

Insight into Research Publication Output of Academic Librarians in Southern African Public Universities from 2002 to 2011

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Abstract

This article reports on the research and publication patterns of librarians working in university libraries in Southern Africa. Lists of countries and names of public universities in the region were obtained from the Southern African Regional Universities Association (SARUA) website, while names of the librarians were obtained from the 60 university websites and the Europa World of Learning. The study confined its scope to publications produced within the last 10 years (2002-2011). Informetrics through content analysis was used as the primary research method. The documents sourced for content analysis were mostly obtained from the Library and Information Science and Technology Abstracts (LISTA) database, which is the largest abstract database in library and information science, while impact was measured through citations obtained from Google Scholar. The results revealed that: a minimal number of items have been published over the last ten years; many universities do not place staff lists of librarians on their websites; not all senior university librarians' (e.g. university librarians/directors/executive directors, etc.) publications appeared in the databases; most

academic librarians preferred publishing individually; and the most published type of document was journal articles, predominantly short articles, followed by conference proceedings. Further in-depth analyses and comparisons with a related study conducted in Eastern Africa are provided and discussed to unravel hidden publication patterns and trends that influence research visibility. We suggest the need for debate on tying the promotion of university librarians to scholarly research output and argue why such linkage is necessary. We strongly recommend that full lists of all library staff, their titles, and qualifications (where possible) should be made available on university library websites for the benefit of improved library information services and research.

Key words

Academic librarians, librarians, research output, research pattern, informetrics, Southern Africa, research visibility, public universities

Introduction and Conceptualisation

In this article, we define research to be a way of finding answers to unknown or lesser known problems emerging from natural and artificial phenomena within our environment through a systematic, logical, and verifiable process. What motivates individuals and organisations to conduct research is not uniform across the board. The ideal and perhaps main reasons (Ocholla, 2011) are to find solutions to challenges or problems affecting humanity that stem from natural and artificial phenomena; confirm, 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 fulfil 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 other reasons. Aceto (2005) suggests that the career rewards of research are countless, ranging 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 work environment for all involved.

Due to the significance attached to research and publication across all sectors of their institutions, academic librarians in public universities should also be expected to conduct research and publish their research results in scholarly outlets. It may be surprising to those who are unfamiliar with librarians’ qualifications and information service activities and requirements to expect them to engage in research. But Verzosa (2007) and the Research Libraries Consortium project in South Africa, funded by Carnegie (Kuhn, 2008) believe that it is very important for librarians to engage in research because it adds value to librarianship. Rosemary Kuhn explains that the vision of the Carnegie project is to produce “a new model of proactive librarianship in which librarians will understand research, will be supported by the access tools provided by the latest technologies, as well as access to content that can be aggregated, organised and personalised. This seamless access to information will be underpinned by individualised and targeted support services”. Unfortunately, there is a shortage of research-oriented librarians, a fact noted by a number of authors (Verzosa, 2007; Marjorie, 2000; Sitienei & Ocholla, 2010; Ocholla, Ocholla and Onyancha, 2012), despite an abundance of well educated librarians. Research and research publications complement each other, meaning that academic librarians should not only engage in research, but also publish the outcome of their research because it is important to do so.

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 arts, among others. The Australian Government Department of Innovation, Industry, Science and Research, Higher Education Research Data Collection (HERD) specification for the collection of 2010 data (DIISR HERDC, 2011:par.1.3.12) 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 an attempt to improve the quality of publications.

Closer to home, research output has been described as “textual output where research is understood as original, systematic investigation undertaken in order to gain knowledge and understanding”

Problem and Purpose of the Study

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 utilisation patterns 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, knowledge organisation, and research evaluation, to name a few, bibliometric studies are limited, and those focusing

on research output are even more so. The exceptions are a few studies reported on LIS research output in Africa by 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 23 years (Boon and Van Zyl, 1990; Ocholla, 2000, 2001; Ngulube, 2005a, 2005b; Ocholla & Ocholla, 2007; Sitienei and Ocholla, 2010; and Ocholla, Ocholla and Onyancha, 2012) that provide an awareness of the overall research output from within the library and information science discipline in Southern Africa, which is largely based on the publication count and citation analysis 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) and Sitienei and Ocholla (2010) that analysed public universities in Eastern and Southern Africa from 1990 to 2007 using the LISTA and WORLDCAT (a union catalog which records the collections of over 72,000 libraries in 170 countries/territories which participate in the Online Computer Library Center (OCLC) system) databases, and a study by Ocholla, Ocholla and Onyancha (2012) that focused on private and public universities in Eastern Africa using the LISA database to analyse research publications by librarians.

We argue that while academic librarians support members of the academic community, including students, researchers and academic staff/faculty, by managing, organising, evaluating and disseminating the information that this community needs, they can do this with greater empathy and sympathy and better knowledge and confidence if they conduct research and publish. There are other arguments as well. Publishing or creating information has not been a part of academic librarians' key performance areas. 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 status as academic staff, be awarded

promotions, and gives them the opportunity to add to the body of knowledge that goes into creating our literature. Our discussions with LIS colleagues from Tanzania and Nigeria, for example, suggest that the promotion of academic librarians to senior library management positions is linked to research output. Bahr and Zemon (2000:411) and Hart (1996:455) have observed that academic librarians in the West publish relatively more than others, and in some institutions, publication is actually a requirement for promotion. In Africa, however, not much is presently known about the nature and pattern of publishing by academic librarians. Yet there is a frequent appeal/demand by academic librarians to be accorded academic status within universities in the region and, where academic status still does not exist, to be placed under an academic management structure where 'publish or perish' is still the order of the day. Would the issue of research and publication by librarians become important in supporting such appeals?

Thus, this study sought to establish and compare the research and publication patterns and output of academic librarians in Southern Africa from 2002 to 2011 in assessing current research output. The following research questions are answered in this study:

- Do academic librarians publish, and to what extent?
- Is there a link between the seniority of librarians and their research publication patterns?
- What is the publication trend of university librarians from 2002 to 2011?
- In which sources do librarians commonly publish their research findings?
- In which subject areas/domains do they publish?
- To what extent does LISTA, LISA, WORLDCAT and Google Scholar index research publications by the librarians?
- What is the impact of their publications?
- What are the nature and the types of research collaborations?

Research Method and Procedure

The study confined its scope to publications produced between 2002 and 2011. The descriptive bibliometric technique of content analysis was used as the primary research instrument method. Documents sourced for content analysis were obtained from the Library and Information Science and Technology Abstracts (LISTA) database, which is one of the largest database indexing records in the domain. A list of 60 public universities from 13 Southern African countries was obtained from the Southern African Regional Universities Association (SARUA) website. University librarians' names were obtained from the 60 university websites and Europa World of Learning 2012 where possible, and used as keywords for retrieving data. Although almost all the universities have websites, slightly more than 50% (almost 100% in South Africa) have listed their library staff on their websites. A list that largely consists of university librarians/directors and a few deputies was available in Europa World of Learning. A total of 185 authors (academic librarians and other collaborators) were included in the study. As far as the libraries were concerned, the study focused on academic libraries belonging to public universities in Southern Africa. The study covered the following countries in Southern Africa: Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Co-authorship of publications was used as an indicator of research collaboration. This is the most widely employed technique in the measurement of the extent, degree, and nature of collaboration in research (see Onyanacha, 2009:88). 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, and so on. The co-authorship social network maps presented in Figures 2 and 3 were generated using UCINET 6 for Windows software's analytic technologies (Borgatti, Everett and Freeman, 2002), which included the Pajek program. These network maps were generated in order to identify the existing research networks of academic librarians in Southern Africa. Microsoft Excel was also used to analyse and present the quantitative data, supplemented by qualitative analysis (as reflected in the next section).

Other computer-aided software that was used to analyse data includes: Bibexcel, developed by Olle Persson (1986) its helpful guidelines (Persson, Danell and Schneider, 2009) were used to generate frequencies of occurrence of various indicators, such as authors and sources in which librarians publish; Notepad, 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 networks shown in Figures 2 and 3. The author citation and impact analysis (measures the impact of an author's publication) was performed by using 'publish or perish' software (Harzing, 2007) that "retrieves and analyses academic publications" by using raw data from Google Scholar.

Results and Discussions

The results are presented in the eight sections below.

Publication Output by Country and Institution

The leading country was South Africa, with an output of 159 publications -over 65% (i.e. two-thirds) of the total number of publications produced by the 6 countries in Southern Africa. In second position was Botswana, which yielded a total of 31 publications (i.e. 13%), followed by Zimbabwe (21; 9%). The rest of the countries produced less than 10 publications each.

With respect to institutions, the University of Cape Town (UCT) produced the highest number of publications (38; 16.24%), followed closely by the University of Botswana (UB) (31; 13.25%). Other institutions that yielded a relatively high number of publications include: Stellenbosch University (21; 8.97%), University of Zambia (21; 8.97%), University of Pretoria (UP) (20; 8.55%), University of the Witwatersrand (14; 5.98%), University of South Africa (13; 5.56%), and the University of KwaZulu-Natal (11; 4.70%). A total of 26 institutions contributed to the publication of documents by librarians, and 17 of them were South African universities/institutions out of 23 public universities in the country. Besides the aforementioned universities, the geographic distribution of the other contributing institutions was as follows: South Africa-Cape Peninsula University of Technology (CPUT), Central University of Technology Bloemfontein

(CUTB), Durban University of Technology (DUT), Nelson Mandela Metropolitan University (NMMU), North West University, University of Zululand, and the University of the Free State; Lesotho -National University of Lesotho; Namibia- University of Namibia; Swaziland -University of Swaziland; and Zimbabwe - National University of Science and Technology (NUST), University of Zimbabwe, Bindura University of Science Education, and Midlands State.

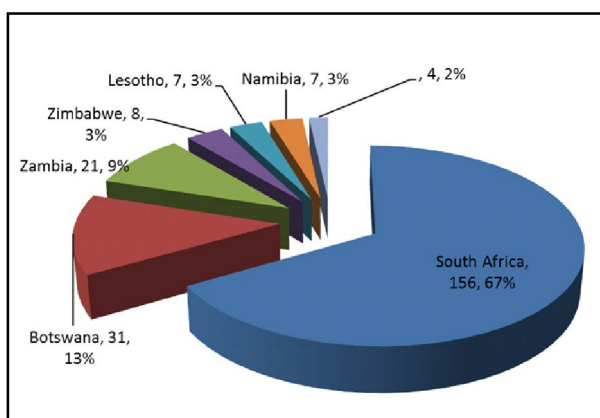


Figure 1: Publications output by country (N=234).

Most Active Academic Librarians

It was difficult to secure an authoritative list of all the academic librarians in universities in the region, a limitation very much like one we faced in a related study focusing on Eastern Africa (Ocholla, Ocholla and Onyancha, 2012). The names and titles of the librarians were not readily available on many university (library) websites, while the Europa World of Learning only captured the names and titles of the top two (e.g. director/university librarian and deputy university librarian/director) or three senior

library managers. In order to create a usable list of librarians for the study, we checked the publication records in the LISTA database for the names of librarians, from assistant librarians to university librarians/directors, except in cases where library positions/titles were not provided. In such cases, we first indiscriminately checked all the library personnel who appeared or were available in the university websites; of the approximately 1,100 names checked, priority was given to those names with professional library service titles. Further selection was based on any individual/librarian (185) who had published one or more papers indexed by LISTA for the duration of the study. A total of 184 authors (i.e. published librarians amounted to 94 without collaborators) participated in the publication of 234 documents. Topping the list of the contributing authors was Kanyengo CW, who produced 14 articles, followed closely by Raseroka, K. (13), and Raju, R. (12). Table 1 also reveals that a total of 8 authors published between 5 and 10 articles each, namely Tise, E.R. (9), Dean, C.E. (7), Pienaar, H. (7), Barben, T. (6), Darch, C. (6), Mswazi, P. (6), and Thomas, G. (6).

In terms of the contributions by the rank or position of the librarians, it was evident that the most productive librarians were those in leadership positions, meaning that they also probably had a long history of library service. However, only 25 (less than 30%) of the directors/university librarians and deputy directors/university librarians from the 60 public universities (many of the universities have more than one deputy director/university librarian position) had research publications indexed in the database (see also Table 5). Of the 60 universities, research publications retrieved from the database only originated from 16 (26.6%), as listed in section 4.1.

Table 1: Distribution of publications by academic librarians in LISTA (N=234)

	<i>Name</i>	<i>Position or Rank</i>	<i>No of Publications</i>
1	Kanyengo, Christine Wamunyima	Deputy University Librarian	14
2	Raseroka, Kay	Director of Library Services	13
3	Raju, Reggie	Director, ICT	12
4	Tise, Ellen R.	Senior Director	9
5	Dean, Caroline E.	Librarian	7
6	Pienaar, Heila	Deputy Director	7
7	Barben, Tanya	Senior Librarian	6
8	Darch, Colin	Senior Information Specialist	6
9	Muswazi, Paiki	Deputy University Librarian:	6
10	Thomas, Gwenda	Executive Director	6
12	Arko-Cobbah, Albert	Head	5
13	Kuhn, Rosemary	Information Services	5
14	Smith, Ina	Digital Research Repository	5

Most Popular Publication Sources

Many related studies (e.g. Ocholla, 2007; Ocholla and Ocholla, 2007; Onyancha, 2007; Sitienei and Ocholla, 2010; Ocholla, Ocholla and Onyancha, 2012) report that journals are leading sources of scholarly publications. Scholarly journal articles are normally peer refereed, but there may also be other publications, e.g. communication or reviews (often quite general or short in nature), published in such journals as well. Publication in scholarly conference proceedings is also gaining recognition, particularly in proceedings that are very highly valued and rated (e.g. those indexed by ISI). We noted that publications in conference proceedings came second after journal articles. Table 2 reveals that journals (see total aggregate) were the most commonly used publications to disseminate information published by librarians. The leading source was IFLA Conference Proceedings, which published a total of 30 articles,

followed by the South African Journal of Libraries and Information Science (29), IFLA Journal (22), Innovation (16), Information Development (10) and the African Journal of Library, Archives & Information Science (10). It was observed that other than publishing internationally in subject-specific journals or proceedings, librarians (mostly from South Africa) made use of journals published in South Africa, namely: the South African Journal of Libraries and Information Science, Innovation, Mousaion and Cape Librarian. Otherwise, the majority of the documents were published in 'foreign' or 'international' journals. The only journal published in Africa and outside Southern Africa that made it to the top 10 was the African Journal of Library, Archives and Information Science (the only ISI indexed LIS journal in Africa), which is published in Nigeria.

Table 2: Distribution of publications by sources (N =229)

Name of Journal	No of Publications	Percentage
IFLA Conference Proceedings	30	13.10
South African Journal of Library & Information Science	29	12.66
IFLA Journal	22	9.61
Innovation	16	6.99
Information Development	10	4.37
African Journal of Library, Archives & Information Science	10	4.37
Mousaion	9	3.93
Quarterly Bulletin of the National Library of South Africa	9	3.93
Cape Librarian	6	2.62
Library Management	6	2.62
Electronic Library	5	2.18
International Information & Library Review	5	2.18
Focus on International Library & Information Work	4	1.75
Library Hi Tech	4	1.75
Library Review	4	1.75
IATUL Annual Conference Proceedings	3	1.31
Journal of the Medical Library Association	3	1.31
Libri: International Journal of Libraries & Information Services	3	1.31

Research Trends between 2002 and 2011

The trend of research output is usually measured by examining the publication of research articles by year or over a period of time. Figure 1 shows that there was a consistent upward trend or growth in publications from 2002 to 2007, and thereafter a continued decline/fall up until 2011. From a mere 12 publications in 2002, the output increased to peak at 43 in 2007, a percentage increase of 258%. Since IFLA does have some influence on the research publications of librarians in the region (see Table 3), it follows that the IFLA conference which was held in Durban, South Africa, in 2007, could have

influenced the publication trend in the region. In fact, the number of research publications fell immediately after the conference, and it is worrying to note that since 2007, the number of publications has continued to decline. The cause of this trend could only be speculated from the data that we obtained. For example, we can consider the decline between 2009 and 2011 to be at least partly caused by the indexing gap (the gap between the publication of a document and when it is indexed by/in a database) that might have resulted in the fewer publications witnessed in that period. However, it is unlikely that this is the only factor at play in the drop in publications in 2008, and partly in 2009.

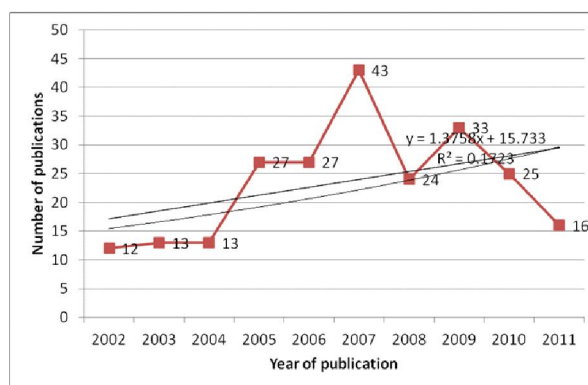


Figure 2: Publication trend, 2002 - 2011

Most Researched Subjects (Descriptors from LISTA)

According to the findings reflected in table 3, the subject term *libraries and archives* yielded the highest number of publications (i.e. 99), followed by *South Africa* (69), *information services* (33), *libraries* (32), *academic libraries* (28), *access to information* (19), *colleges, universities, and professional schools* (19), *Africa* (18), and *books – reviews* (18). It therefore follows that the key area of research focus or publication was *libraries*, more particularly, *academic libraries in Africa* and more specifically, *academic libraries in South Africa*. It was also observed that book reviews featured prominently, implying that not all publications originated from research. Besides *information services* and *access to information*, other subjects of publication include *information literacy*,

information resources, information technology, internet, and information retrieval. The presence of *conferences and conventions* among the top

subject terms is in line with the fact that some of the publications were also published in conference proceedings.

Table: 3 Distribution of publications by subject (N=234)

	SUBJECT	No of Publications	Percentage
1	LIBRARIES AND ARCHIVES	99	42.31
2	SOUTH AFRICA	69	29.49
3	INFORMATION SERVICES	33	14.10
4	ALL OTHER INFORMATION SERVICES	32	13.68
5	LIBRARIES	32	13.68
6	ACADEMIC LIBRARIES	28	11.97
7	ACCESS TO INFORMATION	19	8.12
8	COLLEGES, UNIVERSITIES, AND PROFESSIONAL SCHOOLS	19	8.12
9	AFRICA	18	7.69
10	BOOKS – REVIEWS	18	7.69
11	UNIVERSITIES & COLLEGES	17	7.26
12	INFORMATION LITERACY	16	6.84
13	LIBRARIANS	16	6.84
14	NON-FICTION	16	6.84
15	INFORMATION RESOURCES	15	6.41
16	INFORMATION SCIENCE	15	6.41
17	INFORMATION TECHNOLOGY	15	6.41
18	LIBRARY SCIENCE	13	5.56
19	CONFERENCES & CONVENTIONS	13	5.56
20	ZAMBIA	12	5.13
21	CONVENTION AND TRADE SHOW ORGANIZERS	11	4.70
22	INTERNET PUBLISHING AND BROADCASTING AND WEB SEARCH PORTALS	11	4.70
23	INFORMATION RETRIEVAL	11	4.70
24	ELECTRONIC INFORMATION RESOURCES	11	4.70
25	INFORMATION RESOURCES MANAGEMENT	11	4.70

We also examined the most common title words in order to identify the subjects or topics of research or publication by librarians in Southern African countries. The assumption is that title words normally end up being used as indexing terms for the documents. It should, however, be noted that not all title words can be used to index a document, as some of the indexing services employ a controlled vocabulary to conduct the indexing of documents

within their databases. The table below reveals that, as was the case with subject terms, the most common words in the titles include *library* (or *libraries*), *information*, *South*, *Africa*, *university*, *African*, *academic*, *services*, *access*, etc. A combination of two or more words will also produce compound subject terms, some of which were used to index the documents, e.g. *access to information*, *academic libraries*, *library development*, etc.

Table 4: Most common single title words

No	Title word	No. of records	No.	Title word	No. of records
1	Library	78	21	Experience	11
2	Information	66	22	IFLA	11
3	Africa	38	23	Resources	11
4	South	36	24	Service	11
5	University	36	25	Challenges	10
6	African	29	26	Literacy	10
7	Libraries	22	27	Reference	10
8	Academic	20	28	Conference	9
9	Case	19	29	Health	9
10	Development	18	30	Students	8
11	Services	18	31	Collection	7
12	Study	17	32	Distance	7
13	Access	15	33	Librarians	7
14	Botswana	14	34	Cape	6
15	Education	13	35	Communication	6
16	Research	13	36	Higher	6
17	Electronic	12	37	Needs	6
18	Knowledge	12	38	Skills	6
19	Zambia	12	39	Congress	5
20	Digital	11	40	Developing	5

Publication Representation by Database

In the past, we have noted (Onyancha and Ocholla, 2008) that despite all its limitations, Google Scholar (GS) is better than ISI and Scopus for indexing research output that emerges from developing countries in the humanities and social sciences, because of the coverage, number, and variety of documents that GS indexes. This level of indexing seems to be closely comparable to WorldCat for LIS scholarly publications. Google Scholar will also index non-LIS publications. LISTA and Library and Information Sciences Abstracts (LISA) also index

a substantial number of LIS publications, although less than GS and WorldCat in most cases. We note some disparities, sometimes significant, in the number of indexed publications in the four databases that call for attention and caution when deciding on which database to rely upon when selecting a publication for various purposes. The peer review display (see Table 5, column 9) in WorldCat is useful for determining the quality of the publications. As displayed, Christine Wamunyima Kanyengo (24), Colin Darch (16) and Kay Raseroka (11) had the most peer refereed publications.

Table 5. Publication by databases

COUNTRY	UNIVERSITY	AUTHOR	POSITION	LISTA	LISA	GS	WorldCat	Peer-rev
Zambia	UNZA	Kanyengo, Christine	Deputy University Librarian	14	12	13	25	24
Botswana	UB	Raseroka, Kay	Director of Library Services	13	6	17	22	11
South Africa	Stell University	Raju, Reggie	Director: Information Technology	9	7	16	12	3
South Africa	Stell University	Tise, Ellen R.	Senior Director	8	5	19	15	5
South Africa	UCT	Dean, Caroline Elizabeth	Librarian	7	3	1	2	1
South Africa	UP	Pienaar, Heila	Deputy Director	7	6	22	5	5
South Africa	UCT	Barben, Tanya	Senior Librarian	6	5	2	7	1
South Africa	Wits	Muswazi, Paiki	Deputy University Librarian	6	9	10	11	6
Botswana	UB	Oladokun, Olugbade	Senior Librarian	5	4	9	11	8
South Africa	UCT	Darch, Colin	Senior Information Specialist	5	4	21	36	16
South Africa	UCT	Thomas, Gwenda	Executive Director	5	3	6	26	5
South Africa	UPS	Arko-Cobbah, Albert	Campus Librarian	5	3	9	6	4
Botswana	UB	Nfila, R.B.	Acting Deputy Director Resource	4	4	7	9	5
Botswana	UB	Lumande, Edward	Senior Librarian	4	4	5	4	
Namibia	Univ of Namibia	Namhila, Ellen Ndeshi	University Librarian	4	1	4	6	2
South Africa	CPUT	Chiware, Elisha R.T.	Director, CPUT Libraries	4	4	5	5	3
South Africa	UCT	Thomson, Ingrid	Information Services Librarian	4	2			
South Africa	UNISA	Mbambo-Thata, Buhle	Executive Director	4	1	12	9	3
South Africa	UNISA	Raubenheimer, Jenny	Director: IR Content Distribution	4	2	4	4	3
South Africa	Wits	Ubogu, Felix N.	University Librarian	4	2	8	6	3
South Africa	UZ	Ocholla, Lyudmila	Information Librarian	4	2	6	3	3
South Africa	UKZN	Kuhn, Rosemary	Information Services	4	3	4	4	4

Research Impact of the Librarians in Google Scholar

Research impact is still a controversial area in measuring research performance. Qualitative measures of research output are criticised because of their subjectivity. Quantitative measures are not free from flaws, but are more objective and even more preferred, particularly when used together with qualitative measures. In this study, we have used 'publish or perish' (Harzing, 2007) software that relies on raw data from Google Scholar for research

impact analysis to establish, among other things, the number of papers, number of citations, years of citation, citations per year, citations per paper, citations per author where multiple authors occur, paper per author, and the h-index for measuring author/journal impact over time. We have sampled authors and librarians who published 4 or more papers arbitrarily, as displayed in table 6, by using the variables in the columns. In a study by Onyancha (2007), the average citation per paper in the humanities and social sciences was 2.6.

Most citation rates in this study are below average for the social sciences, except for Nfila (6.71 citations per paper). The h-index that determines the impact of the papers is below 4, with most authors obtaining a h-index below 2. Using quantitative

measures, this may suggest that the papers or some papers are less cited and have a lower impact, thereby implying low international impact exhibited by librarians from the region under investigation that can be debated.

Table 6: Research impact of the librarians

Names	Papers	Citations	Years	Cites_Year	Cites_Paper	Cites_Author	Papers_Author	Authors_Paper	h_index
Kanyengo, C W	21	35	6	5.83	1.67	24.75	13.28	2.24	4
Rasenoka, Kay	17	34	10	3.4	2	31	13.07	1.82	4
Raju, Reggie	16	15	9	1.67	0.94	9.67	8.17	2.38	2
Tise, Ellen R	19	4	9	0.44	0.21	2.67	15.42	1.53	2
Dean, Caroline Elizabeth	1	1	5	0.2	1	0.5	0.5	2	1
Pienaar, Heila	30	78	10	7.8	2.6	50.66	19.33	1.8	4
Barben, Tanya	2	1	8	0.13	0.5	1	2	1	1
Muswazi, Paik	10	12	11	1.09	1.2	11.5	8.67	1.6	2
Oladokun, Olugbade	9	11	11	1	1.22	10.5	7.5	1.33	2
Nfila, R B	7	47	11	4.27	6.71	24.67	4.83	1.71	2
Lumande, Edward	5	24	11	2.18	4.8	11	2.33	2.2	3
Namhila, Ellen Ndeshi	4	5	9	0.56	1.25	5	3	1.5	1
Chiwane, Elisha R.	5	8	8	1	1.6	7.5	4	1.4	2
Thomson, Ingrid									
Mbambo-Thata, Buhle	12	0	6	0	0	0	9.83	1.42	0
Raubenheimer, Jenny	4	3	11	0.27	0.75	1.5	2.5	1.75	1
Ubogu, Felix N	8	15	10	1.5	1.88	13	5.37	2.13	3
Ocholla, L	6	11	6	1.83	1.83	5.5	3.7	2.17	1
Kuhn, Rosemary	4	0	3	0	0	0	1.67	3	0

Nature of Collaboration among Academic Librarians

Research collaboration is highly recommended because of its benefits, specifically: i) Research collaboration enables researchers to share skills and techniques and is one way of transferring knowledge (especially tacit knowledge); ii) Through clashing views, collaboration may bring about the cross-fertilisation 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 within a practising 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; Ocholla, 2008; Mutula, 2009). However, it has been observed that collaborative research output is relatively low in the library and information profession (Ocholla, 2008) and hindered by a number of factors in Africa, some of which have been discussed by Mutula (2009). Among them is a lack of willingness to collaborate, poor networking, and a lack of collaborative research funding. This study found that most publications were singly authored (57.26%), with fewer co-authored publications. For instance, it was observed that the average number of authors per article was 0.8, implying a relatively low degree of collaboration in research by librarians. A much larger figure could have meant a higher degree of collaboration.

This pattern is evident when analysing the number of authors who author n number of articles each. The number of articles which were authored by one author each was 134, accounting for 57.26% of the total 235 articles, while those authored by two authors each were 68. The distribution pattern of the other

publications was as follows: three authors (21), four authors (4), five authors (3), six authors (2), and seven authors (1). There was only one publication authored by more than seven authors (i.e. 14 authors).

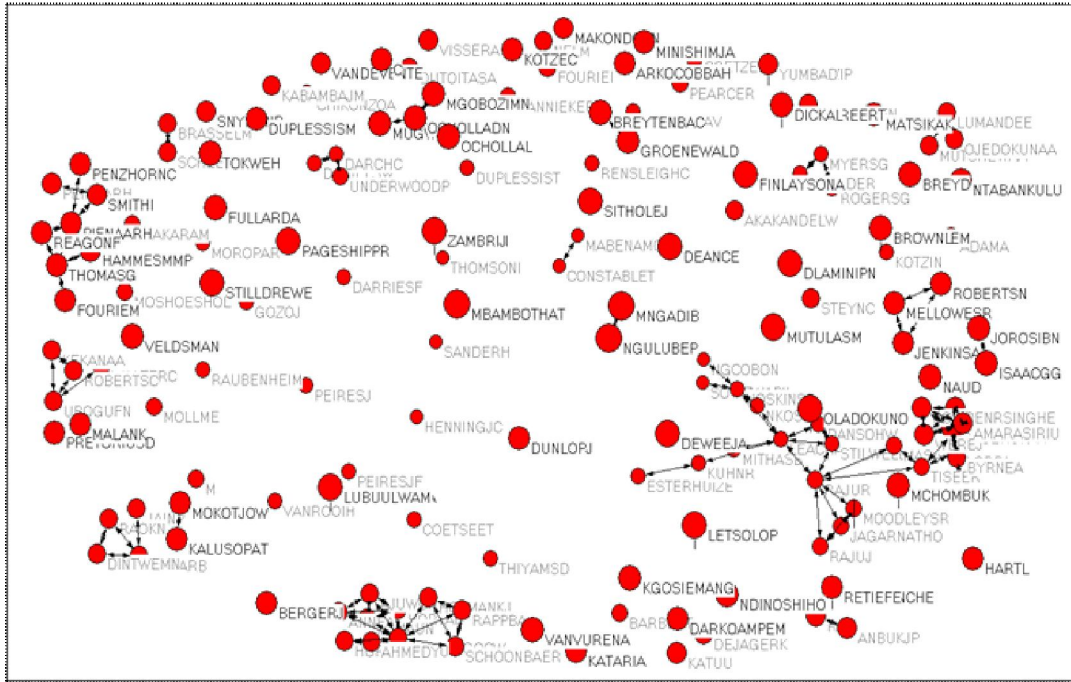


Figure 3: Collaboration networks of librarians in Southern Africa (with labels)

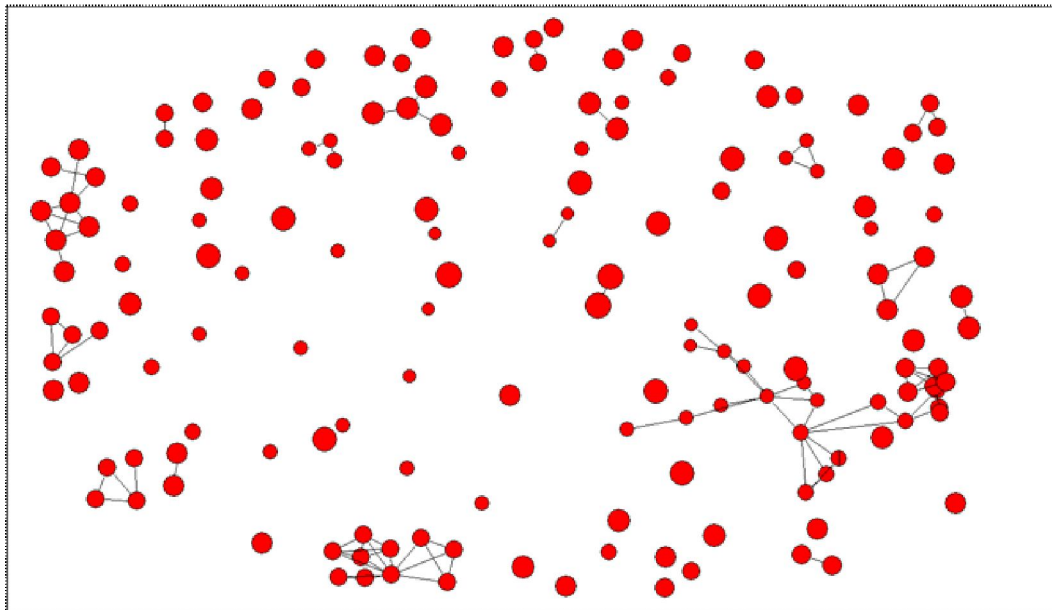


Figure 4: Collaboration networks of librarians in Southern Africa (without labels)

An analysis of the collaboration networks revealed that librarians largely co-authored their publications with teaching staff. Figures 3 and 4 demonstrate the collaborative networks that exist among librarians in Southern Africa.

A total of 14 networks, comprising two or more authors, were realised in the analysis of research collaboration. The biggest network (located in the bottom right-hand corner of Figures 3 and 4) consisted of 15 nodes representing authors. A close look at that network reveals that there are actually two parts joined together with one node. Figure 3 reveals that the node represents Raju J. As mentioned earlier, Figures 3 and 4 also reveal nodes or persons who are not linked to any other node or person, implying single authorship and therefore non-collaboration in research.

A further analysis of the degree of collaboration through the calculation of the strengths of collaboration (measured by the cosine values) revealed that the highest co-efficient occurred between Thomas, G. and Fourie, M. (i.e. 0.91), implying that the two collaborated in almost all the publications that they authored. The other 'high' strengths of collaboration (yielding 0.8 or higher values) were as follows: Ojedokun, A. A. and Lumande, E. (0.87), Kekana, A. and Ubogu, F. N. (0.87), Roberts, C. and Ubogu F. N. (0.87), Jagarnath, O. and Raju, J. (0.82), and Moodley, S. R. and Raju, J. (0.82).

Conclusion and Recommendations

Research in Africa is facing many challenges (Mutula, 2009). The conclusions of this study are quite similar to the conclusions in a related study focusing on Eastern Africa (Ocholla, Ocholla and Onyanha, 2012). This study found that many academic librarians from the region do not publish in visible scholarly outlets such as those indexed by LISTA, and even less so in peer-refereed journals, as attested to by the WorldCat indexed journals (table 2). Publications from the 13 countries and 60 university libraries were found to originate mainly from South Africa (65%). The University of Cape Town (16.24%) and the University of Botswana (13.25%) were at the helm of the 16 universities that contributed publications. The most active librarians, with one or more publications during the study period,

also originated from South Africa. We assume that the leading role of South African universities has more to do with the relatively sound research policy and support systems in the country and the research culture in universities, than with a requirement linking research publications to the tenure/career growth of the librarians, as recommended in some studies (e.g. Stover, 1996; Gregory and Medford, 2006: par 1; Verzosa, 2007).

There was no link between the seniority of a librarian and research publication output, as less than 30% of the analysed senior library staff (directors, deputy directors, university librarians, deputy university librarians and those acting in such positions) 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, when in fact such positions should be occupied by those claiming academic status within the university and responsible for the enormous research information services that the libraries do provide. Journals are still the most popular publication source for librarians. The popularity of scholarly journals for research dissemination is confirmed in several studies, including recent related studies in Africa mentioned in Section 2. In contrast to studies that report that African scholars publish mainly outside Africa, we found significant publication output occurring in African journals, particularly South African journals. We argue that scholarly publications would occur within a country or a region (such as Africa) if scholarly journals were available, of good quality and within reach, as is the case in South Africa, which has 200 scholarly journals, including six LIS journals.

The publication trend over the period does not provide a consistent or steady growth pattern, with highs (2007, 2009) and lows (2008 and 2010) that were not predictable. We can, however, associate the low publications in 2009 and 2011 with the publication interval, specifically the time it takes before a journal article is indexed by a database. We also assume that the rise in 2007 could have been influenced by the convention of the IFLA conference in South Africa, where most papers from the region were published in the IFLA conference proceedings and IFLA journal.

Unlike the Eastern Africa study (Ocholla,

Ocholla and Onyancha 2012) where information technology was the most researched subject along with information seeking and services, the majority of studies in Southern Africa focused on different types of libraries and information access and services. We also observed that place names, such as country names (e.g. South Africa, Africa and Zambia), dominated subject descriptions. Interestingly, case studies also dominated, suggesting that this was the most commonly used research method in these studies. While both LISTA and LISA are important for searching LIS research publications, the coverage of WORLDCAT and Google Scholar was found to be equally impressive (see Table 5). Searching Google Scholar through 'publish or perish' yielded desirable results. We noted with surprise that although LISTA lists bibliometrics as one of the topics covered in its database, it does not index ISSI Conference Proceedings, which are peer-refereed and normally of good quality. There could be other peer-refereed conference proceedings which are not included in LIS databases.

In the absence of authority name file, searches in all four of the databases for research output by author name were found to provide misleading results, especially where common names were involved. Therefore, care should be taken when conducting searches to use the correct author name, or name combinations.

Research impact by analysing journal and author impact is quite trendy in measuring research output, particularly in journal articles. The display in table 6 provides important information for measuring research output by using 'publish or perish' that draws its data from Google Scholar, which is known (Onyancha and Ocholla, 2008) to provide favourable results for social sciences and humanities research, as well as coverage of all forms of research output that favour developing countries. Librarians in academic libraries can use this tool to measure their own research output and, more importantly, help academic scholars see where they stand in terms of research output.

We noticed that electronic publications that are accessible through open access are the most accessed and used publications. They also appeared to generate higher citations and achieve a higher impact. As the number of single authored articles was 57.26% while the rest were co-authored, we

consider the level of research collaboration to be acceptable but not necessarily sufficient given the benefits that such collaboration introduces, as explained by Katz and Martin (1997) and summarised under item 4.8. 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 South African universities (Sitienei and Ocholla, 2010). Without a staff list that includes librarians on a university website, the librarians' visibility is blocked, and research focusing on their activities is made extremely difficult, as was also evident in the study covering Eastern Africa (Ocholla, Ocholla and Onyancha, 2012).

We suggest that the promotion of university librarians to senior library positions should be tied to research output and publications, as librarians serve a vibrant academic community whose research requirements and services can best be achieved by people who not only conduct research, but also disseminate research results through scholarly publications. Such librarians would fully understand the complexities 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, etc. – and effectively support the author. We believe that the nature of the modern library profession has changed a great deal because of the increased use of ICT and social media. Most academic librarians are involved in teaching information literacy to the university academic community, such as students and staff, where themes related to e-resources, open access, and information ethics are increasingly common. It is important that the publications by librarians - who are at the forefront of information services, especially in emerging areas - focus on the aforementioned themes and share their experiences widely with the LIS community through quality publications

The library profession is not well understood by many, including the academic community, because people do not know about their many different roles and responsibilities, 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 qualifications (where possible), should be made available on university library websites for the benefit of improved library information services and research. Although some of the errors with author names stem from the authors, LIS databases should be more accurate with authors' names. They (databases) should provide a service similar to 'author finder' provided by Thompson Reuters (ISI), which helps rapid distinction to occur between authors with the same name when an author's name is captured/recorded differently.

Some of the limitations of this study have to do with the problem of accessing all the librarians, knowing their positions and qualifications, and selecting and using the correct names during searching in order to recall the maximum number of records/publications from the database, and being sure that the database has indexed all the publications by an author. Ultimately, the data provided in this study may not be used to count the total number of publications by an author for the selected period with maximum accuracy. However, it does provide useful information for understanding the dilemma of research publication output by academic librarians and scholars.

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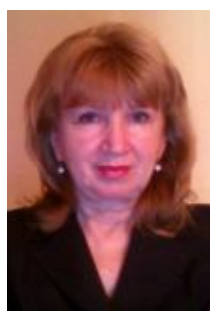
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