Research visibility, publication patterns and output of academic librarians in sub-Saharan Africa: a case of Eastern Africa

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Abstract

Purpose – This study sought to establish and compare the research and publication patterns and output of academic librarians in Eastern Africa from 2000 to 2009 using informetric techniques.

Design/Methodology/Approach – The study confined its scope to publications produced between 2000 and 2009. The informetric technique (through content analysis) was used as a research method. The documents that were sourced for content analysis were obtained from the LISA database, which is one of the largest abstract databases in the field of library and information science (LIS). Data was extracted using the names of the librarians obtained from various sources, including: the libraries' websites, Europa World of Learning Directory and Wikipedia.

Findings – The results reveal that: the research visibility of academic librarians was insignificant; publication of research findings, over the course of the last ten years, has been minimal; publications from senior university librarians (e.g. university librarians, directors, deans, etc.) has also been minimal; most academic librarians preferred publishing individually; and the most published authors come from Tanzania.

Originality/value – Informetric studies focusing on research output, of not only academic librarians in Africa, but also LIS research in the continent, are rare. Furthermore, the library profession is not well understood by many, including the academic community because people do not know the different responsibilities that they perform, how qualified they are, whether their promotion should be linked to research publications to secure academic/faculty status in universities or what their career status in

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the library is, in order to understand and respect the profession. This study will raise important issues that relate to the research visibility of university librarians and their institutions, their research publication output, and whether they should publish.

Type of paper - Research paper

Keywords: Academic librarians, research output, informetrics, Eastern Africa, sub-Saharan Africa, content analysis.

Introduction and conceptual framework

While there are many definitions of the concept or term 'research', we define it to be a way of finding answers to unknown problems emerging from natural and artificial phenomenon within our sociosphere, naturesphere, psychosphere, technosphere and politocosphere, through a systematic, logical and verifiable process.

What motivates individuals and organizations to conduct research across the board is not uniform. The ideal and, perhaps, main reasons are to find solutions to challenges or problems affecting humanity that stem from natural and artificial phenomenon, confirm or contest or refute theories or hypotheses, develop scientific and professional practices, and to develop creative, analytical and rational thinking for informed decision making. On a more practical basis, research is done to fulfill learning, domestic and career needs; to satisfy curiosity; for egoistic reasons, such as recognition and visibility; for career related rewards, such as promotion, securing tenure or permanent appointment; and for self development or growth, among others. Goddard and Melville (2001,p.1) metaphorically recognize that without research, we would be nude, homeless and penniless because everything we now know had to be discovered by someone at some time. In terms of personal growth or development, research is a key player in helping individuals achieve the career of their dreams (Houghton, 2006:par.1). Aceto (2005, what are the benefits of research to a university? section, par.1) suggests that the career benefits of research are countless; they range from an increased ability to attract highly qualified and motivated members of staff (both nationally and internationally), to having a greater advantage over competitors in gaining and maintaining research funds, better chances of 'rubbing shoulders' with the very best, and the opportunity to create a more stimulating working environment for all involved.

Because of the significance attached to research and publication in all sectors of the various institutions, academic librarians in public universities should also be expected to conduct research. It may be surprising to most to hear of librarians engaging in research because people generally believe that librarians confine themselves to shelving, checking books in and out, and classifying and cataloguing books in the library. But Verzosa (2007) believes that it is very important for librarians to engage in research, as this adds value to librarianship. In the context of the Philippines, Verzosa (2007) laments the fact that research in librarianship is disappointing, and although it is evident that there is an abundance of well educated, well trained professionals, there is an unfortunate shortage of research–oriented librarians. The same may apply to academic librarians in Africa. Research and research publications compliment each other, meaning that academic librarians should not only engage in research, but also publish the outcome of their research in order for others to gain access.

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The scholarly community is in general agreement that scholarly research output should be of high quality; published through a solid peer-review process in an acceptable format; and accessible in the form of recorded sources in print and electronic formats, such as books (monographs), chapters in books, conference papers and proceedings, articles in scholarly journals, theses and dissertations, patents and trademarks, and creative works, such as performances and exhibitions of the visual arts, among others. The DEST HERDC specification for the collection of 2006 data (DEST HERDC, 2008:par.1.3.10) defines research publications as books, book chapters, journal articles and/or conference publications that meet the definition of research, and are characterized by: substantial scholarly activity as evidenced by the discussion of relevant literature; an awareness of the history and antecedents of the work described; a format (in terms of presentation) that allows a reader to trace the sources of the work through citations and footnotes; originality, portrayed by not being a compilation of existing works; content that increases the stock of knowledge; a form that enables the dissemination of knowledge; and attempts to improve the quality of publications.

Problem statement

Bibliometric and informetric studies are widely used to inform policies and decisions in political, economic, social and technological domains that affect the information flow and use pattern within, between and outside institutions and countries. Although Library and Information Science (LIS) studies of this nature solve problems related to collection development, information retrieval, systems design, user studies, management, and knowledge organisation, to name a few, in Africa, bibliometric studies are limited and those focusing on research output are even more so. The exception is a few studies reported on LIS research output in Africa in general (Onyancha, 2007) and mainly by West African scholars, such as Aina (1998), Aina and Mabawonku (1997), Aina and Mooko (1999), Alemna and Badu (1994), Alemna (1996; 2001), Kadiri (2001) and Mabawonku (2001). A few studies on LIS research have also emerged from Southern Africa in the last 20 years (Boon and Van Zyl, 1990; Ocholla, 2000, 2001; Ngulube, 2005a, 2005b; Ocholla & Ocholla, 2007; and Sitienei and Ocholla 2010) by providing, in general, an awareness of the overall research output from within the Library and Information Science discipline in Southern Africa, which is based on a publication count of peer-refereed articles appearing in national and international LIS journals. There has not been a bibliometric study focusing on research output by academic librarians in Africa (known to us), save for a recent study by Sitienei(2009), Sitienei and Ocholla (2010) that analysed public universities in Eastern and Southern Africa from 1990 to 2007 by using the LISTA and WORLDCAT databases.

We argue that an academic librarian supports members of an academic community, such as students, researchers and lecturing or faculty staff, by managing, organizing, evaluating and disseminating the information they need, and they can do this with greater empathy if they conduct research and publish. There are other arguments as well. Publishing or creating information has not been a part of an academic librarian's' resume. Stover (1996:par.2) believes that it is vital for academic librarians to be involved

in publishing, in order to support the scholarly communication process. Gregory and Medford (2006:par.1) maintain that academic librarians would also benefit a great deal from publishing because it allows them to maintain their faculty status, be awarded promotions, and gives them the opportunity to add to the body of knowledge that goes into creating our literature. Bahr and Zemon (2000,p.411) and Hart (1996,p.455) have observed that academic librarians in the West publish a significant amount and, in some institutions, publication is actually a requirement for promotion. However, in Africa, not much is presently known about the nature and pattern of publishing by academic librarians. There is a frequent appeal by academic librarians to be accorded academic status within universities in the region and be placed under an academic management structure. Would the issue of research and publication by librarians become important in supporting such appeals?

This study thus sought to establish and compare the research and publication patterns and output of academic librarians in Eastern Africa from 2000 to 2009. The following research questions are answered in this study:
- What is the quantity of research publications by university librarians, libraries or universities and countries during the study period?
- Do academic librarians publish and to what extent?
- Is there a link between the seniority of librarians and their research publication records?
- What is the publication trend of university librarians from 2000 – 2009?
- In which sources do librarians commonly publish their research findings?
- In which subject areas/domain do they publish; and
- What are the nature and types of research collaborations?

Research method and procedure
The study confined its scope to publications produced between 2000 and 2009. The descriptive bibliometric technique (through content analysis) was used as a research method. Documents sourced for content analysis were obtained from the Library and Information Science Abstracts (LISA) database**.** The Library and Information Science Abstracts (LISA) database is a leading LIS indexing database and "covers the field of librarianship and information science, but includes many related areas such as Publishing, and specific applications of information technology in fields such as Medicine and Agriculture. The database abstracts over 550 periodicals from more than 60 countries and in over 20 different languages. In addition to periodical articles, coverage also includes abstracts of individual papers published in major English language conference proceedings, together with considerable coverage of book reviews and selected research report series". A list of 102 public and private universities from ten Eastern African countries was obtained from the Europa World of Learning 2010 and Wikipedia. University librarians' names were obtained from the Europa World of Learning 2010 and supplemented by names featuring on the 102 university websites, where possible, and used as keywords for retrieving data. Although all the universities have websites, less than 20% have listed their library staff on their websites, a list that largely consists of university librarians and a few deputies. A total of 110 academic librarians were included in the study. As far as the libraries were concerned, the study focused on academic

libraries belonging to public and private universities in Eastern Africa. The study covered the following countries in Eastern Africa: Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania, and Uganda. Co-authorship of publications was used as an indicator of research collaboration. This technique is the most widely employed in the measurement of the extent, degree and nature of collaboration in research (see Onyancha, 2009, p.88). In order to assess the nature of collaboration, we classified the publications according to the number of authors per paper, i.e. one-author, two-author, three-author papers, etc. The co-authorship network map presented in Figure 1 was generated using UCINET for Windows software's analytic technologies, which included the NetDraw Visualization Program, in order to identify the research networks of academic librarians that exist in Eastern Africa. Microsoft Excel was also used to analyze and present the quantitative data, supplemented by qualitative analysis- as reflected in the next section. Other computer-aided software used to analyze data include: Bibexcel, which was used to generate frequencies of occurrence of various indicators, such as authors and sources in which librarians publish; Notepad, which was used to clean the data as well as prepare a list of authors so that it was compatible with the Bibexcel program; and TI, which was used to prepare a co-occurrence matrix that was, in turn, used to generate the social network shown in Figure 1.

Results and discussions
The results are represented in the eight sections below.

Publication output by country and institutions
The publication count was used as an indicator of research output by academic librarians in Eastern Africa, a region that is home to a total of 10 countries and 102 public and private university libraries. The Eastern African countries targeted were Eritrea (one university), Ethiopia (4 universities), Kenya (13 universities), Rwanda (two universities), Somalia (11 universities), Sudan (29 universities), Tanzania (15 universities), and Uganda (27). As represented in Table 1, of the 10 countries, only four countries– Ethiopia (1), Kenya (16), Tanzania (83) and Uganda (10) - produced the total output of 110 publications, with Tanzania topping the list, but coming second to Uganda in terms of the number of universities. With respect to publication output by universities, we observed that only 11 (9.1 %) of the 102 university libraries produced publications, with most of the publications (83; 75.5 %) produced by Tanzanian universities (led by the University of Dar–es–Salaam with 43% or 43.6 %). Notably, most publications originated from Tanzania and were produced by the University of Dar-es-Salaam and Sokoine University of Agriculture, which are also the largest universities in Tanzania. Sokoine University of Agriculture has put in place policies regarding promotions and employment based on research output, and perhaps this explains why its library was among the top most productive in the region. But we also noticed that only four of the 15 university libraries in Tanzania had publications to their credit, suggesting that there may not be a policy linking university librarians' appointments with publications, as one would expect. Table 1 shows the publication output by country and university library.

Table 1: Publications output by country and institution (N=110)

	Ethiopia	Kenya	Tanzania	Uganda	TOTAL	%
University of Dar-es-Salaam	-		48		48	43.64
Sokoine University of Agriculture	-		27		27	24.55
Makerere University	-	-	-	10	10	9.09
Catholic University of Eastern Africa, Nairobi, Kenya	-	7	-	-	7	6.36
Muhimbili University of Health and Allied Sciences	-	-	6	-	6	5.45
University of Eastern Africa, Baraton	-	4	-	-	4	3.64
Moi University	-	4	-	-	4	3.64
Alemaya	1	-	-	-	1	0.91
Jomo Kenyatta University of Agriculture and Technology	-	1	-	-	1	0.91
Mzumbe University	-	-	1	-	1	0.91
Open University of Tanzania (OUT)	-	-	1	-	1	0.91
TOTAL	1	16	83	10	110	100.00
Percentage	0.90	14.55	75.45	9.09	100.00	

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Most active academic librarians

The list of librarians was first captured from the Europa World of Learning 2010, which mainly listed the directors or deputy directors of libraries. We supplemented the list with the librarians represented in Wikipedia and on respective university websites. Most of the university websites did not provide the names of university library staff and those that did, provided names of only top library management, such as library directors, university librarians, or their deputies in some cases. However, quite a few of them provided a detailed list of library staff. We, therefore, first picked all the names that were available to us from the three sources. The list was not helpful because we could not distinguish the librarians from support staff. We, therefore, decided to cast our net wider to catch any person working in the libraries that published at least one paper indexed in the database. Using this method, we managed to find only 29 librarians from 102 libraries. Table 2 provides the list of librarians who published 2 or more publications. In this list, we also noted a few names of academics who do not work in the libraries (e.g. Kigongo-Bukenya, Ngulube, Olden and Stilwell); their names are presumed to appear because of co-publication/ collaboration with librarians. These academics' appearance in the academic librarians' literature as authors implies their input as research supervisors. As was expected, the most prolific university librarians were from Tanzania, i.e. the University of Dar-es-Salaam, such as JM Nawe, J Msuya and MJF Lwehabura. As already mentioned, Tanzanian university libraries require their employees to publish as a precondition for promotion and tenure. We also noted, from this sample, that many academic librarians from the region do not publish.

Table 2: Distribution of publication by academic librarians in LISA (N=110)

Name	Number of records	%	Name	Number of records	%
Nawe, JM	13	11.82	Lwoga, TE	3	2.73

Msuya, J		11	10.00	Sife, AS		3	2.73
Lwehabura, MJF		8	7.27	Elly, T		2	1.82
Kavulya, JM		7	6.36	Kasusse, M		2	1.82
Manda, PA		7	6.36	Katundu, DRM		2	1.82
Chilimo, WL		6	5.45	Kigongo-Bukenya, IMN		2	1.82
Dulle, FW		6	5.45	Mukangara, F		2	1.82
Matovelo, DS		6	5.45	Munge, EM		2	1.82
Mcharazo, AAS		6	5.45	Mungwabi, HN		2	1.82
Musoke, MGN		6	5.45	Ndenje-Sichalwe, E		2	1.82
Kiondo, E		5	4.55	Ngulube, P		2	1.82
Mulimila, RT		5	4.55	Nyerembe, MP		2	1.82
Adeogun, MO		4	3.64	Olden, A		2	1.82
Malekani, AW		4	3.64	Wema, EF		2	1.82
Omona, W		4	3.64				

Contributions by rank or position of librarians

In order to verify the publication output of senior academic librarians, we selected top library managers in the 102 universities who assumed titles such as senior librarian, head of section, director/ deputy director, university librarian, dean, and the like. We assumed that seniority could also be linked to their research publication record. Those in acting capacity were classified in the category that they acted. For instance, if they were an acting university librarian, they were classified in the category of university librarians. Of the 101 librarians falling under these categories, only 32 (31.6 %) had publications indexed in LISA. Furthermore, of 53 librarians holding titles such directors, university librarians, deputy directors or deputy university librarians, including a few acting in such positions, 15 (28.3 %) had publications indexed in LISA. This suggests that the promotion of academic librarians to senior management positions in the library in the region is not linked to research publication records, not withstanding publications in peer-refereed journals which suggest quality. The Tanzanian librarians in such positions were again leading, suggesting that some Tanzanian universities require their librarians to publish in order to gain promotion and/or assume academic status. We also established that of the 22 top library managers who indicated their titles as professor or doctor (and we assumed that all have doctoral or PhD degree qualifications), only 8 (36.4 %) had no publications linked to their names. Except for two, all top library management from Tanzania had one or more publications. There were more senior staff librarians from Tanzania with doctorate qualifications than from anywhere else in the region, a factor that could also contribute to their relatively better publication output. It is important to note that the University of Dar-es–Salaam has a library and information school managed from the library and also a library journal where most of their library staff publications are found. Teaching in a library and information school requires additional qualifications, such as a research publication record. These two factors could also influence the vibrant research publication output from the University of Dar-es-Salaam.

Most popular publication sources

Many related studies (e.g. Ocholla, 2007; Ocholla and Ocholla, 2007; Onyancha, 2007; Sitienei and Ocholla, 2010) report that journals are leading sources of scholarly publications. This trend was confirmed in this study as well. It is widely known that most scholars in Africa publish their research work outside their countries and outside Africa

or overseas, mainly because of a shortage of local scholarly journals and also because of their obsession with non-local products and services, which are always associated with better quality and reliability. We observed that 110 papers were published in 32 journals, with most of the records published in the *University of Dar-es-Salaam Library Journal* (49; 44.9 %) and in African journals (a combined total of 63 or 57.3 %). It is suggested that there could be a close link between the close proximity of a journal – within an institution or country - and high research publication output, as is the case with the *University of Dar-es-Salaam Library Journal*. Interestingly, in this particular study, more publications appeared in a local scholarly journal as opposed to the number of foreign journals combined (55.5 %) or from outside Africa (42.7 %). The preference of academic librarians to publish in local journals is encouraging, as most research findings that are published in foreign journals are rarely accessed by researchers in developing countries, which effectively obscures informed decision making processes and research application in the targeted areas.

Table 3: Distribution of publications by sources (N =110)

Journal	Records	%
University of Dar es Salaam Library Journal	49	44.55
Information Development	11	10.00
Library Review	5	4.55
African Journal of Library, Archives and Information Science	5	4.55
Library Management	5	4.55
Journal of Librarianship and Information Science	3	2.73
Library Hi Tech News	3	2.73
South African Journal of Libraries/library and Information Science	3	1.82
Journal of Information Science	2	1.82
The Electronic Library	2	1.82
LIBRI	2	1.82
Library Collections, Acquisitions, and Technical Services	1	0.91
South African Journal of Information Management	1	0.91
The Journal of Academic Librarianship	1	0.91
Mousaion,	1	0.91
New Library World	1	0.91
Science and Technology Libraries	1	0.91
Law Librarian	1	0.91
ESARBICA Journal	1	0.91
Ghana Library Journal	1	0.91
Health Libraries Review	1	0.91
Education for Information	1	0.91
Alexandria	1	0.91
Bottom Line	1	0.91
DESIDOC Bulletin of Information Technology	1	0.91
Internet resource	1	0.91

Journal of Documentation	1	0.91
Journal of Electronic Resources in Medical Libraries	1	0.91
International Information and Library Review	1	0.91
Innovation	1	0.91
Interlending & Document Supply	1	0.91
TOTAL	110	100.00

Research trends between 2000 and 2009

The publication trend represented in Figure 1 does not show a predictable growth trend and leaves room for several speculations. For example, why would the number of publications in 2000 be similar to 2005 or 2004 and 2007, which are quite far apart? Why should we have a gentle rise between 2002 and 2004, followed by a steep fall between 2005 and 2006, and a rapid rise and fall between 2007 and 2008? We assume that the reasons behind this publication pattern is influenced by the publication situation in Tanzania, specifically the University of Dar-es-Salaam and Sokoine University, as well as on the status of the *Dar-es-Salaam Journal of Library Science,* where most publications occurred during this period. We have made an inquiry into this and hope to receive some answers soon.
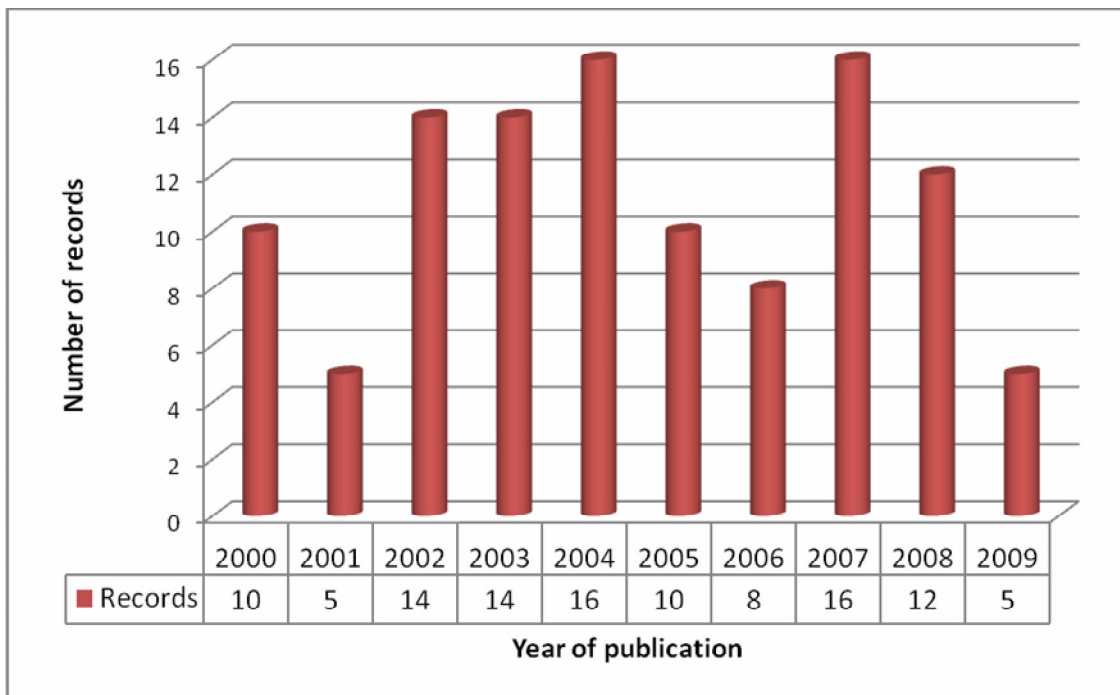

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
■ Records	10	5	14	14	16	10	8	16	12	5

Figure 1: Publication trend 2000- 2009

Most researched subjects (descriptors from LISA)

Place names such as Tanzania, Uganda, Kenya, university, libraries, and University of Dar-es-Salaam, emerged strongly in the subject descriptors. We also observed that subject/field names such as information technology, information seeking, and information services featured strongly. Surveys and case studies also featured quite clearly. We argue that it is common to find that researchers conduct research focusing on geographic regions that they are more familiar with. It is unlikely that researchers in Africa, for instance, would conduct research about the status of public libraries in the United States of America, unless they reside or work there. This may explain why most research conducted by librarians focused on countries in Eastern Africa such as Tanzania, Uganda and Kenya, which each yielded the highest number of publications. Likewise, the names of universities featured prominently as subject descriptors, a factor that could be attributed to the institutionalization of research. The high frequencies recorded by some of the descriptors, such as information technology, electronic media, information seeking behavior, access to information, user needs, library management and information literacy, may be indicative of the areas of research interest of academic librarians or problem areas in academic libraries in Eastern Africa. The high ranking of topics such as surveys and case studies may be an indicator of the nature of research or research methodologies that are preferred by academic librarians in the region. We also noted the presence of non-LIS topics such as agriculture and health care, which may imply that multidisciplinary research is also conducted by academic librarians in the region.

Table: 4 Distribution of publications by subject (N=110)

No.	Subject	Records	%	No.	Subject	Records	%
1	Tanzania	59	53.64	20	Dar es Salaam University	5	4.55
2	University libraries	27	24.55	21	Universities	5	4.55
3	Uganda	15	13.64	22	Agriculture	5	4.55
4	Information technology	12	10.91	23	Research	5	4.55
5	Academic libraries	12	10.91	24	User services	5	4.55
6	Kenya	10	9.09	25	Information services	5	4.55
7	Electronic media	10	9.09	26	Library and information science	4	3.64
8	Surveys	9	8.18	27	Primary health care	4	3.64
9	Information work	9	8.18	28	East Africa	4	3.64
10	Access to information	9	8.18	29	Students	4	3.64
11	Libraries	8	7.27	30	Health care	4	3.64
12	Information seeking behaviour	7	6.36	31	Health professionals	4	3.64
13	User needs	6	5.45	32	Health	4	3.64
14	Africa	6	5.45	33	Funding	4	3.64
15	Library management	6	5.45	34	Librarianship	4	3.64
16	User surveys	6	5.45	35	Distance learning	4	3.64
17	Rural areas	6	5.45	36	Developing countries	4	3.64
18	Information literacy	6	5.45	37	Consumer health information	4	3.64
19	Evaluation	5	4.55	38	Communications technology	4	3.64

Nature of collaboration among academic librarians

Research collaboration is highly recommended because of its benefits, i.e.: i) Collaboration enables researchers to share skills and techniques and is one way of transferring knowledge (especially tacit knowledge); ii) Through clashing views, it may bring about the cross-fertilization of ideas, which may, in turn, generate new insights or perspectives that individuals, working on their own, would not have grasped; iii) Collaboration provides intellectual companionship (i.e. within a practicing community); iv) Collaboration plugs the researcher into a wider contact network in the scientific community; and iv) It enhances the potential visibility of the work (Katz and Martin, 1997). Despite all these benefits, research collaboration in Africa is weak (Onyancha, 2007; Ocholla and Ocholla, 2007). Collaborative research output is relatively low in the library and information profession (Ocholla, 2008) and hindered by a number of factors in Africa. Among them is a lack of willingness to collaborate, poor networking, lack of collaborative research funding, and insufficient joint research work between postgraduate students and supervisors that should normally culminate in research publications, particularly during the early stages of this period of study. This study found that most publications (i.e. 69% or 62.73 %) were single-authored. Table 5 also reveals that there were 34 (30.91 %) two-author papers, 3 three-author papers, and 4 four-author papers. The co-authored papers, therefore, totaled 31, accounting for 37.27 % of the total number of papers investigated in this study.

Number of authors per publication	1	2	3	4
Publications	69	34	3	4
Percentage	62.73	30.91	2.73	3.64

Table 5: Number of authors per article (N=110)

With respect to the existing research collaboration networks, it was observed that some academic librarians did not collaborate with any other authors, as illustrated by the group of authors in the top left-hand corner of Figure 2. Of the 12 networks, 8 (66.7 %) consisted of two authors each, with some of these networks consisting of an academic staff member and librarian, e.g. Ikoja-Odongo and Omona; Kigongo-Bukenya and Lutwama. Whereas the relationship existing within a given network was not immediately clear, some networks (such as mentioned above) would imply teacher (or research supervisor)-student (or researcher) relationships. The largest network mainly consisted of librarians located in Tanzanian universities. It should also be noted that the most published authors were also involved in collaborative research. These include Nawe, who authored a total of 13 publications. The author's collaborative network consisted of authors such as P Mwakilama, G Ntulo, I Luambano, PA Manda and EF Wema. Nawe is also connected to several other authors by proxy of WL Chilimo and AS Sife.
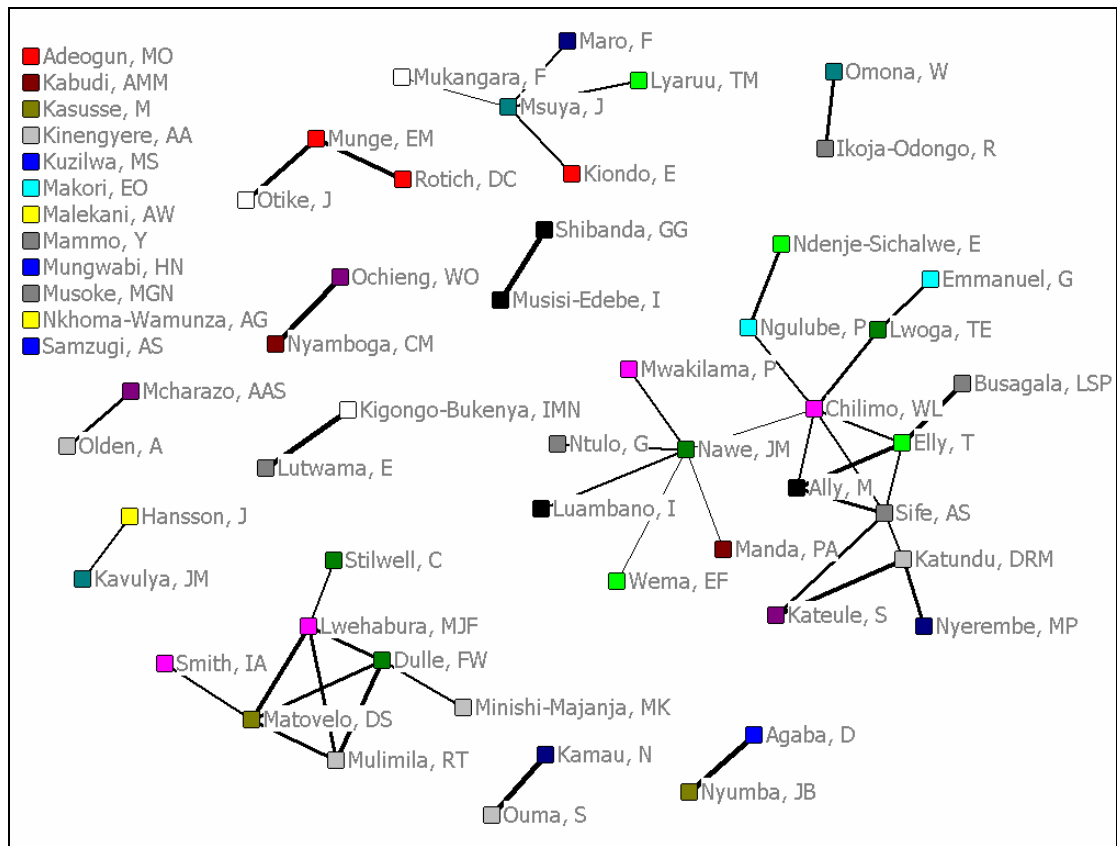
Figure 3: Research collaboration networks among academic librarians in Eastern Africa

Conclusion and recommendations

This study has raised important issues that relate to the research visibility of university librarians and their institutions, their research publication output, and whether they should publish. The study has found that firstly, many academic librarians from the region do not publish in visible scholarly outlets, such as those indexed by LISA, and even less in peer-refereed journals, as attested to in the LISA indexed journals. Publications from the 10 countries and 102 libraries and universities examined originate mainly from Tanzania and the University of Dar-es-Salaam and Sokoine University of Agriculture, which are both the largest public universities in Tanzania. This leading role, we assume, is linked to a requirement in the respective universities for academic librarians to publish for career growth, as represented in several studies (e.g. Stover ,1996 ; Gregory and Medford, 2006:par 1;   Verzosa, 2007). Secondly, the most active librarians, with one or more publications during the study period, also originated from Tanzania and the two universities. Interestingly, most of these librarians had doctorate qualifications and, in some cases, professorship titles; were part of the faculty/teaching staff of the LIS School in Tanzania; and mainly published in their in-house journal, i.e. the *Dar es Salaam Library Journal*, which was also the leading (44.5 %) journal for research publications in the region. These factors could have contributed to their relatively improved research publication output.

There was no link between the seniority of a librarian and research publication output, as only 32 (31.6 %) of the 53 library staff (directors, deputy directors, university librarians, deputy university librarians or deans and those acting in such positions) titles available and analyzed for this study had publications reflected in the databases. This suggests that the promotion of academic librarians to top library management positions in the library does not require research publications in most universities in the region, while, in fact, such positions could be occupied by those claiming academic status within the university and responsible for huge research information services that the libraries should provide. Journals are still the most popular publication source for librarians. The popularity of scholarly journals for research dissemination is confirmed by several studies, including recent related studies in Africa reflected in Section 2. In contrast to studies which report that African scholars publish mainly outside Africa, we found most publications occurring in a local LIS journal, *Dar-es-Salaam Journal of Library Science* (44.9 %), and in African journals (57.3 %). We argue that scholarly publications would occur within a country or a region (such as Africa) if scholarly journals were available and within reach, a case in point being South Africa, which has 200 scholarly journals, including six LIS journals.

The publication trend over the period does not provide a consistent growth pattern with spikes (2002 to 2004 and 2007) and falls (2001 and 2006) which cannot be explained. We can, however, associate the low records in 2009 to the publication interval influenced by the duration it takes before a journal article is indexed by a database, which could take up to two years. We also assume that the rise and falls could have something to do with the status of the leading journal in which most (44.9 %) of the papers were published.

Information technology appears to be the most researched subject, along with information seeking and services. We also observed that place names such as country (e.g. Tanzania, Uganda and Kenya), the University of Dar-es-Salaam, and the libraries with which most researchers were affiliated, dominated subject description. Interestingly, survey and case studies also dominated, suggesting that these were the research methods most commonly used in studies. Research collaboration was amazingly common (50 %), but not necessarily sufficient, given the benefits that such collaboration brings, as explained by Katz and Martin (1997) and summarized under item 1.8. The visibility of librarians was also obscure, as most universities did not provide the names, titles and responsibilities of their library staff on their websites, which is often the case in Southern African universities (Sitienei and Ocholla, 2010). Without a staff list of librarians on a university website, the librarians' visibility is blocked, and research focusing on their activities is made extremely difficult.

We suggest that the promotion of university librarians to senior library positions should be linked to research output and publications, as they serve a vibrant academic community whose research requirements and services can best be achieved by a person who not only conducts research, but also disseminates research results through scholarly publications. Such a librarian would fully understand the predicament of scholarly research publications, such as the preparation of a manuscript, information retrieval, peer-review, referencing, plagiarism, contractual agreements between author and publisher, open access (OA), conference presentation requirements, and much more – and effectively support the author.

The library profession is not well understood by many, including the academic community, because people do not know the different responsibilities that they perform, how qualified they are, or what their career status in the library is, in order to understand and respect the profession. We, therefore, strongly recommend that full lists of all library staff, their titles and, possibly, their qualifications, should be made available on university library websites for the benefit of improved library information services and research. Future research could focus on citation analysis and impact factor, although we expect an insignificant value to arise from such studies because most journals where these librarians publish are not indexed in popular databases such as Web of Science (WoS), which provides sound data for such analysis.

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