms in 1967, starting village cooperative farms in 1972, and agriculture as the backbone of the nation in 1982. Recently, there is ongoing campaign Kilimo Kwanza (agriculture first) inaugurated in 2009.

The country also has introduced a series of agricultural reforms from the 1980s to 1990s, including, but not limited market to liberalization, removal of state monopolies, withdrawal of the government from production projects, and increased reliance on the private sector. However, most of reforms had shown marginal success (Rweyemamu, 2003). For example, the Arusha Declaration, a socialism policy framework which was gearing at addressing rural development through emphasizing a spirit of self-reliance, de-emphasis on agricultural mechanization, export crop production, and the use of communal ownership of the means of production did not materialize fully (Kahama et al., 2006; Mhando, 2011). Additionally, "villagization program", which aimed at replacing the traditional system of rural settlements with much larger, more organized village settlements, was a failure (Mhando, 2011).

Finally, there is agricultural reform in Tanzania of 2004, known as Agricultural Sector Development Programme (ASDP). The policy aimed at transforming the agriculture sector from subsistence to export agriculture through the private sector (Government of Tanzania, 2006). The programme had peculiar approaches, such as empowering client and farmer, emphasizing of demand driven and market-led technology development, and increase of service providers all recording marginal success (URT, 2011).

Statement of the Problems

In Tanzania, agriculture is increasingly being promoted as a focal sector for socio-economic development and poverty alleviation (Rutta, 2012, URT, 2008). Since independence, the country has taken numerous efforts to maximize agriculture productivity (URT, 2012; Mwapachu, 2005; Mvena, 1995). Ever since records show marginal success (Kahama et al., 2006; Mhando, 2011, URT, 2011). Scholars have identified and listed different factors

associated with this failure, and recommended possible solutions (Sarris et al., 2006; URT, 2009; Salimi, 2010). However, the sector is still stagnating calling for alternative way, of finding a hidden factor hindering development of this focal sector. This paper attempts to bridge this missing knowledge.

Scope and Methodology

The scope of this paper has been limited to Tanzania. Given limited time and resources available, the sources of data have been desk study review and included books, journals, papers, and reports, some cutting across the world and others focusing on Tanzania. Also, this paper is supported by personal observation and observation gathered from other people.

Defined Farmers Negative Perception

According to Matlin (1983), perception is the study of the way people gather and interpret information about the world around them. There are positive and negative perceptions, both basing on people self and everything they know about the world (Matlin, 1983; Raab & Grobe, 2005). Knowledge can affect perception and attitude which in turn affects decision and influence peoples' life (Julie, 2009). In this paper, farmers have given agriculture less priority much contributed by their negative perception developed by lack of proper knowledge regarding agriculture (Julie, 2009). Negative perceptions have affected decisions within the agricultural industry for decades (Julie, 2009). For example, pesticide use, food safety, and genetically modified food and fiber sources are all examples of issues with varying perceptions of their effects (Julie, 2009).

Research has revealed that perception with regard to these issues, and many others, can differ among individuals, hence, leading to false perception that would not be easily changed (Slovic, 1992). Also, evidence shows that negative perception can lead to mistrust and failure to accept research findings (Julie, 2009). In this regard, negative perception in agriculture is being regarded as a hidden factor hindering agriculture in bringing socio-economic development as discussed hereunder. To substantiate this fact, the following section discusses how some previous renowned factors hindering agriculture in bringing socio-economic development and alleviating poverty are outweighed by farmers' negative perceptions on agriculture.

Farmer's Negative Perception on Agriculture

Before embarking into farmers' negative perception on agriculture per se, it is crucial to show the way many previous renowned factors hindering the agriculture sector in bringing socio-economic development and poverty alleviation are outweighed by farmers' negative perception. Alternatively, it is imperative to note that most of core renowned challenges facing the agriculture sector in bringing socio-economic development and alleviate poverty have practical solutions that are not taken into consideration. However, since this is not the focus for this paper, two examples: lack of credits, and reliability on rain will be cited.

Regarding credits, previous studies have shown that most farmers are bypassed not only by commercial and national development banks, but also by formal micro-credit institutions because of lack of collateral or poor credit history (Salimi, 2010). Because of this, farmers are forced to find alternative sources of income from friends, relatives or make their own savings (Salimi, 2010). Own saving could be more reliable sources, of capital, but since many farmers' cannot reduce consumption, they are not able to accumulate savings which in turn will be used as capital (Hoffmann and Sarris, 2007; Carter and Zimmerman, 2002).

Again agriculture practice in Tanzania is still dependent on rain which is very much unreliable and irregular (Sarris et al., 2006). The only alternative towards these challenges is the use of irrigation system. Tanzania has all potentialities of applying irrigation mechanisms in agriculture. According to URT (2009), Tanzania is blessed with enormous water resources potential constituting rivers, lakes, and underground water sources all, of which can be utilized to enhance irrigation schemes and other uses.

Also, there is high possibility of harvesting rain water that will in turn be used in irrigation. However, a small number of farmers in Tanzania is exploring this opportunity. For example, while irrigation potential in the country is found to be 29.4 million hectares, only a total of about 279,266 ha were under improved irrigated agriculture by 2008 (URT, 2009). In addition, Kumar and Nelson (2008) observed that although irrigation systems are particularly useful in low rainfall areas in Tanzania, only 1.8% of all cropped land in Tanzania is irrigated. In general, less than 4 % of total land area is irrigated (Salimi, 2010). Thus, this paper

argues that small scale farmers' negative mindset (negative perception) is a core challenge hindering development of the agriculture sector in Tanzania and other sub-Sahara countries to bring viable socio-economic development as it influences other factors as argued hereunder:

Inferiority Complex

Inferiority complex means that one's self-esteem is low (Kim, 2005). The existence of human in a nature within a society is under constant state of comparison which reflects one another (Cha Jun Goo, 2001). An inferiority complex is born out of the never-ending comparison that is a part of one's natural and unavoidable life (Cha Jun Goo, 2001). A person with inferiority complex may try to hide their complex by transforming their emotional insufficiency and turn those emotions into blame or disregard others, as well as putting deception over that which they do not have (Cha Jun Goo, 2001). An inferiority complex stops one from feeling the jobs or work and may even cause failure in a person's occupation cause one to do their work roughly and to become lazy (Sweeney, 1998).

In this context, the farmer's inferiority complex is one of the factors hindering agriculture in brining socio-economic development in Tanzania and other sub African countries. Farmers have misconception that the agricultural industry is made up of uneducated producers (Industries Development Committee Workforce, 2009; Smit & Nars, 2001). Young people, who are the most reliable labour force, consider agriculture as the last career or job choice. Additionally, agriculture is considered as having low prestige due to the common belief that agricultural employment is necessarily manual labour with limited (if any) skill requirements, that may not provide secure ongoing work or opportunities to develop and advance careers (Industries Development Committee Workforce, 2009). Agriculture is perceived as an industry focused on vocational skills (Krueger and Riesenbergs, 2001; Wiley et. Al., 1997). Moreover, for the majority, agriculture remains an old fashioned sector (Rutta, 2012). Worse still, according to Smit and Nars (2001), the industry is facing socio-cultural biasness.

Agriculture as a Curse

Agriculture as a curse is another negative perception that persists among Tanzanians. Such perception hinders agriculture in bringing socio-economic

development in Tanzania and other Sub-Saharan African countries. Most farmers have perceived agriculture to be an industry which is prone to disasters (Industries Development Committee Workforce, 2009). Some farmers think that agriculture is unpredictable (Rutta, 2012). According to Pink and Writer (2011), 'Farmers are men who could not manage schooling or did not go to school because they were born too far below the poverty line. Agriculture is tragic, unsophisticated and backward and its participants lack the mental fortitude to do anything else. In Jamaica farming is a curse which Jamaicans still have to bear (Pink and Writer 2011). Agriculture is regarded as work for people with no hope for their future and unreliable (Rutta, 2012). Agriculture is vulnerable to weather and other shocks in agriculture (Enfors and Gordon, 2007). Additionally, agriculture is being regarded as work for people with no hope for the future and work for people who lacked alternative for other job opportunities (Rutta, 2012).

Agriculture as Unprofitable Business

According to Rutta (2012), small farmers in Tanzania think that agriculture takes time to earn money, and it is not profitable business, but a work that can only be done when you get old or about to retire. People practicing farming are doing so because they lack alternative profitable activity (Rutta, 2012). In support of this argument, Rutta (2012) quoted a Tanzania lamenting that "I have never seen a successful young farmer in my entire life; there are no role models in agriculture". For many, agriculture remains a sector that cannot generate income for their living. Again, most people, especially the youth, regard agriculture as back-breaking work with low input, little return and work which does not bring life style and status they desire (Katere, 2013). The agriculture industry continues to compete with the mining and construction industries for employees in terms of pay and workplace benefits (ABS, 2007).

Agriculture as Worse Career

Limited education of young people about agriculture appears to have led to an emerging generation of adults who do not appreciate the importance of agriculture to the national economy or the nature of agricultural careers (Industries Development Committee Workforce (2009). Particularly, young people are leaving rural areas for better social and career options. They consider that they are undervalued in rural communities and feel that poor accessibility and limited transporta-

tion in many rural and remote areas contribute to isolation and frustration. Limited access to: medical services, local education, appropriate accommodation, and good quality information technology and telecommunications services, also contributes to their migration away from rural and remote areas (Rural Skills Australia, 2008). The diversity of career pathways available within agriculture sectors is not well understood within the community and is making it very difficult to attract people into the industry. Research has shown that agriculture is caught in a cultural stereotype and that jobs in the industry are believed to be 'dead end', 'hard work', or 'not well paid' (Ruralscope, 2007).

Agriculture as Ignored Sector

Farmers have the perception that lack of capital is due to the fact that this sector is ignored hence the only way to get capital is through self-accumulations from their own resources, a factor thought difficult (Sari et al., 2006). Also, farmers have the perception that the Government has often left farmers to bargain for themselves on their harvests. As a result, suppliers of food crops benefit more than farmers (Rutta, 2012). Additionally, farmers think the Government has ignored to provide some service such as extension services, affordable credits and stable prices (Ngongi, 2011). Finally, farmers think that rural roads are ignored to the extent that agricultural commodities produced by farmers tend to rot away un-marketed (Kamara et al., 2002).

Conclusion and Recommendations

Conclusion

The paper's findings show a strong link between farmers' misperceptions on agriculture as a core factor hindering development of agricultural sector, and eventually its failure in bringing viable socio-economic development and alleviate poverty in Tanzania and other Sub-Sahara African countries. These misperceptions have led to farmers perceiving themselves as inferior and perhaps most marginalized simply because agricultural sector is vulnerable, abandoned, non-profitable, outdated and neglected. Thus, previous and ongoing initiatives taken to reform this sector lacks practical implementations strategies because the targeted group had already shown a sense of despair; hence, difficulty to support fully aforementioned initiatives. Also, most of the initiatives taken are emotional and have not reflected the perception

and characteristics of grassroots farmers who are the target. Therefore, regardless of good policies, slogans, and campaigns, if targeted population would not accept and devote their full support all these efforts will end in vain the fact which is probably facing Tanzania and other Sub-Sahara African countries.

Recommendations

Overcoming Negative Perception

It is recommended that Government, non government organizations, politicization and other development actors must spare time and resources to help farmers overcoming negative perception they have towards agriculture. Where possible, psychologists should be consulted in order they may provide technical assistance. Public awareness through media on the same should be advocated as well.

A Need for Reducing Consumption and Increase Savings

Since it is difficult to access loans from financial institutions, it is now the right time for farmers to be trained on how to reduce consumption and increase savings. This role can be played by non-government organizations or community based organizations.

Need for Farmers Skills

Farming has changed and producers now need technical knowledge as well as advanced business management and leadership skills to manage their many challenges, including labour and skills shortages. This includes skills in international markets, risk management, strategic thinking, negotiation, decision-making, financial planning, human resource management and environmental management. The government and non-government organization should now design practical training that will improves these skills in rural areas.

Need for Non-Traditional Crops

If young people in Tanzania chose agriculture to be their primary economic activity or career, they need to see it financially rewarding, offering lots of opportunities to make a living and something of pride. Since many people in rural areas need quick paying crops, it is recommended that farmers be availed with better farming techniques on short term crops like vegetables, root crops and animal

husbandry such as pig farming and poultry to young people involved in agriculture.

Introduction of Off-Farming Activities

According to Katera (2013) in order to rural economy, it is better not only to concentrate on agriculture alone, but also on off-farm activities since all have equal importance. Failure to do that, may lead to rural income inequality and probably lead to urban migration. Equally important, Katera (2013) has suggested implementation of entrepreneur skills development centers, focusing on small business and other rural activities.

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RESOLUTIONS

**XXIst SCECSAL Conference
Lilongwe, Malawi
Sunbird Capital Hotel
28th July - 1 August 2014**

Adopted by: SCECSAL General Assembly, 1 August 2014.

CONSIDERING the significant role of information and knowledge in socio-economic development;

CONGNISANT of the on-going national and global consultations on the post-2015 development agenda;

RECOGNIZING the need to integrate digital technologies into library and information work for optimal access;

RECOGNIZING the rights of people with special needs;

We the delegates of the XXIst SCECSAL resolve that:

1. Each SCECSAL member association should align its activities to the national and global development agenda and report on its post-2015 strategy at the XXIInd SCECSAL IN 2016.
2. In line with parent institutional policies and strategies, libraries and information centres in the SCECSAL region should develop e-strategies that encompass open access, social media, digitization and e-learning resources for the provision of optimal access.
3. SCECSAL member associations should host national conversations on the provision of information services to people with special needs.

Done this 1st day of August 2014, at Sunbird Capital Hotel, Lilongwe, Malawi.

Resolutions Committee

Dickson Vuwa-Phiri	Chairperson
Jacinta Were	Member
Justin Chisenga	Member
Martin Thawani	Member
Sagcoor Ujala	Member

MINUTES OF THE GENERAL ASSEMBLY OF THE XXI STANDING CONFERENCE OF THE EASTERN, CENTRAL AND SOUTHERN AFRICAN LIBRARY AND INFORMATION ASSOCIATION HELD ON FRIDAY, 1ST AUGUST 2014 AT THE SUNBIRD CAPITAL HOTEL IN LILONGWE, MALAWI FROM 9.00 AM.

1. 0 MEMBERS PRESENT

**Botswana
Kenya
Lesotho
Malawi
Namibia
South Africa
Swaziland
Tanzania
Uganda
Zambia
Zimbabwe**

2. 0 OPENING REMARKS

- 2.1 The Meeting was called to order at 9 am by the Chairman from the Kenya Library Association and all member Associations present were introduced and welcomed.
- 2.2 In his introductory remarks, the Chairman also introduced Presidents of the Library Associations present.

3.0 ADOPTION OF THE AGENDA

The agenda for the meeting was:

**Welcome remarks by Outgoing Chair, SCECSAL XX...
Adoption of the Agenda
Obituaries
Confirmation of the Minutes of SCECSAL XX...
Matters Arising
Country Reports
SCECSAL Conference Resolutions
Next Host
Handing over
AOB
Closing.**

The agenda was adopted after it was proposed by South Africa and seconded by Zambia.

4.0 OBITUARIES

- 4.1 A minute's silence was observed in memory of our colleagues who had passed on since the last SCECSAL in 2012 in Kenya. There were about 12 colleagues who had been reported as having died.

5.0 CONFIRMATION OF MINUTES OF THE PREVIOUS SCECSAL

The Minutes of the SCECSAL XX...were adopted after minor corrections were made. Some notable corrections included the names of Dr. Mbambo Bhule Thata from RSA and Mrs. G. Kadzamira from Malawi which had been omitted.

6.0 MATTERS ARISING

There were no matters to be discussed from the previous minutes.

7.0 COUNTRY REPORTS

Official representatives from all countries present made presentations of their country reports, highlighting some important events and activities

8.0 IFLA TREND REPORT PANEL DISCUSSION

- 8.1 The aim of the IFLA Trend Report Panel Discussion aims at deliberating on IFLA Trend Report, identify its impact on Africa and recommend strategies for information access and delivery.
- 8.2 The 2014 Report Discussion Panel was chaired by Jacinta Were of Kenya and had Justin Chisenga, Sarah Kaddu and Ujala Satgoor as other panelists.
- 8.3 The discussion centered on New Technologies that will both expand and limit who has access to information

9.0 OTHER ISSUES

The following are key issues that were discussed:

9.1 SCECSAL Logo

Dr. Justin Chisenga chaired the discussions on the creation of a SCECSAL Logo whose designs had been circulated earlier on through the internet. There were seven designs in total. After deliberations, members settled for Logos 3 and 4 for adoption.

9.2 SCECSAL Constitution

SCECSAL Constitution was introduced, discussed, and adopted by the General Assembly.

9.3 SCECSAL and Social Media

Discussions mainly centered on SCECSAL's online presence to enhance networking and information sharing among members. Members discussed LinkedIn, Twitter and agreed to open an online account for photos of all SCECSAL activities. MALA was tasked to come up with a report on this and post on the SCECSAL Blog.

9.4 SCECSAL Website

The Meeting further agreed that the SCECSAL Website be maintained. Members promised to contribute information to the Website.

9.5 Conference Proceedings

Authors were assured that their works would be published as Proceedings. It was, however, learnt that some authors did not submit full texts of what should have been presented.

9.6 Author of the Year Award Account

The SCECSAL Author Award was established with the objective of encouraging local authorship in the field of library and information studies

The General Assembly learnt that the Author of the Year Award Account is still being held by MALA, and that each member country is required to contribute about 100 dollars every year. Currently, there is \$2500 in the Account.

9.7 SCECSAL XXII Host

Uganda and Swaziland competed for the next host of the SCECSAL XXII in 2016. Members settled for Swaziland to host the next SCECSAL Conference. The month of July was proposed for the Conference, and Swaziland Library Association was requested to work towards these dates.

9.8 Current SCECSAL Chairmanship

The mantle of current chair for the SCECSAL was passed on to Malawi. Kenya was the previous holder.

10.0 SCECSAL CONFERENCE RESOLUTIONS

- 10.1 Members present at the SCECSAL General Assembly held on Friday, 1st August 2014 in Lilongwe, Malawi adopted the following resolutions:

CONSIDERING the significant role of information and knowledge in socio-economic development;

CONGNISANT of the on-going national and global consultations on the post-2015 development agenda;

RECOGNIZING the need to integrate digital technologies into library and information work for optimal access;

RECOGNIZING the rights of people with special needs;

We the delegates of the XXI SCECSAL Conference resolve that:

Each SCECSAL Member Association should align its activities to the national and global development agenda and report on its post-2015 strategy at the XXII and SCECSAL IN 2016.

In line with parent institutional policies and strategies, libraries and information centres in the SCECSAL region should develop e-strategies that encompass open access, social media, digitization and e-learning resources for the provision of optimal access.

SCECSAL Member Associations should host national conversations on the provision of information services to people with special needs.

11.0 ANY OTHER BUSINESS

- 11.1 Delegates from Zimbabwe requested organizers of the next SCECSAL Conference and all member countries to ensure that they communicate in time to enable smooth preparations.

- 11.2 Members also discussed and fixed the dates for SCECSAL every two years.

12.0 CLOSING

There being no other business, the Meeting closed at 12.30 pm

Country Reports

LESOTHO LIBRARY ASSOCIATION

LESOTHO COUNTRY REPORT 2014

Lesotho Library Association (LLA)

**2014
MALAWI**

Compiled

By

William Mokotjo,

LLA PRESIDENT

1.0 Introduction

It is with great honour and privilege as Lesotho Library Association (LLA) to have this golden opportunity to present the country report on behalf of the Lesotho Library Association. LLA wishes to pass gratitude to all SCECSAL members present here today. The report outlines the achievements, challenges, recommendations and the future plans of the Association. It covers the duration of two years, 2012 and 2013.

2.0 LLA Achievements

2.1 LLA SITE

In May 2013, the following improvements were made on the site:

- Fencing
- Construction of a small structure
- Installation of electricity and sewerage system
- Renting out of the site

The Association is still awaiting major site developments that would make it easier for the LLA to survive and be well established in terms of permanent office location.

2.2 LLA website

The LLA website was developed in April 2014. Due to financial constraints, it could not be launched as scheduled. However, it will be launched before the end of this year. The purpose of the website is to market the Association and to benefit LLA members by sharing skills and experiences relating to the profession.

2.3 Fundraising activities

In an effort to raise funds for the Association, the following activities were undertaken:

- Re-negotiation of Government subvention with the Ministry Tourism of Environment and Culture
- Renting out of the LLA site
- Selling of T- shirts

2.3 Community development services

In line with the LLA objective to promote, safeguard and encourage the establishment and improvement of libraries and professional interests of librarians, LLA, with the support of the Lesotho National Library Services, the Central Bank of Lesotho and international bodies such as World Vision, managed to donate books to fifty-five High Schools within the country.

3.0 Libraries in Lesotho

The library system in Lesotho is made up of the national, public, special, academic and school libraries. Out of these five types of libraries, the school libraries are the most disadvantaged as they are manned by unqualified personnel, and are lacking in equipment and study materials. This can lead to lowering students' learning and achievements standards.

The association sensitized the school principals in their regular meetings on how to improve the library services in their schools.

3.3 LIS Programme

In 2009 the National University introduced an LIS Programme at the Diploma Level. Some members of the Association assisted with tutoring. The Programme was unfortunately later suspended due to lack of resources (human and financial). The negotiations to resuscitate it are still going on.

4.0 Challenges

- Lack of sponsorship for Diploma students at NUL
- Slow absorption of Diploma graduates in the workplace
- Lack of Financial Capacity to establish LLA Secretariat (Staff) and National Office that will assist the Association to execute its mandate and programmes accordingly.
- Absence of Government Subvention and Development Partners (donors) Funding to support LLA programmes and activities.
- Absence of the National Library Act of which the Draft Bill is still to be presented to Parliament
- Lack of enthusiasm among the library professionals. Members are reluctant to participate in Association's activities such as payment of subscriptions.

5.0 LLA Future Plans for 2015/2016

- To mobilize resources for the establishment of Community or Pack Homes Libraries and LLA national office (site development).
- To conduct intensive trainings for the School Library Assistants and Principals.
- To sensitize the community on the importance of library services.
- To devise membership-based projects that will stimulate LLA members in addressing the challenge of lack of enthusiasm.

6.0 Recommendations

The SCECSAL Coordinating Body should develop the standard format for developing a country report that will indicate the critical areas to be covered and why.

7.0 Conclusion

Library Associations play a vital role nationally by imparting knowledge to individuals. Sharing of achievements, challenges and plans of Associations with one another will assist in addressing the national challenges jointly.

Standing conference of Eastern, Central and Southern African Library and Information Associations

XXIst SCECSAL Conference, Lilongwe, Malawi

SWAZILAND (SWALA) COUNTRY REPORT, 2012 - 2014

JULY 2014

1.0 Introduction

It is that time again when we as Library and Information Associations in the Eastern, Central and Southern African countries meet to share ideas. This report reviews the period from 2012 to 2014.

2.0 SCECSAL Resolutions – 2012

1. Governments should create a conducive policy environment to facilitate sharing and provision of access to public information resources in digital formats;
2. Library parent institutions should adopt policies and strategies that support open access initiatives and development of institutional repositories based on international standards for information sharing exchange;
3. Library and information professionals should endeavour to acquire skills relevant to management and dissemination of information in digital formats;
4. SCECSAL, member associations and libraries in the SCECSAL Region should develop social media strategies and adopt the use of appropriate social media applications in their activities;
5. SCECSAL member associations should develop and implement capacity development programmes to include training on the application of social media to Library and Information work, among others;
6. Library and Information Science schools in the SCECSAL region should review the curriculum to ensure that they respond to the emerging needs of the Library and Information profession in the region.

3.0 Implementation of the SCECSAL Resolutions

3.1 To create a conducive policy environment to facilitate sharing and provision of access to public information resources in digital formats - Swaziland has managed to finalise the Draft National Library Documentation and Information Policy which will promote standards, regulate, coordinate and monitor Library and Information Services delivery to the general populace within the country. The policy will also set rules and regulations which will facilitate decision making in Library and Information Service delivery.

3.2 On the resolution that Library and information professionals should endeavour to acquire skills relevant to management and dissemination of information in digital formats, SWALA members had the privilege to be capacitated on *Web 2.0 and Social Media Learning Opportunity*. Skills acquired where they were taught selected Web 2.0 applications and how to use them hands-on in facilitating communication and information sharing.

3.0 On the resolution that SCECSAL member associations should develop and implement capacity development programmes to include training on the application of social media to Library and Information work, among others, Swaziland has collaborated with the Republic of China on Taiwan Embassy to create Digital Opportunity Centres to capacitate communities with computer literacy skills. The visually impaired community has not been left out of this initiative, they are provided with internet access through Software called Jaws and they have free access to an embosser.

SWALA Elections

The Swaziland Library and Information Association recently held elections where Ms Jabu Hlophe was elect-

ed as Chairperson.

Membership

The Association embarked on a membership drive which saw an increase in numbers. The establishment of school libraries also boosted the SWALA membership in that the Teacher-Librarians joined SWALA. On the other hand, the introduction of a course in Library and Information Science by the Institute of Development Management (IDM) has also contributed to the swelling membership numbers.

Future Plans

1. Hosting the XXIInd SCECSAL Conference
2. Review curriculum of the Library and Information Course offered locally

Conclusion

The past two years was a very difficult period for the Swaziland Library and Information Association, almost leading to the collapse of the Association. The newly elected Executive Committee is faced with the challenge of reviving SWALA back to being the vibrant Association it was known to be. Despite the challenges faced over the past two years, the Association can bravely say SWALA is growing in leaps and bounds and is ready to host the **XXIInd** in 2016.

APPENDICES

SCECSAL XXI ORGANIZING COMMITTEES

Main Organizing Committee

Gray L. Nyali	Chairperson
Dickson B. Vuwa Phiri	Vice Chairperson
Gift A. Kadzamira	Secretary
Clement Fulano	Vice Secretary
Fiskani Ngwira	MALA President, Member
Robins Mwanga	MALA Secretary General, Member
Stanley S. Gondwe	Chairperson, Entertainment Sub-Committee
Felix Majawa	Chairperson, Protocol Sub-Committee
Geoffrey F. Salanje	Chairperson, Publicity and Publications Sub-Committee
Vote Somba	Chairperson, Travel and Accommodation Sub-Committee
George Chipeta	Member
Prof. Joseph J. Uta	Member
Rose Mserembo	Member
Linda C. Shema	Member

Sub-Committees

Catering and Entertainment Sub-Committee

Stanley S. Gondwe	Chairperson
Dorothy Eneya	Member
Clement Fulano	Member
Maloto Chaura	Member
Judith Elisa	Member
Nancy Phiri	Member

Publicity and Publications Sub-Committee

Geoffrey F. Salanje	Chairperson
Khumbo Ngo'ngola	Secretary
George Chipeta	Member
Patrick Mapulanga	Member
Walusungu Simbeye	Member
Aubrey Chaputula	Member
Dr Augustine Msiska	Member

Protocol Sub-Committee

Felix Majawa	Chairperson,
Diston Chiweza	Member
Naomi Kachoka	Member
Luke Mwale	Member
Jonathan Chingwalu (late)	Member
Joel Thaulo	Member
Martin Thawani	Member

Travel and Accommodation Sub-Committee

Vote D. Somba	Chairperson
Trevor Namondwe	Member
Thomas Kaluvi	Member
Thomas Bello	Member

Finance & fundraising

Dickson B. Vuwa Phiri	Chairperson
Lidia Chiotho	Member
Wellington Soko	Member
Harry Mbeya	Member

SCECSAL XXI CONFERENCE

Official Opening Programme

09.00	Invited guests seated
09.55	Guest of Honour (Minister Education, Science and Technology) Arrives
10.05 –10.10	Opening Remarks by the Director of Ceremonies Mr Diston Chiweza
10.10 – 10.40	Cultural Dances
10.40—11.00	Speech by the President of the Library Association: Mr Fiskani Ngwira
11.00 -11.30	Speech by the Chair of the Organising Committee: Mr Gray Nyali
11.30 -12.00	Opening Speech by the Guest of Honour
12.00 – 12.30	Health Break
13.00 – 13.30	Lunch

SCECSAL XXI CONFERENCE			
THEME: INFORMATION AND KNOWLEDGE MANAGEMENT AS A DRIVING FORCE FOR SOCIO AND ECONOMIC DEVELOPMENT IN AFRICA.			
ORGANIZED & HOSTED BY THE MALAWI LIBRARY ASSOCIATION			
VENUE: <i>Sunbird Capital Hotel, Lilongwe-Malawi</i> 28 TH JULY – 1 ST AUGUST 2014			
DRAFT PROGRAMME			
PRE-CONFERENCE ACTIVITIES			
DATE	ACTIVITY	VENUE	CONVENOR/ FACILITATOR
27 th July 2014	Digital Course Redesign: Resource Repurposing for Librarians Workshop	Kamuzu College of Nursing-Lilongwe	<i>Cliff Missen</i> , Director, WiderNet Project and WiderNet @ UNC
27 th July 2014	SCANUL_esc	Sunbird Capital Hotel/NLS	<i>Gray Nyali</i>
DAY ONE: MONDAY 28 th July 2014			
Registration		08.00-09.00	
	Director of Ceremonies: Diston Chiweza Session Rapporteurs: <i>Khumbo Ng'ongola</i> Official Opening	09.00-12.00	
	HEALTH BREAK	12.30-13.30	
MORNING SESSION			
	Parallel Session I		Parallel Session II
	Sub-Theme: Information and Communication Technology (ICT) for knowledge-based economies.		Sub-Theme: Social media and socio- economic development:
	Session Chair: Session Rapporteurs: <i>Patrick Mapulanga</i>		Session Chair: <i>Dr Justin Chisenga</i> Session Rapporteurs: <i>Trevor Namondwe</i>
Sub-Theme Papers	An exploratory study on the adoption of an integrated library system in Kyambogo University Library Service - <i>Robert S. Buwule & Shana R. Ponelis</i>	13.30-13.50	The use of Web 2.0/Social networking tools by Librarians in Public University Libraries in Zambia-Banda C and Grand B.
	ICTs For Capacity Building: ITOCA's Experiences Implementing Research4Life Courses Using Moodle- <i>Gracian Chimwaza Blessing Chataira & Michael Chimalizeni</i>	13.50-14.10	Social Media Use in Kenya: An Impetus or a Deterrent to Socio-Economic Development? - <i>Nyamasege, Geoffrey</i>

	Digitisation of indigenous knowledge in heritage institutions in South Africa: examining the policy and cultural interface - <i>Ken Chisa and Ruth Hoskins</i>	14.10-14.30	Plenary Discussions
	Measuring the open access usage behaviour of African health sciences faculty based on the information systems success model- <i>Edda Tandi Lwoga</i>	14.30-14.50	
	A proposed theoretical framework for analyzing lecturer perception of e-learning implementation- <i>Nancy Mpekansambo, A. Mutshewa and B. Grand</i>	14.50-15.10	
	HEALTH BREAK	15.10-15.40	
	Gender and Knowledge Based Economies: An Overview of Initiatives of Women's Access to Information for Development in Uganda. <i>Ruth Nalumaga</i>	15.40-16.00	
	Knowledge Management Enhancement Through Information Communications Technology (ICT). <i>Winnie Nguyu, Jackson Owiti and Njeri Mungai</i>	16.00-16.20	
	Benefits of using KOHA for cataloguing of library materials: Study of Mzuzu University Library and Learning Resources Centre and National Library Services- <i>Fiskani Ngwira</i>	16.20-16.40	
	Annotated Maps, Charting Your Research through Technology- <i>Suwe, Olebeng</i>	16.40-17.00	
	Plenary Discussions	18-00-19.20	

DAY TWO: TUESDAY 29TH JULY 2014		
Registration at	08.00-08.30	
MORNING SESSIONS		
<u>Sub-Theme:</u> The Impact of global credit crunch on African Libraries and Archives		
Plenary Facilitator: <i>Prof Maria Musoke</i> Session Rapporteurs: <i>Clement Fulano</i> The impact of global credit crunch on African libraries and archives-<i>Chewe Pilate and Eness Chitumbo</i> 	08.30-09.00	
Plenary Discussions	09.00-09.30	
Health Break	09.30-10.00	
Parallel Session I		Parallel Session II
<u>Sub-Theme:</u> Conflict management: The role of archives and records.		<u>Sub-Theme:</u> The impact of Libraries and Information services in shaping knowledge economies.
Session Chair: <i>Dr Augustine Msiska</i> Session Rapporteurs: <i>Laura Malala</i>		Session Chair: <i>Mrs. Jacinta Were</i> Session Rapporteurs: <i>Naomi Kachoka</i>
The role of records and archives in resolving chieftdom wrangles: Case study of the National Archives of Zambia- <i>Mulauzi Felesia, Velanasi Mwale-Munsanja, Naomi Mtanga, Chrispin Hamooya</i>	10.00-10.20	From the ground up: The impact of a community library on the shores of Lake Victoria- <i>Abungu Apollo /Margaret Law</i>
The custodians of South African cultural heritage: ensuring the preservation of legal deposit through education- <i>Nsibirwa Zawedde, Ruth Hoskins and Christine Stilwell</i>	10.20-10.40	Libraries shaping indigenous economies of the rural villagers with special focus on women's information needs: a case study in South Africa- <i>Biyela, Nomusa</i>
An assessment of knowledge sharing strategies at the National Archives of Zimbabwe (NAZ)- <i>Nyaude Prisca and Peterson Dewah</i>	10.40-11.00	The Role of Malawi Libraries in National Development- <i>Fulano Clement</i>
	11.20-11.40	Impact of libraries and information services in shaping Vision 2030 in Kenya- <i>Kwanya Tom</i>
	11.40-12.00	Knowledge Needs and Sharing amongst Librarians in Zambia in the University of Zambia Library- <i>Shameenda, Kimbo Lemmy/ Christine Wamunyina Kanyengo</i>

SCECSAL XXI PROCEEDINGS: LILONGWE, MALAWI 28TH JULY—1ST AUGUST, 2014

	12.00-12.20	Using Indigenous Knowledge (IK) as a tool for development: role of rural libraries in Zambia- <i>Zulu Henry P.</i>
Plenary Discussions	12.20-13.20	Plenary Discussions
Health Break	13.20-14.20	Health Break
PLENARY SESSION		
Plenary Facilitator: <i>Geoffrey Salanje</i>	14.20-17.00	Presentations by Exhibitors and any other Organization (Programme later)
Presentations by Exhibitors and any other Organization (Programme later)		
Health Break	17.00-17.30	Health Break

DAY THREE: WEDNESDAY 30TH JULY 2014-EXCURSION	
Venue	A trip to Livingstonia Beach in Salima

DAY FOUR: THURSDAY 31th July 2014			
Registration	08.00-8.30		
Plenary Facilitator: Public Libraries' contribution to the achievement of MDGs in selected African countries - <i>Kaddu, Sarah</i>	08.30-09.00		
Plenary Discussions	09.00-09.30		
Health Break	09.30-10.00	Health Break	
MORNING SESSIONS			
	Parallel Session I		Parallel Session II
	Sub-Theme: Information literacy for socio- economic development		Sub-Theme: The Role of Agricultural Information services in socio-economic development
	Session Chair: <i>Mr. George Chipeta</i> Session Rapporteurs: <i>Hambani Gausi</i>		Session Chair: <i>Velanasi Mwale Munsanje</i> Session Rapporteurs: <i>Herbert Kathewera</i>
Sub-Theme Papers	The role of information literacy on socio- economic development: a survey of college students in Bulawayo, Zimbabwe- <i>Chingono Effort /Admire Moyo/Professor Daniel Chebutuk Rotich</i>	10.00-10.20	The Role of Agricultural Services in Socio-economic Development in East Africa; A Critical Review- <i>Mgalama Prosper V.</i>
	Information Literacy and Socio-Economic Development in Malawi: Education Systems and their Influence on Shaping the Future of the Nation- <i>Kachala Francis and Enetter Mkutumula</i>	10.20-10.40	The role of Kasisi Agricultural Training Centre in providing information on organic to the small scale farmers in Kasisi area of Chongwe District, Zambia-Mtanga, Naomy, Mulauzi, Felesia and Mwale, Ired
	Assessment of information literacy skills of students studying towards Malawi Library Certificate of Library and Information Sciences- <i>Kachoka, Naomi</i>	10.40-11.00	A Hidden factor hindering agriculture in bringing socio-economic development in Tanzania and other Sub-Sahara countries- <i>Tetti, Martin</i>
	Deepening Functional Adult Literacy for Social- Economic Transformation in Uganda- <i>Kamusiime Nicholas and Haumba E. Nelson</i>	11.00-11.20	Plenary Discussions
	The role of Information literacy in socio- economic development- <i>Moyo Matthew</i>	11-20-11.40	
	Plenary Discussions	11.40-13.10	

AFTERNOON SESSIONS		
Health Break	13.10-14.10	Health Break
Sub-Theme: Knowledge and Information for persons with special needs.		Sub-Theme: Knowledge and Information in health care delivery services
Session Chair: <i>Mr Martin Thawani</i> Session Rapporteurs: <i>Judith Elisa</i>		Session Chair: <i>Dr Ruth Nalumaga</i> Session Rapporteurs: <i>Vote Somba</i>
Re-positioning Library and Information Services to Cater for Patrons with Special Needs: the Zimbabwe University Libraries Perspective- <i>Chiparousha Blessings</i>	13.50-14.10	Factors influencing the conduct and dissemination of nursing research among practicing midwives at a tertiary teaching hospital- <i>Chakanyuka Arthur and Mupambwa Doreen</i>
Promoting effective friendly Information and Service Delivery to Persons with Disabilities in Uganda- <i>Haumba Erick Nelson</i>	14.10-14.30	Knowledge Management Practices in Health care Delivery Services: A Case Study of Tanzania Food and Nutrition Centre Library- <i>Chipungahelo Monica</i>
University library infrastructure for persons with special needs: the Makerere University Library experience- Musoke, Maria	14.30-14.50	The information needs and information seeking behaviour of diabetic patients at a South African Public Hospital- <i>Naidoo Praba and Ruth Hoskins</i>
Knowledge and Information for Persons with Special Needs: The Case of the University of Malawi, Chancellor College- <i>Vuwa-Phiri, D.B</i>	14.50-15.10	Experiencing HIV and AIDS information: a phenomenological study of serodiscordant couples in Malawi- <i>Wella, Kondwani, Sheila Webber and Phillippa Levy</i>
Plenary Discussions	15.10-17.10	Plenary Discussions
Health Break	17.10-17.30	Health Break
CULTURAL EVENING	18.00 – 21.00	CULTURAL EVENING

	DAY FIVE: FRIDAY 1ST AUGUST 2014	
	Business Committee Plenary Facilitator: Session Rapporteurs: <i>Robins Mwanga and Richard Sabao</i>	08.00-11.00
	CLOSING	11.00-12.00
	Health Break	12.00-13.00

PROGRAMME FOR EXHIBITORS AND OTHER ORGANIZATION PRESENTATIONS

DATE: THURSDAY 29TH JULY, 2014

TIME: 14.20 – 17.00

NO	EXHIBITOR	TIME
1	ANGLIA BOOK DISTRIBUTORS	14.30
2	ELSEVIER	14.45
3	NATIONAL LIBRARY SERVICE	15.00
4	PRO-QUEST	15.15
5	ITOCA	15.30
	HEALTH-BREAK	15.30 - 16.00
6	EBSCOHOST	16.00
7	E-GRENARY	16.15
8	MANENO	16.30
9	SABINET	16.45
10	LIBRARY INFORMATION AND MANAGEMENT ACADEMY	17.00

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