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A Citation Analysis of Sub-Saharan African Library and Information Science Journals using Google Scholar

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Abstract

In bibliometrics, the numbers of research articles and citations constitute the main measurement indicators of research output and impact respectively. This study evaluates the library and information science/studies (LIS) journals published in sub-Saharan African countries in order to assess their performance. Drawing its data from Google Scholar, the paper compares the performance of 13 LIS journals using the following indicators: number of publications; average number of records; number of citations; citations per year; citations per article; citedness and uncitedness of the records published in each journal; h-index and g-index; and citation impact factor. The paper also identifies journals with the most cited works and ranks the journals according to the above measurement indicators. Results indicate that publication of LIS journals in Sub-Saharan Africa is a relatively recent practice; a number of journals have not published any issues for close to 5 years; some journals have ceased publication; there is irregular publication of journals; there are about five core LIS journals in the region; AJLAIS was the most highly cited journal, but the most influential journals in terms of the IF include SAJLIS, Innovation and Mousaion. The challenges faced by journal publishers and researchers in sub-Saharan Africa, as well as recommendations on improving the visibility and impact of journals in the region and internationally, are outlined.

Keywords

Informetrics, citation analysis, library and information science journals, journal productivity, impact analysis

Introduction

Journals play a vital role in the measurement of research output and/or impact because they are the most commonly used avenue for disseminating research findings. Significantly, journals provide information that is crucial for conducting research evaluation, namely: names of authors; authors' institutional affiliation; country affiliation of authors; year of publication and country of publication. Therefore, not only do journals provide a platform on which the research output and impact of individual authors, institutions or countries are measured (Ocholla and Ocholla, 2007), but they are also subjects of evaluation in and of themselves.

Citing several authors, Onyancha (2008) observes that there are as "many reasons for evaluating journals as there are different groups of people interested in information production, storage, dissemination and use." Interested parties include researchers, librarians, documentalists, electronic database publishers, funding agencies, and journal editors and publishers. Others are commercial publishers, information brokers, and university research councils. These varied interests have resulted in many papers being published about the performance of journals. Depending on the purpose of individual studies, descriptive and/or evaluative informetric analyses have been conducted to evaluate journals using one or more of the following measurement indicators: number of articles, average number of articles, impact factor, average number of citations, citation age (age-weighted citation rate), cited journal half-life, co-citedness, consumption factor, importance index, influence weight, popularity factor; and lately, the *h*--index has also been proposed as a measurement of journals' performance (see Alloro, Casilli, Taningher and Ugolini, 1998; Altmann and Gorman, 1998; Black, 1999; Adusumilli, Chan, Ben-Porat, Stiles and Fong, 2003; Miguel-Dasit, Aleixandre, Valderrama, Martí-Bonmatí and Sanfeliu, 2005; Coats, 2005; Togia and Tsigilis, 2006; Tsay, 2006; Jones, 2007; Braun and Al in Costas and Bordons, 2008; Jamal, Smith and Watson, 2008; Onyancha, 2008).

To a large extent, the citation databases of Thomson Scientific (published formerly by ISI – Institute for Scientific Information), namely: the Science Citation Index (SCI), Social Sciences Citation Index (SSCI) and/or the Arts and Humanities Citation Index (A&HCI), have acted as the sole sources of data for the aforementioned and other related studies, especially the studies that made use of citations to evaluate scholarly journals. The Journal Citation Reports (JCR) database, also published by Thomson Scientific, provides citation and article counts which are used to determine how journals are used by different researchers. The database supports journal comparisons through its provision of each journal's impact factor, total number of recent articles (articles published in the last two years), total number of recent cites, immediacy index, and cited half-life.

Citation analyses of scholarly journals published in Africa as a whole, and sub-Saharan Africa in particular, have eluded research evaluators and decision makers for a long time, mainly because of the following reasons:

a) Citation analyses are commonly conducted using ISI's citation indexes, but most journals published in Africa are not indexed in these indexes. According to Onyancha (2008), ISI only indexed 28 African journals in 2006. Until 2007, ISI never covered any of the LIS journals published in sub-Saharan Africa. The African Journal of Library, Archives and Information Science (AJLAIS) is the only African LIS-specific journal indexed in ISI, having only been included in 2007.

b) ISI citation indexes are inaccessible because of their high subscription fees. Most institutions in Africa cannot afford to purchase the citation indexes in CD-ROM format or by subscribing to the Web of Science, ISI's portal to the citation indexes.

c) The manual examination of references using hard copy (or print) journals in order to conduct a citation analysis can be very tedious and sometimes inaccurate.

d) Informetricians are few in sub-Saharan Africa. Unlike developed countries, where there are many informetric/bibliometric research centres or units (e.g. Bibliometrics [Research unit] at Universiteit Hasselt; Bibliometric and Informetric Research Group [School of information Systems, Technology and Management – University of New South Wales]; and the Bibliometrics Research Group [City University]), only one university in sub-Saharan Africa – the University of Ibadan, Nigeria – offers formal training in informetrics and has an established centre for studies/research on the subject, namely: Africa Regional Centre for Information Science (ARCIS).

e) Africa, and more particularly sub-Saharan Africa, lacks science and technology databases that can be used to conduct informetric studies (Nwagwu, 2005, 2007). This situation has resulted in scholars using the ISI databases to conduct studies on Africa's research outputs thereby underestimating the continent's actual research output. Consequently, some scholars (e.g. Nwagwu, 2005, 2007) have proposed the development of an African citation index as a tool for research evaluation in the continent.

f) Informetrics, both as a research method and as a sub-field of library and information science, is not considered as viable as other sub-fields/ courses in LIS schools in sub-Saharan Africa. It is therefore not treated as a priority area in which university administrators as well as governments should invest. Social policies in most Sub-Saharan African countries are not research-based.

> Politicians decide on priorities based on intuition through committees and other instruments. Apart from South Africa, where university research is still supported by the government in terms of subsidy for each published research, the significance of university research is actually yet to be given prominence in the region; its evaluation might not be considered of any positive input to policy makers.

As a result, studies that employ citation analysis techniques in order to study citation patterns and the influence of individual researchers, journals, and institutions in various disciplines, including LIS, are rare in Africa. One of the rare attempts was made in 2005 by the STIMULATE 4 Group (2005) [Prof Ronald Rousseau and others] to calculate the impact factor percentile of all ISI-covered journals published in Africa or containing the words Africa or African in their title. The study found that there was no "statistically significant difference between the average ISI impact factor, the first quartile impact factor, and the median impact factor", and concluded that "for journals with relatively low impact factors, there is little difference between the various ways in which synchronous impact factors are calculated". Similarly, Mouton, Boshoff and Tijssen (2006) conducted a "Comprehensive analysis of South African research journals", and among their findings, the authors concluded that nearly half of South Africa's journals do not have any international visibility because the articles in those journals are not cited outside South Africa. A further analysis of the citation impact factor (by way of calculating the composite extended journal impact factor – CE-JIF) of the 107 journals that received at least 1 citation between 1994 and 2002 produced a cluster of only 6 journals that 'surpassed' a modified IF of 0.50. Unlike in the case of the STIMULATE 4 Group's study where none of the journals analyzed was LIS-specific, Mouton, Boshoff and Tijssen's (2006) study covered only one LIS journal, i.e. *South African Journal of Libraries and Information Science* (SAJLIS). The journal was categorized among the journals that produced a CE-JIF of less than 0.1.

With regard to LIS research, few citation-related studies have been conducted in Africa. Aina (2002) conducted a study to investigate the frequency with which the *African Journal of Library, Archives and Information Science* (*AJLAIS*) is consulted by examining the references of articles published therein and in three other LIS journals. Olalude (2007) followed a similar research approach in a study to "(i) ascertain the extent to which the librarians and other information professionals in sub-Saharan African countries are sourcing information from the Internet for their academic and professional publications from 2000 to 2005. Both studies used 'physical counting' (or analysis) of references to obtain their data on numbers of articles, references, citations, etc).

Onyancha's (2007) is among the few studies in the region that have utilised citation databases to conduct an analysis of citations in LIS literature. The study extracted data from ISI's Science and Social Sciences citation indexes to examine LIS records produced by researchers in Africa between 1981 and 2006 in order to identify, among other factors: the total number of citations received by LIS records; the average number of citations per LIS record in each country; and the most cited LIS records. Whilst other studies (e.g. Ocholla and Ocholla, 2007) have generally aimed to assess the productivity of LIS research in Africa as a whole or in specific countries, they nevertheless identify the sources (or journals) in which the authors publish their research, thereby identifying the most commonly used journals as ranked by the number of records published in each journal.

With the introduction of Scopus and Google Scholar as tools of research evaluation, informetric studies are likely to become more feasible in developing countries which, to a large extent, have limited access to ISI's databases. There is a high likelihood that scholars in developing countries may shift their focus from ISI's citation indexes (and even Scopus) to Google Scholar. Onyancha and Ocholla (2008) reveal that although ISI's citation indexes are still widely used to evaluate research both regionally and internationally, there is an increased usage of Google Scholar and, to a limited extent, Scopus (e.g. Yang and Meho, 2006; Bar-Ilan, 2006; Noruzi, 2005; Pauly & Stergiou, 2005; Bar-Ilan Levene and Lin, 2007, Charbonneau, 2006; and Harzing, 2007). While taking cognisance of the limitations associated with Google Scholar (e.g. its inclusion of non-scholarly citations; limited coverage of scholarly journals; and the longer period it takes to update the service when compared to ISI's databases), Onyancha and Ocholla (2008) nevertheless advise the use of the service to assess researchers' performance in developing countries as it is "affordable and easily accessible when compared to the costly Thomson Scientific service and Elsevier's very expensive search engine, Scopus".

Purpose of the Study

The purpose of this paper is two-fold: (1) to assess the citedness of LIS journals in sub-Saharan Africa; and (2) to demonstrate the use of Google Scholar as a tool in analysing citations of non-ISI indexed journals. In view of this broad purpose, the study analyses citations in the LIS journals under review in order to:

- Determine the number of cited and uncited documents in the LIS journals published in Sub-Saharan Africa.
- Measure each journal's influence using citation impact factors.
- Rank the journals according to various indicators, including number of papers; number of citations; number of years of publication; papers per year; cites per year; cites per paper; h-index; and g-index. (see explanations concerning the h-index and g-index in the Appendix).
- Identify the journals with the most cited works.
- Compare sub-Saharan African LIS journals' impact factors with those of some LIS journals published outside Africa.

Methods and Materials

The geographical region of coverage in this study is sub-Saharan Africa. Sub-Saharan Africa consists of countries in the region of Africa to the south of the Sahara desert. sub-Saharan Africa comprises 48 independent nations (World Bank, 2008). The list of LIS journals published in sub-Saharan Africa was obtained from the Web-based version of Ulrich's Periodicals Directory [hereafter referred to as the Directory] (see http://www.ulrichsweb.com/). The Directory provides authoritative information on the publishers and bibliographic details of more than 300,000 periodicals, including academic and scholarly journals, open access publications, peer-reviewed titles, popular magazines, newspapers, newsletters, and consumer and trade or business-to-business periodicals. An advanced search was conducted to identify journals with any of the following keywords as subject terms: library, information science, archives, and knowledge management.

A combination of the above search terms and the names of each of the sub-Saharan African countries yielded a total of 16 academic/scholarly journals published in sub-Saharan Africa. The search was limited to journals that were designated as 'active', meaning that these journals are still in circulation and/or production, although, as we confirmed later on, some of the 'active' journals are actually no longer being published.

Urlich classifies periodicals into different categories including peer-reviewed, online, open access, etc. Only those that were designated as peer-reviewed were included in this study. Of the total of 16 LIS scholarly/academic and peer-reviewed journals identified from the Directory, only 14 were selected for analysis based on the language of publication. The other two LIS journals were published in Afrikaans. Only English-published journals were included in the analysis because a search for Afrikaans journals in Google Scholar did not yield any records. Whether the non-indexing of Afrikaans journals was due to the language of publication was not ascertained. It was observed that Nigeria publishes majority of LIS journals (i.e. 7) closely followed by South Africa which yielded 6 journal titles. The 14th journal is published in Tanzania.

After their selection, the journals' titles were then used to extract relevant data from Google Scholar using Publish or Perish® (PoP) software. The software extracts scholarly citations and calculates the number of citations and impact of journals. According to Harzing (2007), the author of the program, PoP uses Google Scholar queries to obtain citation information, which is then analysed and converted to obtain, among other statistics, the following: total number of papers; total number of citations; average number of citations per paper; average number of citations per year; Hirsch's h-index and Egghe's g-index (shown as h-index and g-index respectively in the output). (See the Appendix for further explanations on the h-index and g-index)

The search in Google Scholar was limited to articles published between 1991 and 2007. Extreme care was taken to include the previous titles by which some of the journals were known. For instance, the *South African Journal of Libraries and Information Science*'s search included a search on the *South African Journal of Library and Information Science*, a name by which the journal was known until 2002. Whenever a sub-Saharan African journal shared a name with a foreign journal, for example *Innovation*, we used the publisher's name to select articles that were published in the journal that this study was interested in.

The total number of citations that each journal received per year and between 1991 and 2007 was obtained by summing up the total number of citations obtained by all the articles published in a given journal per year for the entire period of study, i.e. 1991-2007.

The same approach used to calculate the impact factor (IF) for ISI-indexed journals was adopted in order to obtain the IF of the 14 journals evaluated in this study. The ISI (Thomson Reuters, 2009) uses the following formula in calculating a given journal's IF:

$$\frac{\text{Cites to recent articles}}{\text{Number of recent articles}}$$

Rousseau (2002:422) expresses this mathematically as follows:

$$\frac{\text{CIT (2002, 2001)} + \text{CIT (2002, 2000)}}{\text{PUB (2001)} + \text{PUB (2000)}}$$

Where:

CIT(2002, 2001) stands for citations received in 2002 by the papers published in 2001; CIT(2002, 2000) refers to citations received in 2002 by papers published in 2000; PUB(2001) constitutes the number of papers published in 2001; and PUB(2000) comprises papers published in 2000.

This study considered the number of citations earned by each journal in 2007 from papers (or any other document type) published in the respective journals in 2005 or 2006 for purposes of calculating the journal Impact Factor (IF). The choice of the time frame within which the IF was determined was necessitated by the need to compare ISI-indexed LIS journals' IFs as covered in the Journal Citation Reports of 2007 and sub-Saharan African LIS journals. In order to obtain the number of times each journal was cited in 2007, a link to each of the articles published in either 2005 or 2006 was followed to establish whether or not the citing document was published in 2007. Having obtained citations received in 2007 and the number of publications in a given journal in 2005 or 2006, the above formula was used to calculate each journal's IF, as shown in Table 8.

An aspect that deserves mention is that the accuracy of the results provided in Table 4 depends on the results returned by Google Scholar. For instance, although the results in Table 2 indicate that SAJLIS did not publish any records in 2001, it was confirmed through a search in the University of South Africa' (UNISA) library's print collection that SAJLIS published at least five records in that year. The results of the analyses, based on data from Google Scholar only, may therefore not cover all the records/papers that the respective journals actually published, but may nevertheless be used to reflect each journal's productivity and influence.

Table 1: LIS journals in sub-Saharan Africa (Source: Ulrich's Periodical Directory, Accessed 15 March 2008)

Journal Title	*Publisher/Proprietor*	*Language*	*Start Year*	*Frequency*	*Circulation*
NIGERIA					
AJAL	Standing Conference of African University Libraries (SCAUL)	English/ French	1983	Semi-Annually	200 unspecified
AJLAIS	Archlib & Information Services Ltd.	English	1991	Semi-Annually	400 paid
JLISA	University of Ibadan/IFLA Africa	English	2001	Semi-Annually	
LJLIS	Nigerian Library Association-Lagos State	English	Not known	Semi-Annually	
LLIB	Nigerian Library Association-Lagos State	English	1966	Irregular	400 unspecified
NLISR	Nigerian Library Association-Oyo State	English	1983	Semi-Annually	1000 unspecified
NL	Nigerian Library Association	English	1963	Quarterly	500 unspecified
SOUTH AFRICA					
Argiefjaarboek vir Suid_ Afrikaanse Geskiedennis	National Archives of South Africa	Afrikaans/ English	1948 (vol III)	Annually	
ESARBICA	International Council on Archives	English	1973	Annually	200 unspecified
INDILINGA	Indilinga	English	2002	Semi-Annually	
INNOVATION	University of KwaZulu-Natal, Pietermaritzburg	English	Not known	Irregular	
MOUSAION	University of South Africa NISA Press	Afrikaans/ English	1955	Semi-Annually	1150 unspecified
SAJIM	Centre for Information and Knowledge Management, University of Johannesburg	English	1999	Quarterly	
SAJLIS	Library and Information Science Association of South Africa	English	1933	Quarterly	1600 unspecified
SAAJ	South African Society of Archivists	English/ Afrikaans	1959	Annually	300 unspecified
TANZANIA					
University of Dar es Salaam Library Journal	University of Dar es Salaam, Library	English	1989	Semi-annually	

Key:

AJAL – African Journal of Academic Librarianship

AJLAIS – African Journal of Library, Archives and Information Science

JLISA – Journal of Libraries and Information Science Africa

LJLIS – Lagos Journal of Library and Information Science

LLIB – Lagos Librarian
NLISR – Nigerian Library and Information Science Review
NL – Nigerian Libraries
ESARBICA – ESARBICA Journal
INDILINGA – Indilinga Journal
INNOVATION – Innovation
MOUSAION – Mousaion
SAJIM – South African Journal of Information Management
SAJLIS – South African Journal of Libraries and Information Science
SAAJ – South African Archives Journal

Results

Publication Trends of Documents in sub-Saharan African LIS Journals

The distribution pattern of the journals according to the country of publication, as shown in Table 1, was as follows: South Africa - 6, Nigeria - 7 and Tanzania - 1. Thus, Nigeria and South Africa can be said to produce the highest number of LIS journals in the region.

Table 2 shows the publication trends of documents in the 14 LIS journals published in sub-Saharan Africa as covered in Google Scholar.

Table 2: Publication trends of sub-Saharan African LIS journals, 1991-2007

Table 2: Publication trends of sub-Saharan African LIS journals, 1991-2007

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	***TOTAL***
SAJLIS	0	8	15	16	12	16	13	11	0	4	0	18	23	23	54	68	31	**312**
AJLAIS	7	8	7	4	3	11	14	11	12	17	15	20	16	16	18	16	15	**210**
MOUSAION	1	4	2	1	6	19	14	22	17	12	20	19	25	15	9	14	8	**208**
SAJIM	0	0	0	0	0	0	0	0	6	16	11	19	16	24	22	19	13	**146**
INDILINGA	0	0	0	0	0	0	0	0	0	0	0	14	24	31	46	10	16	**141**
INNOVATION	0	0	2	2	0	0	1	3	0	0	13	11	10	9	15	15	12	**93**
UDSLJ	0	0	0	0	0	0	0	0	0	0	0	8	17	17	18	8	16	**84**
ESARBICA	0	0	1	2	0	0	0	0	5	0	15	9	9	12	10	10	7	**80**
LJLIS	0	0	0	0	0	0	0	0	0	0	0	1	30	15	10	0	0	**56**
NL	0	1	0	2	2	0	3	0	3	1	1	3	1	31	0	0	1	**49**
SAAJ	0	0	0	0	1	8	6	1	0	2	0	0	1	0	0	0	0	**19**
JLISA	0	0	0	0	0	0	0	0	0	0	7	2	0	0	0	0	0	**9**
NLISR	3	1	0	0	0	1	0	0	0	1	2	1	0	0	0	0	0	**9**
LLIB	0	0	0	2	0	0	1	0	0	1	0	3	0	0	0	0	0	**7**
TOTAL	**11**	**22**	**27**	**29**	**24**	**55**	**52**	**48**	**43**	**54**	**84**	**128**	**172**	**193**	**202**	**160**	**119**	**1423**

Of the 14 journals, *SAJLIS* was the most productive, having published a total of 312 articles between 1991 and 2007, followed by *AJLAIS* (210), *Mousaion* (208), *SAJIM* (146) and *Indilinga* (141). The rest of the journals produced a total of less than 100 documents each. In terms of publication trends, it was noted that some of the currently active journals (e.g. *SAJIM* and *Indilinga* – both produced in South Africa) are relatively young. *SAJIM* began its publication in 1998, while Indilinga was only started in 2002. Although most journals have regularly produced LIS documents, there have been occasional instances where no publication was done, e.g. *SAJLIS* in 1991, 1999, and 2001, and *Innovation* in 1995 and 1996. Other journals (i.e. SAAJ, JLISA and LLIB) have since ceased publication, whilst LJLIS and NLISR are still being published, although they appear irregularly.

Citation Trends of sub-Saharan African LIS journals

Table 3 presents the data on the citations of journals from 1991 to 2007. The data reveals that citations to the journals have experienced a zigzag trend for the entire period of review. *AJLAIS* maintained a leading position between 1991 and 2001, before being replaced by *SAJLIS* from 2002 to 2007. Other South African journals, such as *Mousaion* and *SAJIM*, and of late *Indilinga*, have shown remarkable performance in some years. For instance, *Mousaion* performed better than any other journal in 1995 when it scored its second highest number of citations (21) compared to *AJLAIS'* 9 citations. *Mousaion's* highest number of citations (i.e. 23) was recorded in 1999. *SAJIM*, which began its publication in 1999, obtained 9 citations in the same year and went on to perform exceedingly well in 2000 when it received its highest number of citations (35). Another journal that performed well, given its short history, is *Indilinga*. The journal was first published in 2002 and since then has received a total of 54 citations, of which 24 were received in 2003 alone. In fact, in that year, the journal was ranked second behind *SAJLIS*, which obtained 35 citations.

The relative decline in the citations received by AJLAIS when compared to SAJLIS and other South African journals requires further research to determine the reasons behind that trend. Nevertheless, the following facts may be useful in understanding the above patterns: (i) South Africa is the only country in sub-Saharan Africa where university research is supported by the government in terms of subsidy for each published research, a policy that is likely to boost research and publications; (ii) Mouton, Boshoff and Tijssen (2006) had concluded that nearly half of South Africa's journals do not have any international visibility because the articles in those journals are not cited outside South Africa; (iii) SAJLIS is a national journal that rarely publishes papers from other countries except when their content relates to South Africa, whereas AJLAIS has a continental focus. Hence, it is possible that AJLAIS' cites might have been declining due to dwindling citations from across Africa, whereas those of SAJLIS might be due to increasing cites from other South African journals and other publications besides its own self-citations.

Table 3 also ranks the journals according to the total number of citations. It shows that unlike in the analysis of the number of documents where *SAJLIS* was leading, *AJLAIS* was leading in terms of the total number of citations. *AJLAIS* received a total of 328 citations, followed by *SAJLIS* (172), *Mousaion* (158), *SAJIM* (112), *Innovation* (73), *Indilinga* (54), *NL* (49), *ESARBICA* (35) and the *NLISR* (20). It should also be noted that although some journals have ceased publication, they still receive citations (e.g. SAAJ).

Citedness of sub-Saharan African LIS Journals

An examination of the number of records cited per journal against the total number of uncited records revealed that most of the records published in all but two of the journals remain uncited (see Table 4). The two exceptions are *AJLAIS* and *LLIB*, the latter of which ceased publication in 2003. The journal that recorded the highest percentage of uncited records was *UDSLJ* (91.67%) followed by *LJLIS* (87.50%),

Table 3: Number of citations received by sub-Saharan African journals, 1991-2007

	1991	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*TOTAL*
AJLAIS	21	37	31	14	9	14	39	18	23	45	23	18	20	8	6	2	0	328
SAJLIS	0	4	1	2	0	4	12	1	0	3	0	37	35	27	31	11	4	172
MOUSAION	2	10	11	1	21	8	5	19	22	4	18	3	17	6	6	2	3	158
SAJIM	0	0	0	0	0	0	0	0	9	35	13	9	16	12	13	3	2	112
INNOVATION	0	0	7	1	0	0	5	16	0	0	3	20	0	8	1	10	2	73
INDILINGA	0	0	0	0	0	0	0	0	0	0	0	4	24	4	19	3	0	54
NL	0	1	0	1	5	0	5	0	7	0	0	6	1	22	0	0	1	49
ESARBICA	0	0	1	1	0	0	0	0	8	0	9	3	7	3	2	1	0	35
NLISR	6	2	0	0	0	6	0	0	0	1	4	1	0	0	0	0	0	20
UDSLJ	0	0	0	0	0	0	0	0	0	0	0	0	6	2	2	0	0	10
JLISA	0	0	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	9
LLIB	0	0	0	3	0	0	1	0	0	0	0	5	0	0	0	0	0	9
LJLIS	0	0	0	0	0	0	0	0	0	0	0	1	2	4	1	0	0	8
SAAJ	0	0	0	0	2	2	0	1	0	3	0	0	0	0	0	0	0	8
TOTAL	29	54	51	23	37	34	67	55	69	91	74	112	128	96	81	32	12	1045

SAJLIS (78.85%), *Indilinga* (75.89%), *Innovation* (72.04%), *ESARBICA* (71.25%) and *SAJIM* (70.55%). The highest citation rate was recorded by *NLISR*, i.e. 100%, which implies that all of its published records have been cited. The journal with the second highest citation rate was *LLIB* (85.71%). This journal is no longer being published. The only active journal that surpassed the 50% citation rate was *AJLAIS*, which recorded a citation rate of 50.95%, implying an almost equal number of cited and uncited records of those published by the journal between 1991 and 2007. In total, of the 1423 records published in the 14 journals, only 435 (30.57%) are cited, while the remaining 988 (69.43%) are, as of yet, uncited.

article was written by P. Clarke and published in *SAJIM* in 2000. The article, entitled "*Internet as a medium for qualitative research*", received a total of 18 citations, followed by A. Kantumoya's article – "*Public libraries and community information services in Africa*" – which received the same number of citations (i.e. 13) as K.J. Muchombu's paper entitled "*Information needs for rural development: the case study of Malawi*". Both articles were published in *AJLAIS* in 1992. Ranked third in Table 5 is "*The marginalized workforce: Africa's library and information profession*", which was authored by J.R. Neil and published in *AJLAIS* in 1991. Other journals that produced some of the most cited records include *Innovation*, *SAJLIS* and *Mousaion*. While there was one article that received 11 citations, most (i.e. 5) obtained 10 citations, followed by articles that received 9 citations (4), 7 citations (4) and 8 citations (2).

Table 4: Cited and uncited records in sub-Saharan African LIS journals

	Cited records	*Percentage*	*Uncited records*	*Percentage*	*TOTAL*
SAJLIS	66	21.15	246	78.85	312
AJLAIS	107	50.95	103	49.05	210
MOUSAION	70	33.65	138	66.35	208
SAJIM	43	29.45	103	70.55	146
INDILINGA	34	24.11	107	75.89	141
INNOVATION	26	27.96	67	72.04	93
UDSLJ	7	8.33	77	91.67	84
ESARBICA	23	28.75	57	71.25	80
LJLIS	7	12.50	49	87.50	56
NL	27	55.10	22	44.90	49
SAAJ	6	31.58	13	68.42	19
JLISA	4	44.44	5	55.56	9
NLISR	9	100.00	0	0.00	9
LLIB	6	85.71	1	14.29	7
TOTAL	**435**	**30.57**	**988**	**69.43**	**1423**

Journals with the most cited LIS Works

Table 5 shows the documents that had obtained seven or more citations during the period under review and which journals published them. The most cited

Table 5: Journals with the most cited works, 1991-2007

Rank	Author/s	Title	Source	Date	Cites
1	P Clarke	Internet as a medium for qualitative research	SAJIM	2000	18
2	A Kantumoya	Public libraries and community information services in Africa	AJLAIS	1992	13
2	KJ Mchombu	Information needs for rural development: the case study of Malawi	AJLAIS	1992	13
3	JR Neill	The Marginalized Workforce: Africa's Library and Information Profession	AJLAIS	1991	12
4	M Snyman, R Snyman	Getting information to disadvantaged rural communities: the centre approach	SAJLIS	2003	11
5	A Kagan	The transformation of South African librarianship: survey results and analysis of current opinions	Innovation	2002	10
5	AO Idowu, I Mabawonku	Information technology facilities and applications in some Nigerian research and university …	AJLAIS	1999	10
5	D Rosenberg	Resource Sharing–Is It the Answer for Africa?	AJLAIS	1993	10
5	FA Ehikhamenor	Information technology and scientific and technological information in Nigeria: revolution or …	AJLAIS	1993	10
5	S Weber	The future of the university: the cutting edge	Mousaion	1999	10
5	Y Sayed, K De Jager	Towards an investigation of information literacy in South African students	SAJLIS	1997	10
6	D Yumba	Internet in the library: potentials	AJLAIS	1997	9
6	E Camble	The information environment of rural development workers in Borno State, Nigeria	AJLAIS	1994	9
6	J Chisenga	Indigenous knowledge: Africa's opportunity to contribute to global information content	SAJLIS	2002	9
6	ME Ojo-Igbinoba	The potentials of Internet for library services in Nigeria	AJLAIS	1997	9
7	PJ Lor	Legal deposit: some issues in the international scene	Mousaion	1999	8
7	RJ Page-Shipp, MMP Hammes, H Pienaar, F Reagon, G …	e-Research support services: responding to a challenge facing the South African research and …	SAJIM	2005	8
8	AM Kaniki, MEK Mphahlele	Indigenous knowledge for the benefit of all: can knowledge management principles be used effectively …	SAJLIS	2002	7
8	F Fairer-Wessels, MP Machet	The development of alternative information services for the black community in South Africa	Mousaion	1993	7
8	K De Jager, M Nassimbeni	An exploration of the current status of information literacy tuition in South African tertiary …	SAJLIS	2003	7
8	P Sturges, G Chimseu	Information repackaging in Malawi	AJLAIS	1996	7

Performance of each Journal according to different Ieasurement indicators

This section focuses on the number of years of production, papers per year, cites per year, h-index and g-index (columns 4 to 6 in Table 6). The years of productivity for each journal (see column 4) were computed using PoP software, beginning from the year in which the journal published at least one article within the period under review, i.e. between and including 1991 and 2007. For instance, although *SAJLIS* is 74 years old, the software returns a 'years' value of 17, meaning that since (but excluding) 1991, the journal has been in production for 17 years. The software starts counting the number of years from 1992 because that was the year in which the journal published (at least one article) for the first time in the 1991-2007 year period. This explains why *NLISR* recorded a value of 18 despite not publishing any articles between 2003 and 2007.

Table 6: Performance of LIS journals by various indicators, ranked by the *h*-index

	Papers	Cites	Years of Production	Papers/ Year	Cites/ Year	Cites/ paper	h- index	g- index
AJLAIS	210	328	18	11.67	18.22	1.56	9	10
SAJLIS	312	172	17	18.35	10.12	0.55	6	7
INNOVATION	93	73	16	5.81	4.56	0.78	5	6
MOUSAION	208	158	18	11.56	8.78	0.76	4	6
SAJIM	150	110	10	15.00	11.00	0.73	4	6
INDILINGA	141	54	7	20.14	7.71	0.38	3	3
NL	49	49	18	2.72	2.72	1.00	3	3
ESARBICA	80	35	16	5.00	2.19	0.44	2	3
NLISR	9	20	18	0.50	1.11	2.22	2	3
JLISA	9	9	8	1.13	1.13	1.00	2	2
LLIB	7	9	15	0.47	0.60	1.29	2	2
SAAJ	19	8	14	1.36	0.57	0.42	2	2
UDSLJ	84	10	7	12.00	1.43	0.12	1	2
LJLIS	56	8	7	8.00	1.14	0.14	1	1

The Table reveals that the least number of years of production between 1991 and 2007 was 7, while the highest number was 18. The number of papers per year ranged from 0.47 to 20.14. *Indilinga* (20.14) recorded the highest number of papers per year, followed by *SAJLIS* (18.35), *SAJIM* (15), *AJLAIS* (11.67), *Mousaion* (11.56) and *UDSLJ* (12). The lowest number in terms of citations per year per journal was 0.57, recorded by *SAAJ*, while the highest number (i.e. 18.22) was recorded by *AJLAIS*. Other journals that yielded high values in relation to citations per year were as follows: *SAJLIS* (10.12), *Mousaion* (8.78), and *Indilinga* (7.71). In terms of the number of citations per paper per journal, *NLISR* was leading with 2.22, followed by *AJLAIS* (1.56) and *LLIB* (1.29). The h-index ranged from 1 to 9, whilst the lowest and highest integer for the g-index was 1 and 10 respectively.

Rank Distribution of sub-Saharan African LIS Journals

Table 7 provides the information on how each journal was ranked according to various indicators. For example, AJLAIS was ranked 2nd in terms of the total number of papers (see column 1). Table is derived from Table 6.

Table 7: Rank distribution of LIS journals

Journal	Papers	Cites	Papers/ Year	Cites/ year	Cites/ Paper	*h*- index	*g*- index	Overall Ranking
AJLAIS	2	1	5	1	2	1	1	1
SAJLIS	1	2	2	3	8	2	2	2
SAJIM	4	4	3	2	7	4	3	3
MOUSAION	3	3	6	4	6	4	3	4
INNOVATION	6	5	8	6	5	3	3	5
INDILINGA	5	6	1	5	11	5	4	6
NL	10	7	10	7	4	5	4	7
ESARBICA	8	8	9	8	9	6	4	8
UDSLJ	7	10	4	9	13	7	5	9
NLISR	12	9	13	12	1	6	4	10
JLISA	12	11	12	11	4	6	5	11
LJLIS	9	12	7	10	12	7	6	12
LLIB	13	11	14	13	3	6	5	13
SAAJ	11	12	11	14	10	6	5	14

It was found that, overall, *AJLAIS* was the best ranked journal, followed by *SAJLIS*, *SAJIM*, *Mousaion*, *Innovation*, *Indilinga*, *NL* and *ESARBICA*. *AJLAIS* was ranked 2nd in terms of the total number of papers and topped the list in terms of the total number of citations. The *SAJLI*S journal was ranked first in terms of papers and second in terms of the total number of citations, papers per year, h-index and g-index. Notably, no one journal was ranked the same across all the measurement indicators.

Journal Impact Factors (IFs)

This section provides the IFs of journals that published documents in 2005 or 2006 since these years provided the denominator upon which the IFs were calculated. Only 9 of the 14 journals published at least one record in 2005 and/or 2006. Table 8 also shows how the IF for each journal was computed. At the top of the table is *SAJLIS* with a total of 122 records in 2005 and 2006 and a total of 26 citations in 2007, thereby recording an IF of 0.21; followed by *Innovation* (0.20), *Mousaion* (0.17), *SAJIM* (0.15), *AJLAIS* (0.12), *ESARBICA* (0.10) and *LJLIS* (0.10).

Table 8: Journal IF of sub-Saharan LIS Journals

	CIT (2007,2006) [a]	CIT (2007, 2005) [b]	PUB (2006) [x]	PUB (2005) [y]	Total Cites [a + b]	Total Publications [x + y]	IF [a+b]/ [x+y]
SAJLIS	9	17	68	54	26	122	0.21
INNOVATION	5	1	15	15	6	30	0.20
MOUSAION	0	4	14	9	4	23	0.17
SAJIM	2	4	19	22	6	41	0.15
AJLAIS	0	4	16	18	4	34	0.12
ESARBICA	0	2	10	10	2	20	0.10
LJLIS	0	1	0	10	1	10	0.10
INDILINGA	0	5	10	46	5	56	0.09
UDSLJ	0	0	8	18	0	26	0.00

In comparison, the top ISI-indexed LIS journals produced relatively high impact factors within the same time frame. The top ranked journal (i.e. *MIS QUARTERLY*) recorded an IF of 5.826, followed by *J AM MED INFORM ASSN* (3.094), *INFORM SYST RES* (2.682), *ANNU REV INFORM SCI* (1.963), *J MANAGE INFORM SYST (1.867) and J HEALTH COMMUN* (1.836). At the bottom of the list of ISI's 56 LIS journals are journals that can be said to compare with sub-Saharan African journals. These include *ECONTENT* (0.196), *REF USER SERV Q* (0.175), *PROGRAM-ELECTRON LIB* (0.111) and *Z BIBL BIBL* (0.000) (Source: 2007 JCR Social Science Edition - Online)

Discussion

The findings of this study reveal that the publication of LIS journals is a relatively recent practice in sub-Saharan Africa compared to LIS journals in the developed countries. Table 1 shows that only three countries publish at least one LIS journal in sub-Saharan Africa with citations in Google Scholar. Nigeria and South Africa account for almost all.

Focusing on South Africa, the *South African Journal of Libraries and Information Science* is the oldest, having started its publication in 1933. Since then, a total of 14 journals have been published, with *Indilinga* being the latest to start in 2002. The situation is unlike in other disciplines, such as medicine and public health, which have witnessed a tremendous growth in the number of journals in South Africa (Mouton, Boshoff and Tijssen, 2006; Onyancha, 2008). Table 1 also shows that most of the South African journals were started in the second half of the 20th century, and few have been introduced in the 21st century. This situation may be having a negative impact on the publication of LIS research on the continent.

An examination into the number of publications per journal indicates that there are about five core LIS journals in which LIS researchers publish their research findings in sub-Saharan African countries, namely: *SAJLIS*, *AJLAIS*, *Mousaion*, *SAJIM* and *Indlinga*. These journals published a combined total of 1017 articles, which constitutes 71% of the 1423 records published by the 14 journals. Citation-wise, core journals (i.e. the most consulted journals by researchers) include *AJLAIS*, *SAJLIS*, *Mousaion* and *SAJIM*.

An analysis of the journals' performance according to the citation impact factor reveals a relatively strong input from *SAJLIS*, *Innovation* and *Mousaion*. The three journals recorded higher IFs than the rest of the journals in the region. Their IF values compared favourably with those of ISI-indexed LIS journals that have the lowest IFs (e.g. ECONTENT, REF USER SERV Q, PROGRAM-ELECTRON LIB and Z BIBL BIBL). However, when compared to the high impact journals in ISI (e.g. MIS QUARTERLY, J AM INFORM ASSN, INFORM SYST RES, etc), the journals covered in this study can be said to have low impact factors.

Since impact factors are generally perceived to be measures of quality and/or influence, the low IFs of the sub-Saharan LIS journals may imply low quality on their part. This, however, is not conclusive as IFs are not absolute measures of quality.

It was of concern to note that some of the 14 journals focused upon in this study have not published an issue for close to 5 years. These journals include *LJLIS*, *SAAJ*, *JLISA*, and *NLISR*. Although the Ulrich's Periodical Directory designates these journals as 'active', some of them have actually ceased publication. Also noteworthy is that most of the journals that had ceased publication were being sponsored, owned and/or published by library associations, a situation that leads us to question the LIS associations' ability to sustain the sponsorship, ownership and/or publication of journals in sub-Saharan Africa.

Not only have some of the journals ceased publication, but also others that are still active have had irregular publication patterns. These journals include *SAJLIS*, *Innovation* and *ESARBICA*. The irregular publication of journals can largely be attributed to lack of funding or irregular or late payments for publication on the part of sponsors. In the case of *SAJLIS*, the non-publication of articles in 1999 (see Table 2) was partly due to changes in the management team, sponsors and publisher. The transition temporarily interrupted the publication of the journal. Murray and Crampton (2007) have explained that scholarly publishing and dissemination in Africa face a number of challenges, some of which include: skills shortages; language barriers; inadequate ICT infrastructure; economic constraints; online publication and maintenance costs, especially in the face of rapid changes in technology; Open Access initiatives; levels of quality and perception; and digital access to African scholarly publications.

Conclusion and Recommendations

This study has shown that citation data from Google Scholar may be used to evaluate non-ISI indexed journals, in this case sub-Saharan African LIS journals. Whereas the citation information (e.g. number of citations, IFs, etc) would have been difficult to compute using data from the ISI citation databases (as the journals are not indexed in the databases), Google Scholar has made it possible to compare the journals in this study using both publications and citation data. Google Scholar provides a variety of citation statistics that can be used to compare and evaluate different journals otherwise not indexed in any of the ISI's citation indexes. The limitations of Google Scholar, which some scholars have argued are rectifiable, are outlined in Bar Ilan (2008); Harzing (2007); Noruzi (2005); and Onyancha and Ocholla (2008). In view of the findings of this study, the following recommendations are proffered:

- Irregularity and delays in the publication of journals should be addressed by existing journal publishers in Africa because these problems affect the visibility and impact of their affected journals.
- LIS associations and other proprietors that sponsor the publication of LIS journals should ensure that adequate and assured fund is allocated yearly to cater for the publication expenses of the journals. This would facilitate the regular publication of their journals.
- The publishers or sponsors in sub-Saharan Africa should consider joint or co-publication of their journals with foreign-based institution(s)/ publishers with similar interests. In this way, journal visibility and impact can be improved.
- In order for African journals to have much wider circulation and thereby increase their visibility

and impact, they should be published online – more so through Open Access (OA) initiatives.

- LIS professionals and associations in other African countries than Nigeria and South Africa should begin to publish LIS journals, as this would allow their researchers to have more avenues to publish research.

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Appendix

The h-index was proposed by JE Hirsch in 2005 as a "useful index to characterise the scientific output of a researcher" (Hirsch, 2005:16569). Hirsch (2005:16569) defined it as follows:

> *"A scientist has index h if h of his or her N_p papers have at least h citations each and the other (N_p – h) papers have $\leq$h citations each".*

Bar-Ilan (2008:262) outlines several studies that have made use of the h-index in the analysis of the productivity and influence of journals (e.g. Braun &

AL. 2005, 2006; Rousseau, 2006; Schubert & Glanzel, 2006; and Miller, 2006).

The g-index was introduced by Leo Egghe in 2006 as an improvement on the h-index and was aimed at "giving more weight to highly-cited articles". Egghe (2006:131) defines it as follows:

> *"If [a set of articles] is ranked in decreasing order of the number of citations that they received, the g-index is the (unique) largest number such that the top articles received (together) at least g^2 citations".*

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Accessibility and Use of Family Planning Information (FPI) by Rural People in Kilombero District, Tanzania

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Abstract

This study investigated the accessibility and use of family planning information (FPI) by rural people in Kilombero District, Tanzania. The purpose was to examine the entire infrastructure required for accessing and using FPI in a rural setting. The study surveyed 120 respondents using questionnaire, interview protocols and observation guides. The respondents included women and men of reproductive age, and Maternal and Child Health (MCH) clinic staff. The study revealed that there is inadequate knowledge of various family planning methods (FPMs) and limited access and use of FPI. The situation is caused by ignorance, inconsistent availability of FPMs, few staff with limited training, inaccessibility of family planning services (FPS) and patriarchal gender relations. Furthermore, the study found that rural communities access FPI through radio and MCH clinic staff. The study concludes that the surveyed rural communities are disadvantaged in accessing and using FPI. It recommends that there should be provision of more health facilities in rural areas, training of MCH clinic staff, raising public awareness of family planning, ensuring constant availability of all FPMs, provision of family planning education in schools and provision of necessary facilities needed for effective dissemination of FPI in the rural settings.

Keywords

Family planning information, information access, rural communities

Introduction

Rapid population growth is of major concern worldwide. Every twelve or thirteen years, another billion people are added to the world's population, majority of them from developing countries (Brown et al., 1999). Although fertility levels are falling in many parts of the world, rapid population growth remains a critical issue in most developing countries where needs are great and resources are scarce (Upadhyay and Robey, 1999). The population of Tanzania has almost tripled in 35 years. It has grown from 12, 313,469 persons in the first post-independence census held in 1967 to 34,569,232 persons counted in the census held in August 2002, with the population growth rate of 2·9% (World Bank, 2003; United Republic of Tanzania, 2003). It is estimated that Tanzania's population will grow to 35.4 million in 2010 despite the effects of Acquired Immune-Deficiency Syndrome [AIDS] (United Nations Population Division, 2005). In Tanzania, 74% of the population live in rural areas (World Bank, 1999). It is in the rural areas that the population is still growing at a higher rate amidst poor social and economic infrastructure support. Consequences of population growth can potentially restrain investments in human capital and provision of services that are important towards fulfilment of Millennium Development Goals (MDGs).

The government of Tanzania recognises the importance of family planning to the welfare of its people. The government through its public funded health clinics and also in partnership with a number of non-profit organisations such as Family Planning Association of Tanzania (UMATI) and Marie Stoppes Clinics have worked tirelessly to promote family planning and reproductive health. Despite the efforts, fertility rate has remained high at 6.3 children per woman (United Republic of Tanzania, 1997; Speizer et al., 2000). The situation is caused by low use of FPMs, especially in rural areas (Chen & Guilkey, 2003).

Research Problem

In Tanzania, Kilombero District in Morogoro region is one among the districts with high rate of population growth (3.4) compared to other districts in the same region such as Ulanga District (2.0), Kilosa District (2.3), and Morogoro Rural District (2.2). Kilombero District has a total of 322,779 people (United Republic of Tanzania, 2003). Despite of all the efforts that are taken to promote FPS, there is a high fertility rate in the district. The causes of high fertility rate, which lead to high population growth, presume an existence of one or more obstacles to the use of family planning. Therefore, this study was designed to examine levels of awareness, availability, knowledge and use of FPS and FPMs, as well as the entire information infrastructure required to support access and use of FPI in Kilombero district. The objective was to identify obstacles, if any, that may prevent access and use of FPI by rural people in the area and to recommend strategies to improve access to FPI and use of FPMs in order to reduce fertility rates and control population growth. The study was based on the assumption that increased access to FPI would create a knowledge base on FPMs among the rural people which will stimulate the use of FPMs and therefore reduce population growth.

Literature Review

Most developing countries recognise the importance of providing FPS. However, more often than not, most of the family planning programmes in developing countries have tended to focus on access to FPS and health facilities (Thang and Anh, 2002). The assumption is that provision and availability of FPS will help adoption of family planning and generate new users of FPS. Studies have shown that although several other factors (education, culture, information, social and economic) may affect the use of FPMs, proximity is a crucial factor because after access is guaranteed, then other factors that influence use could be considered (Hall and Bowerman, 1996). Levin et al. (1999) found out that couples were less likely to use FPMs if it takes long time to get to a service point. Magnani et al. (1999) showed that women who lived closer to a service point were more likely to use FPMs than those who lived far away. Therefore, access to FPS should consider the spatial distribution of the target population (Hall and Bowerman, 1996).

Availability of FPS should go in hand with access to information on individual FPMs to ensure their effective use (Thang and Anh, 2002). Studies (Jato et al., 1999; Bongaart & Bruce, 1995; Sherpa and Rai, 1997; Bruce, 1990) that have examined the role information plays on the use of FPS have found that information is a critical factor in the provision of FPS. In their study, Jato et al. (1999) concluded that the use of multiple sources of information promotes adoption of family planning. This approach has changed people’s attitudes and facilitated acquisition of knowledge on family planning. On the other hand Bongaart and Bruce (1995) noted that good quality FPI helped people to have smaller families, lowered fertility levels and slowed population growth. A Mexican study has shown that provision of FPI has significant effect on choice of family planning and has enabled men to play positive roles in reproductive health (Sherpa and Rai, 1997). Upadhyay (2001) argues that access to accurate information assists target communities make informed choices which are responsible for use of FPMs safely and effectively.

In examining accessibility of FPI, it is important to note that the focus should not be on quantity of information but rather on quality. Kim et al. (1997) suggest two ways to improve quality of FPI: firstly, to put FPI into a personal context according to clients needs; and secondly, based on the needs, focus on two FPMs to which detailed and complete information is provided to make it easier for clients to understand the options and make informed decisions.

In order to ensure access to information, there is need to note that access to information is facilitated by the availability of an information infrastructure, which includes appropriate and effective communication channels, delivery systems and access points needed for the acquisition, processing and use of information (Kiondo, 1998). A range of communication channels and delivery methods have been used in disseminating FPI. Studies (Jato et al., 1999; Kiragu et al., 1996; Valente, 1994) have documented successful interventions using one or more communication channels to deliver FPI. Jato et al. (1999) study on the use of multimedia to promote family planning concluded that multiple media sources of information reinforce one another and extends the reach of family planning messages. Complementary family planning messages from multiple sources create a conducive environment for changing attitudes and perceptions on family planning. A study by Kiragu et al. (1996) found that through the use of multiple communication strategies, family planning use increased from 25% to 32% within six months.

Despite various efforts undertaken by national governments, international organisations and the non-profit sector, it is estimated that over 350 million couples do not have access to full range of FPS and FPI (UNFPA, 1997). Studies (Bongaarts and Bruce, 1995; WHO, 2001) have identified several factors that limit access to FPS; these include poor access to services, limited choice of methods, concerns about side effects, as well as lack of accurate information on reproductive health and family planning. Another critical factor that may affect use of FPI is non-involvement of men in FPS. Studies (Wang et al., 1998; Tefere and Larson, 1993; Tapsoba et al., 1993) have shown that involvement of men can increase family planning use-effectiveness and continuation. Zimbabwe carried out a male motivation campaign on family planning and found out that men can be reached with family planning messages using appropriate communication channels. Furthermore, involving men through strong and appropriate family planning messages encourages communication between couples and ultimately decision to use family planning (Kim et al., 1996).

Studies have been conducted in developing countries, Africa and Tanzania on quality and availability of FPS (Betrand et al., 1995; Beegle, 1994; Kessy, 2001), reproductive health and family planning (Bongaart and Bruce, 1995; Family Health International, 1994), the role of information in the use of FPS and FPMs (Sherpa and Rai, 1997; Bruce, 1990) and family planning communication strategies (Kiragu et al., 1996; Kim et al., 1996). However, most of these studies have tended to focus on access and quality of services, role of information in FPS, appropriate communication strategies and information delivery mechanisms. Studies on accessibility and use of FPI among rural communities in Tanzania are still lacking.

Methodology

Kilombero District in Morogoro region was purposively selected as the area of study due to its higher population growth rate of 3.4% (United Republic of Tanzania, 2003). The study used both qualitative (interview and observations) and quantitative (survey questionnaire) research methods. The study identified two population groups: rural people of reproductive age and MCH clinic staff. To derive a representative sample, respondents were identified through a three multi-stage sampling and a simple random sampling technique. First, ten wards were randomly selected from a total of nineteen wards; second, one village was randomly selected from each of the ten wards (the ten villages were Kikwawila, Mbasa, Kisawasawa, Namawala, Mkasu, Katindiuka, Michenga, Lipangalala, Uchindile, and Sakamaganga); and third, from the list of all the households in each selected village, ten households were randomly selected (100 households). One respondent of reproductive age in each of the selected households was purposely selected to ensure gender balance. Therefore, in each village, five men and five women were included in the sample of 100 respondents. Two MCH clinics were randomly selected from each of the selected wards. From the selected MCH clinics, one MCH clinic staff dealing with provision of FPS was randomly picked. A total of 20 MCH clinic staff were included in the sample.

A combination of data collection methods was used to ensure validity and reliability of the data. Primary data were collected using questionnaire, face-to-face interviews, and direct observation. Pre-tested questionnaire was administered to selected respondents. The interviewer met face-to-face with the respondents and asked them the set questions. Face-to-face interviews were conducted with the MCH clinic staff guided by an interview schedule. Observation of FPI dissemination activities at the MCH clinics was done using an observation guide. The primary data was supplemented by secondary data from published and unpublished documentary sources.

Findings and Discussion

Socio-demographic Characteristics of the Sample

The study was able to capture people of reproductive age as the majority of respondents (84%) were aged between 15 and 45 years. Most of them (62%) had primary school education, depended on agriculture for their livelihoods (98%) as subsistence farmers with low levels of income. To a certain extent, the levels of education and income of target population may have implication in terms of access to and use of FPI. On the other hand, MCH clinic staff were all women (100%) of low educational attainment. Most of them had primary school education (50%) and others had lower level certificates obtained after attending short health care courses. The gender of FPS providers and their levels of education impact negatively in provision of FPI services as indicated in previous studies undertaken in other countries (Kim et al., 2003; Wang et al., 1998). In most cases, the attitude among the people is that FPI is for women thus unconsciously removing men from accessing the information and knowledge required to control the number of births in the family. When both women and men are involved in dissemination of FPI, men are motivated to use FPMs. On the other hand, educated and trained FPS providers are more apt to provide professional services and thus change users' attitude and FPMs use behaviour.

Fertility Rates in the Study Area

The findings show that the fertility rate in the study area is high. At least 84% of the women respondents had between four and nine children, and between 36% and 46% have had a birth less than two years between first and fifth births. This fertility rate is closer to the documented fertility rate of 6.3 children per woman in Tanzania (United Republic of Tanzania, 1997) but above the standard fertility rate for population replacement, which is at 2.1 children per woman over a lifetime (Family Health International, 1994). It is also noted that a significant percentage of the respondents had birth interval of less than two years, which is less than the recommended three years and not safe for both mother and child. The findings indicate that birth control is still a challenge that needs to be addressed in a more scientific manner.

Availability of FPS and Community Awareness

In Kilombero district, family planning services (FPS) are mainly provided to the community as part of MCH services. All the MCH staff interviewed said that they provided FPS; 45% provided services through MCH clinics; and 55% through occasional family planning educational sessions where both men and women were targeted. However, only 69% of respondents were aware of availability of FPS and out of these, 47% said they accessed these services. The main service points where services were accessed are MCH clinics (35%).

Information Sources and Delivery Systems

The study examined the entire information infrastructure to determine the way sources of information are made available, delivery systems and communication channels used to deliver FPI. The findings indicate that less than a quarter of the respondents (23%) accessed FPI from the radio, compared to 20% who accessed from MCH clinic staff. Least used sources of FPI include friends and neighbours (5%), leaflets (4%) and posters (3%). Although very few respondents accessed FPI from radio, most of them (76%) indicated that it was the most preferred source and most appropriate (92%) for delivery of FPI. The radio was followed by MCH clinic staff as the most preferred source (62%) and most appropriate (76%). Although field observations found out that family planning posters were extensively used in the delivery of FPI, this source was accessed and used by only 3% of respondents and preferred by 41%, and only 42% said it was most appropriate for delivery of FPI. The findings further indicate that traditional media such as drama, song and dance were not used for dissemination of FPI, although they were most preferred by 42% and 37% of the respondents respectively. Friends and neighbours were least preferred by 54% of the respondents and found to be least appropriate by 47%. This reflects the belief that family planning is something very personal, private and confidential, due to this notion, most people would prefer just to hear it on the radio or read it from newspapers, but not a friend or neighbour to be involved. The use and preference of radio may be attributed to the fact that there are very interesting family planning plays on the national radio, which are very popular among the people who gather around a radio to listen.

The findings show that the dissemination of FPI in the study area calls for the use of multiple delivery methods both indigenous (song, dance and drama) and modern communication channels (radio, television, posters, and other print materials) to reach out to a broader audience as suggested by Kiragu et al. (1996) and Kim et al. (2003). Rural communities are not homogeneous, there are socio-economic differentiation and they hold divergent opinions on issues. Therefore, the use of multiple mass-media channels may assist in reaching out to all groups of people. For example, women would prefer to meet the MCH clinic staff than listening to the radio, or men may prefer listening to the radio than going to meet the MCH clinic staff. Family Health International (1994) notes that the use of multiple channels to disseminate the family planning messages helps to ensure that the majority of the intended audience are exposed to the messages, and that many people will hear the same messages from multiple channels. Therefore, multiple exposures to family planning messages are a key factor in behaviour change among the general population.

Awareness and Knowledge of Family Planning Methods

Family planning information (FPI) should enable potential users gain knowledge of the various options available to plan spacing and number of children. The study examined the respondents' levels of awareness of the various FPMs, and results (Table 1) show that the level of awareness was very high for condoms (98%), calendar rhythm (92%), pills (88%) and female sterilisation (85%). High levels of awareness of condoms may be attributed to the HIV/AIDS campaigns, which promote the use of condom as a prevention strategy.

Table 1: Awareness of family planning methods (N=100)

Family Planning Methods	*(%)**
Condoms	98
Female sterilisation	88
Calendar rhythm	86
Pills	85
Depo-Provera	46
Intra-Uterine Device (IUD)	19
Withdrawal	17
Vasectomy	15
Jelly or Foam	7
Mucus	5
Tubal-ligation	0

* Percentage of the respondents

Use of Family Planning Methods

Investigation on the use of the FPMs showed that only 44% of the respondents were using FPMs to control births. Of these, 17% used the pill, 11% depo-provera injection, 9% condoms, 5% calendar rhythm, and 1% female sterilisation and intrauterine device. None used other methods (Table 2).

Table 2: Use of family planning methods (N=100)

Family Planning Methods	(%)*
Pills	17
Depo-Provera	11
Condoms	9
Calendar rhythm	5
Intra-Uterine Device (IUD)	1
Female sterilisation	1
Jelly or Foam	0
Tubal-ligation	0
Withdrawal	0
Mucus	0
Vasectomy	0

* Percentage of the respondents

These findings concur with those made by Chen and Guilkey (2003) that the use of FPMs in most areas of rural Tanzania was quite low. Furthermore, the use of the pill, Depo-provera injection and condoms as the main methods to control births, albeit at low levels, indicate that limited choices and options are available to rural clients. Ross et al. (2002) argue that limited choice of FPMs constrains the opportunity of couples to obtain a method that suits their needs resulting into low usage levels. The fact that over 50% of people lack adequate knowledge of FPMs and the apparent low levels of use of FPMs may be among the reasons why Kilombero District continues to exhibit high fertility rates. These findings corroborate those of a study on oral contraceptives in Vietnam which concluded that the major reason clients had never used a certain family planning method is that they had no knowledge about the method (Thang and Huong, 2001). Adequate knowledge of the various FPMs and options are critical for making informed decisions in the use of FPMs.

There are several reasons for the apparent low levels of usage of FPMs. Firstly, awareness does not guarantee usage. For instance, this study noted that high levels of awareness and availability of condoms in the study area are not reflected in levels of condoms use because condoms are mainly promoted as an HIV/AIDS prevention method rather than a FPM. It is equally important to understand that method availability is distinct from method use. The condom, for example, may be easily available but little used (Ross et al., 2002).

The second reason is lack of adequate information. Field observations in Kilombero District showed that inadequate information was provided at MCH clinics on the various options available and the advantages and disadvantages of each. This problem was also observed by Kopoka (1999) who argues that, one of the basic reproductive rights that is not being adequately provided to family planning users in Tanzania is "the right to proper, adequate information about FPMs that are being provided." Bruce (1990) emphasises that it is important to provide information about the range of methods available, their scientific documented contraindications, and the advantages and disadvantages associated with each method as clients would be more ready to adopt and use FPMs which they are adequately knowledgeable about.

A third reason is inadequate facilities and skills on the part of family planning service providers (in this case MCH clinic staff). "The competence and educational level of health providers available at a particular facility are likely to be important determinant of the choice of the method available there." (Speizer et al., 2000). The findings show that IUD use was very low; probably due to too few trained MCH clinic staff. Some of the methods cannot be situated at the dispensaries in the rural areas, for instance, IUDs and sterilisation methods, because of inadequate facilities and trained personnel (Kessy, 2001).

Factors which influence Access and Use of Family Planning

Although availability of FPS, proximity to service point and quality of FPI influence the use of FPMs, there are other factors which either facilitate or impede the access and use of FPMs. Respondents who were using FPMs (44%) were asked to state the reasons, which influenced their choice of FPMs. Those who were not using FPMs (56%) were also requested to state the possible reasons for not using FPMs (see Table 3).

Table 3: Factors responsible for the use of family planning methods (N=100)

Factors	Percentage frequency
Knowledge about family planning methods	24
Availability of family planning methods	23
Convenience	18
Husbands do not trust their wives	13
Influence from friend	6
Rumours that family planning causes cancer and sterility	5
Distance to the MCH clinic	3
A desire to have many children	2

From the results (Table 3), factors that enable access and use of FPMs include among others: availability of the FPMs, convenience, influence from a friend and knowledge of FPMs. These findings concur with those of Cohen (2000) who found that awareness and knowledge of family planning, accessibility and quality of FPS have independent influence and contribution to the use of FPMs. Grady et al. (1993) found evidence of the positive effects of ready access to FPI and services to be associated with family planning use effectiveness. Moreover, spatial proximity and convenience of the local family planning providing facility is an important determinant of family planning use and encourages use (Entwistle et al., 1997; Pullum, 1991).

The results also show that barriers to accessing and using FPMs include: inadequate family planning knowledge, lack of trust among couples, distance to service point, the need to have more children, and unavailability of the FPMs in the health facility. These findings corroborate WHO (2001), which suggested that possible factors that affect access and use of FPMs include: poor access to quality services, limited choice of methods, lack of information, concerns about safety or side-effects and partner disapproval. However, experts (Bruce, 1990; Young and Klingle, 1996) are of the opinion that most of these could however be reduced or eliminated if FPI delivery is made more conducive and user friendly. Bruce (1990) argues that FPI providers and sessions need to offer clients courtesy, respect, reassurance, and empathy in order to allay clients' concerns, increase clients' confidence in their choices, increase their satisfaction with services, and make it more likely that clients will use family planning. FPI delivery should be a two way process whereby clients and providers communicate openly, share information, and express emotions (Dimatteo, 1994). In the process, providers may identify and clear client doubts and reduce any unrealistic expectations, so that clients have a better understanding of their options and make more realistic choices (Young and Klingle, 1996).

The findings show that availability of a full range of FPMs would encourage continuous use of family planning in the surveyed area. Katende et al. (2003) suggest that "maintaining regular supplies of all family planning methods may be important in promoting and sustaining the use of modern family planning." Furthermore, location of a health facility is an equally important factor, which affects levels of access and use of FPMs. If the facility is located in a remote area which is difficult to reach, then access and use may be affected. These results confirm those of similar studies by Pullum (1991), Levin et al. (1999) and Magnani et al. (1999) who found that geographic proximity of the facility which provides FPS is an important determinant of family planning use. A nearby source can make a huge difference, as people are less likely to use FPMs if the travel time to clinics is long.

However, it should be noted that information and knowledge are very important factors among the various factors, which facilitate access and use of FPS. If people had information on the benefits of using family planning, they would become knowledgeable on different methods, their advantages and disadvantages, and it would then be easier for them to make informed choices and look for services, irrespective of other factors.

Strategies for Effective Dissemination of FPI

Access and use of FPI requires effective strategies for its dissemination to the target community. Respondents' opinion was sought on effective strategies for the dissemination of FPI. The recommended strategies include: design outreach programmes in the villages (48%); more family planning programmes on the radio (23%); use of drama (12%); use of posters and printed materials to capture those who do not attend MCH clinics (14%) and FPI sessions during traditional initiation ceremonies (3%). On the other hand, health personnel (MCH clinic staff) recommended the need to create conducive environment for the dissemination of FPI by providing transport and adequate funds (40%); training MCH clinic staff (20%); involvement of local leaders (20%); monetary incentives (10%); and use of mass media (10%).

Access and use of FPI to promote reduction of fertility rates and population growth is a complex process, which needs both multiple sources and delivery method and multi-dimensional strategies to ensure efficacy. A proactive approach through outreach programmes, adequate funding, trained personnel and participation of leaders and target communities is critical for success. In Tanzania, like in many developing countries, the most successful programmes are those which have strong government support in terms of allocation of both financial and human resources and involvement of local leaders. This is particularly true in rural areas, because authority plays an important role in the lives of the rural population. The opinion of the local administrators and community leaders can be a determining factor in their reproductive behaviour (Haile et al., 2000). On the other hand, training family planning service providers (MCH clinic staff) in interpersonal communication skills is an important consideration for effective dissemination of FPI. For example, in Egypt, women who received counselling from FPS providers trained in interpersonal communication knew more about how to use their methods and expressed more satisfaction with services than those counselled by other FPS providers (Abdel-Tawab, 1993). In Ghana, specially trained FPS providers offered professional services on personal context of clients than providers who were not similarly trained (Hungtington et al., 1990). In Indonesia, FPS providers trained to foster rapport and encourage client participation doubled their facilitative communication in counselling, and clients asked twice as many questions (Kim et al., 2003). Therefore, in order to improve performance in the dissemination of FPI, it is very crucial to have short and long term training in interpersonal communication skills for family planning service providers.

Conclusions and Recommendations

The study revealed that socio-economic and demographic factors observed in the surveyed area have implications in the provision of FPI and in the use of FPS and FPMs. This situation is reflected in the observed high fertility rate. Although family planning services are available, they are mainly provided within the context of MCH services, and only about 69% of the surveyed population were aware of the availability of such services and less that 50% of them use the services. The main source of FPI was radio and MCH clinic staff. Radio was the most preferred source of FPI and the one which was considered most appropriate for delivery of FPI. Although indigenous media was preferred and considered appropriate by significant part of the rural populace in the study area, it is not used to deliver FPI.

The study further revealed that although there are high levels of awareness of the various FPMs, the majority lacked adequate knowledge of the various FPMs and, as a result, less than 50% of the people used them. The main methods used were the pill and Depo-provera injection indicating that the surveyed community had limited choice, which was also a constraint to use. Therefore, the apparent low levels of use of FPMs are responsible for the observed high levels of fertility in the study area. The study notes that there are various factors that influence access and use of FPI. Apart from proximity to service centres, funding and lack of adequate personnel, other factors include inconsistencies in service provision, convenience of both service and proposed methods, lack of trust, inadequate information on safety, insufficient knowledge about FPMs, and desire to have more children.

The study recommends that there is need to create conducive environment for effective dissemination of FPI in rural areas by establishing a proactive outreach programme, encouraging the use of multiple information sources for dissemination of FPI, ensuring adequate funding and trained personnel. Others include: establishing more health service facilities, raising public awareness on family planning issues and ensuring constant availability of all the FPMs, raising educational levels and standards living though interventionist programs.

Furthermore, information professionals need to work together to create opportunities for the improvement and dissemination of family planning information from a variety of sources. This should take into consideration the rural people information source preferences, so as to reach all target groups of people in rural areas.

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Participatory Gender-Oriented Study of the Information Needs of the Youth in a Rural Community in South-Eastern Nigeria

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Abstract

An adequate understanding of the information needs of the youth is crucial in planning programmes that address their socio-economic wellbeing. This study investigated the information needs of the youth in Uzoagba, a rural community in South-Eastern Nigeria. Data were collected from the youth through focus group discussions involving 220 participants, and a questionnaire survey involving 250 respondents. One female, one male and one mixed-gender focus groups for each of three age categories, 7-12 years, 13-19 years, and 20-30 years, were used to generate information on the information needs of the youth. The questionnaire which consisted of closed and open questions was used to collect data on demographic characteristics, information needs and current sources of information of the respondents. Two categories of the youth could be identified. The first comprised those aged 12 years or less who desired information concerning their education, health/HIV/AIDS and income. The second group comprised those older than 12 years whose needs concerned income/employment and education. The youth wanted to develop their personal capacities through education in order to integrate themselves into productive activities in the community. The expressed need for information about how to participate in income-generating activities relates to the youth's desire to contribute resources to their family and community. It is recommended that governments should provide appropriate forums for the youth to articulate their information, educational and social needs as input into policies and programmes that affect them.

Keywords

Information needs, youth, gender, rural areas, Nigeria

Introduction

This study documents a participatory gender-sensitive assessment of the information needs of the youth in Uzoagba, a rural community in old Owerri senatorial zone in South-eastern Nigeria. The assessment was part of a larger study which focused on the impact of the practice of *Di Nwanna*, a traditional marriage rite observed in the community and its neighbours, on the reproductive health of adolescent girls (Nwagwu, 2006). The findings of the larger study showed that girls suffered all the disadvantages – unwanted pregnancy, risks of death through childbirth and abortion, risks of contracting HIV/AIDS and other STIs, arising from the practice. The key concern about the health and social well-being of young people is the extent to which they have access to resources, including information, that promote their development. Access to information and communication services is now seen as a universal right, and the United Nations is advocating for a global initiative for such access (UNDP, 2000). Clearly, an adequate deployment of these services should be based on appropriate understanding of the information and learning needs of various categories of people in the communities, taking into cognisance the possible differences that might be caused by variations in socio-demographic characteristics.

There exists a vast literature on gender equity in human society and the need to address the problems (March, Smyth and Mukhopadhyay, 1999; Guijt and Shah, 1999). A wide consensus of opinions suggests that the best way to address unfair gender relations and promote equity relevant to the day-to-day lives of people is to create spaces for males and females to engage in meaningful exchange of ideas and knowledge (UNESCO, 2002). This opinion is in consonance with that of Females's Network Support Programme of the Association for Progressive Communication which has devised a Gender Evaluation Methodology (GEM), a guide that is expected to assist project managers to synthesise gender concepts and incorporate them in projects, from design to implementation (GEM, 2005). There is some evidence that the adoption of gender concepts has made some progress in Nigeria after the Beijing conference in 1990, but the opinions of the youth, particularly from the perspective of gender, are yet to be incorporated in many projects, and research in this area is almost absent.

The UN Convention on the Rights of the Child (1989) has made calls for children and young people to participate in the debates and decisions made concerning their well-being, their education and their communities. These calls are necessitated partly by a growing recognition of children's rights to express themselves, to participate and be heard in general. In developing policy to support and facilitate young people's participation, key issues remain unresolved. Should initiatives be directed at children and teenagers, encouraging their civic interests and participatory skills before they are old? In line with these observations, this paper is intended to provide insight into the information and learning needs and activities of male and female youth in the community, as well as what the youth consider necessary to improve their personal efficacies in the community. Community in this study is conceptualised as a complex social system rather than a homogenous group of people in order to obtain a detailed understanding of the range of information needs of the subjects (Kertzer and Fricke, 1997).

The information needs of the youth, particularly in the rural areas of Nigeria, have scarcely been investigated by researchers. Furthermore, government projects and even studies hardly ever include the opinions of the rural youth in the definition of their research questions. Rather, they consult NGOs, government agencies and local organisations, while discussions with the youth who are directly concerned are only used to validate projects after implementation. This implies that programme planning and other activities that affect the welfare of the rural youth have been carried out without adequate understanding of their priorities. Yet, the youth are the future of the society. If organising human society would mean preparing the youth for future roles, then planning authorities should integrate information priorities of the youth in the national and community development plans and programmes. Otherwise, the configuration of the future society will be incongruent with the development stature of the youth who ought to be managers of that society.

In every sphere of human life, listening and incorporating the opinions of customers is critical to the design of products and services. In the same way, it is very important to give children and young people an active involvement on how policies and services are developed, in order to ensure that the policies and services genuinely meet their needs. Children are the leaders of tomorrow, and their early engagement in public and community life is required for creating and promoting citizenship and social inclusion. In many developing countries, the inputs of the youth in national policies are left out and the youth are not persuaded that they count and can contribute. It can be speculated that good participation opportunities produce more confident and resilient young people. Promoting citizenship should be a part of the government's education agenda. Local governments, NGOs and government agencies that have a local presence can support projects that play part in developing the youth participation skills (Children and Young People's Unit, 2001).

Methodology

This study adopted a participatory approach to appraise the information and learning needs of the youth using focus group discussion strategy, a qualitative research technique. Rather than defining a very specific age range within which one must fall to be considered as youth in this study, the focus was on the unmarried males and females between seven and 30 years. This study defined the youth this way because the findings from the larger study showed that the tradition of *Di Nwanna* was most indulged in by the unmarried. For a clear understanding of the situation, the youth were categorised into three age groups: 7-12 years, 13-19 years, and 20-30 years. Although the 7-12 age group is not usually included in the category of the youth, but treated rather as children, it was deemed important to consider the information needs of this age group because they were most adversely affected by vulnerability to malnutrition, infectious diseases and negative peer influences, as was found in the *Di Nwanna* survey.

The second age category defines those who are generally known as adolescents, while the older group 20-30 consists of persons who are actually adults. The overall well being of the youth is shaped by many factors which range from the social, economic, cultural and political conditions of the wider society, to those that characterise the living situation of an individual adolescent. Based on inferences from the result of the larger project and our interactions with various categories of people in the community, it was anticipated that educational opportunities, HIV and diseases, employment and poverty, and income generation activities, would dominate issues in the minds of the youth. But the extent of manifestation, relationship and variation of these variables among the various gender and age groups, as well as how the youth meet the information requirements associated with these issues need to be established.

In addition to the focus group discussion, a brief questionnaire which included both closed and open-ended questions was designed to collect information for further validation of the findings of the focus groups. Finally, throughout the research process, the issues raised were informally and formally discussed with the participants, facilitators and experts in order to ensure that they addressed the objectives stated. This triangulation is believed to be particularly necessary when using predominantly qualitative methods which often allow for subjectivity (Babbie and Mouton, 1998).

Focus Groups

Focus group discussions (FGD) entail engaging people in a discussion, listening to them and then learning from them (Morgan, 1998). They provide a forum where participants can share experiences, ideas, attitudes, and together explore a particular topic that concerns them from several viewpoints. When correctly facilitated, FGD encourages learning as participants come to see the same issue from different perspectives (Babbie and Mouton, 1998).

Three types of FGDs were constituted – one female group, one male group and one mixed group – for each of the three age categories. This approach facilitated obtaining different responses to questions and different conclusions on issues from the different gender groups, as well as gender interactions within the mixed group, following a common focus group plan. Twenty-four FGDs were held. The female and male age groups consisted of six participants respectively in each FGD, while the mixed gender group (which consisted of participants in the male and female groups) consisted of 10 participants for each age group. Each FGD focused on the perceived information needs of the youth within the specified age and gender groups. Each group had two trained facilitators, one to facilitate in the group and the other to take detailed notes of the discussions.

Questionnaire Design and Administration

After synthesising the information obtained from the FGD, a questionnaire consisting of a mix of closed and open questions covering those aspects of the information needs of the youth in the community which could not be established through the FGD was administered to all the respondent groups that cut across those involved in the FGD. The questionnaire provided basic demographic information about the respondents: age, education level, employment status, information needs and current sources of information. The project coordinator administered the questionnaire personally.

Sampling

In the focus groups, the youth were recruited to participate in the study based primarily on their willingness to do so. For the younger age groups, the headmasters and principals of schools in the community were informed about the project, and were asked to select participants in the specified age categories to be invited. For the other age categories, people who visited the *Di Nwanna* Project Office at Uzoagba and expressed interest in the project, as well as those from whom data were collected in the *Di Nwanna* survey were invited to participate. On each of the eight days during which the FGD were conducted, additional participants were also invited to join in cases where numbers were still low. Participants were invited for each of the gender and age groups for both the questionnaire survey and the FGD. Altogether, 220 participants took part in 24 FGD sessions, while 250 participated in the questionnaire survey.

Five facilitators were selected and trained, with focus on preventing one person from dominating the discussions, encouraging those who are reluctant to participate, ensuring that everyone has a turn to talk within the required time frame, and keeping the group focused on the specific topic at hand (Fontana and Frey, 2000).

Findings

The findings from the focus groups are presented for each of the three age groups. Altogether, the 24 FGD sessions were spread over a period of eight days and a total of three sessions involving one age and gender group at a time were held per day. Thereafter, the data from the questionnaire survey were collated and analysed using basic statistics to clarify and help maximise the triangulation.

Findings from the FGD

The FGD participants were distributed across the three age categories as follows: under 12 years (64 participants, all between 10-12 years and comprising 68% female, 32% male); 13-19 years (94 participants, 62% female, 38% male); and 20-30 years (62 participants, 52% female, 48% male).

Information Needs of the 7-12 years Group

All the respondents below 12 years of age reported that their greatest expressed information need is pregnancy-related. The information sources available to them included family (43%) and friends (21%), schools (20%), TV (9%) and churches (5%). A very few mentioned computers (1%), and none mentioned the Internet.

There was an interesting difference between the gender groups, with the boys group listing information needs that were very different from the girls and the mixed groups. The female groups were concerned with such issues as HIV/AIDS (32%), careers (19%), children's rights (18%), school information (13%), health (13%) and education (4%). Some of the girls stated:

> *'I am afraid of HIV/AIDS because I do not know whether they are telling us the truth.'*
>
> *'People have died in this village due to HIV/AIDS and I am afraid.'*
>
> *'I want to know more about this world, so that I can be knowledgeable.'*
>
> *'I want to know what is happening in the world, in Africa and in Nigeria, and to know about other countries and their problems, the problems we are facing in our school.'*

The youngest boys group (aged less 12 years or less) identified school subjects (60%), computers (32%) and sports (29%), whereas their older counterparts, aged 13-19 years, reported requiring information about higher education (67%), how to make money (42%), employment after education (39%), and the future (39%).

Each FGD participant was asked whether he or she had ever used a computer. Only 12.5% of the participants in the 12 years or less FGDs had used a computer; while 23% and 32% of the 13-19 years and 20-30 years groups had done so. Thus one can say that majority of the respondents had not used computer previously. Regarding the purpose for which computers have been used, responses varied widely, but some common themes emerged. For the under 12 years and the 13-19 years groups, typing and games were common uses, and similarly for the 20-30 age group**.** In each of the age categories, only one or two participants mentioned having used computers for communication purposes.

The 12 years and under groups were asked whether they thought boys and girls used computers differently. Some interesting responses emerged from the discussions with examples of how computers are used the same and differently being given.

> *'Girls use the computers for typing; boys will use it for business matters.'*
>
> *'Boys and girls want different careers so they want to use it for different reasons.'*
>
> *'Girls will type, boys will use it to play – puzzles and love letters.'*

Information Needs of the 13-19 Years Age Group

Within all the three groups of this age group, there was a consensus that computers are important and that computers can help with learning, even though they neither had access nor were they computer literate. Computers were seen as important for communication, studying, finding information on the Internet, "to know what is happening in the world", and learning basic skills like reading, and for entertainment. The discussion about topics to learn provided a wealth of information and a wide variety of responses. Since this was expected when designing the research, ranking exercises were included in the design of the FGD so that a prioritised list of information needs could be found. For the boys' only group, income and discipline at school were ranked the most important issues they were currently facing. For the girls' only group, older males dating younger girls and teenage pregnancy were noted as most important.

For the mixed gender group, education, income, poverty and unemployment, poor health facilities, sexual abuse/teenage pregnancy and HIV/AIDS/STD were priorities. Having identified and ranked current issues, each of the groups was asked whether they have the information they think they need and where they can get it. There was a general consensus in all the groups that quite a lot of information is available from various sources, including the media, promotional materials, parents, teachers, books, clinic and church. Interesting in this report is the discussion around what information is not available that participants feel that they need. Unfortunately, both the girls' only and the boys' only groups did not seem to fully understand these questions. However, the girls' only group did note a need for medical expertise and information about AIDS and early sexual initiation, while the boys want information about how to become economically comfortable. For the mixed gender group, their opinions seem to reflect issues around education and income.

The main issues for the 13-19 years age group seem to be: how to be successful in life, self-esteem and confidence, being financially secured, how to stay healthy, personal safety and security. When asked whether boys and girls would face the same issues, there were some differences across the groups and the need to openly address gender issues came through very strongly. In the girls' only group in particular there was a lot of anger expressed, largely in response to the high incidence of sexual assault. Some of the responses were:

> *Boys like crime, they like material things.*
>
> *Boys won't like abuse to be over, because they commit sexual abuse, 90% of them.*
>
> *Boys like to hit their girlfriends to prove power.*
>
> *No, boys won't like punishment at school because they like to control the teachers.*

In general, the boys' only group thought that most of the issues were faced by both genders. This included AIDS, unemployment and pollution. However, specific issues were noted as being especially problematic for females. For example: '*poverty is mainly faced by females because they have to struggle to care for their children'; 'homelessness affects both, but females face homelessness especially badly.'* The mixed gender group had an interesting discussion about their needs, and the list of needs was almost the same for both genders. However, there was also an opinion that pregnancy affects females and only impacts a little on the men, and that males run away from most of their responsibilities.

Information Needs of the 20-30 Age Group

This group recognised the importance of computers and their roles in learning. The reasons for considering computers as crucial ranged from employment and communication to education. Some other interesting responses included that computers would help "open your mind", "make you think and give you ideas" and "give you a better skill". These three examples of responses provide some evidence of the willingness of the respondents to engage with issues relating to the computer. The enthusiasm notwithstanding, only 3.7% of the members of this group had any computer literacy, while about 2.2%; had ever used the computers on their own. About 2.1% had Internet literacy, although none of them had any regular access. Ironically a relatively higher number of them (4.7%) reported having used information obtained from the Internet or having used the Internet to send messages to their relations who are not at home (4.5%). Those who have used the Internet travelled to Owerri Township, about 10 kilometres from the village. According to them, the distance is not even as much a problem as that of getting to Owerri to find out that there is no power supply, or the Internet café is filled up with people, or that there is no connectivity. One of the participants who always pass the night in the city each time he required Internet access also reported also being discouraged by the unwillingness of the café operators to give him the desired assistance, because of his very low computer literacy level.

The discussions around learning needs and problems generated various responses from the various groups. For the females group, poverty, lack of housing and education were noted as most important. For the males group, unemployment, crime, education, poverty and income-generating activities were seen as most important. For the mixed group, issues seen to be of high importance included HIV/AIDS, unemployment, teenage pregnancy, illiteracy, lack of educational facilities and inadequate income-generating activities. Ranking these issues more broadly, the main issues for this age group are unemployment (poverty, income, job and career information), education (and illiteracy), and health/HIV/AIDS. When asked whether the same issues are likely to be faced by males and females, it was found that the females group has the strongest opinion with respect to gender issues. Responses from this group included: "females are most affected by unemployment", "males are more relaxed when they are unemployed than females." Both the males group and the mixed gender group felt that the same issues were faced by males and females.

Personal Information Needs

Beyond the group responses, the study also investigated the perception of the individuals regarding their personal information needs. To address this, the participants were given a slip of paper and were asked to anonymously record their most important personal needs. The responses were classified as: employment related, rape, abuse, life skills (includes sex related information but not abuse and rape), education, environment, housing, infrastructure and services, computer access and training, lack of unity among the youth, crime, lack of information generally, and teenage pregnancy (Figure 1).

Other needs include information concerning HIV/AIDS, funding for education, community development, and school attendance. However, income and HIV/AIDS are the major issues that bother the youth the most, followed by education and crime. Respondents also showed some concern about how to develop their communities, as well as employment matters. Issues that appear to be of least importance by general rating include rape and abuse, probably because this would be an issue of concern to females mainly.

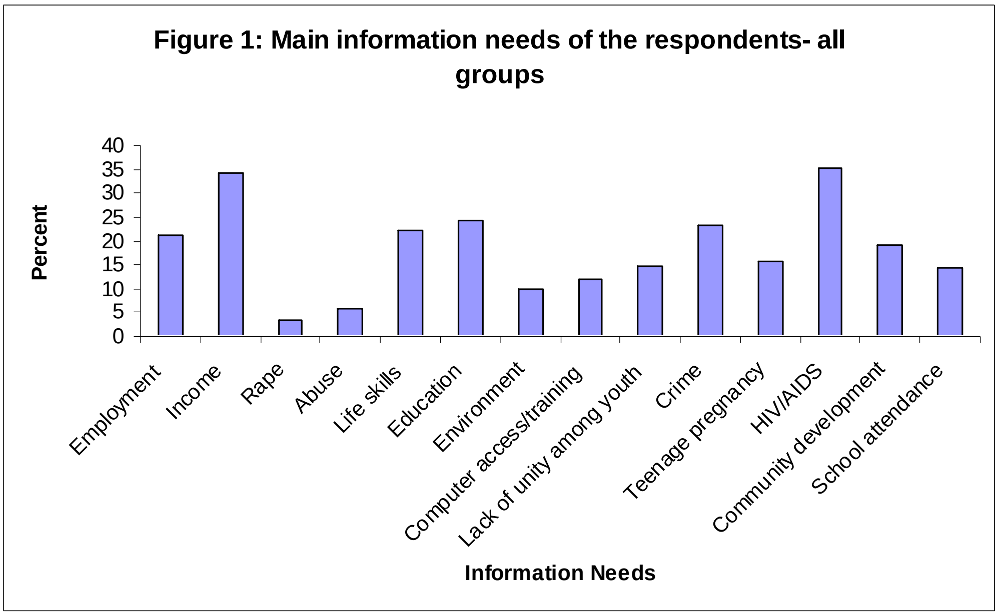


Figure 2 shows some gender disparities in the perception of individual information needs. Education, HIV/AIDS, life skills, abuse and teenage pregnancy are the four most crucial information needs of females, while issues about community development and unity among the youth bother them the least. Other issues that featured very prominently in the information needs of the females include school attendance, marriage and violence. For the males, how to earn income tops the list of their needs followed by employment, education and life skills. Others are HIV/AIDS, computer access and training, community development and environment. A few issues featured exclusively in the information needs of the girls such as teenage pregnancy, school attendance, violence and rape. On the other hand, some issues such as community development and unity among the youth featured exclusively in the boys' information needs, but not in the girls.

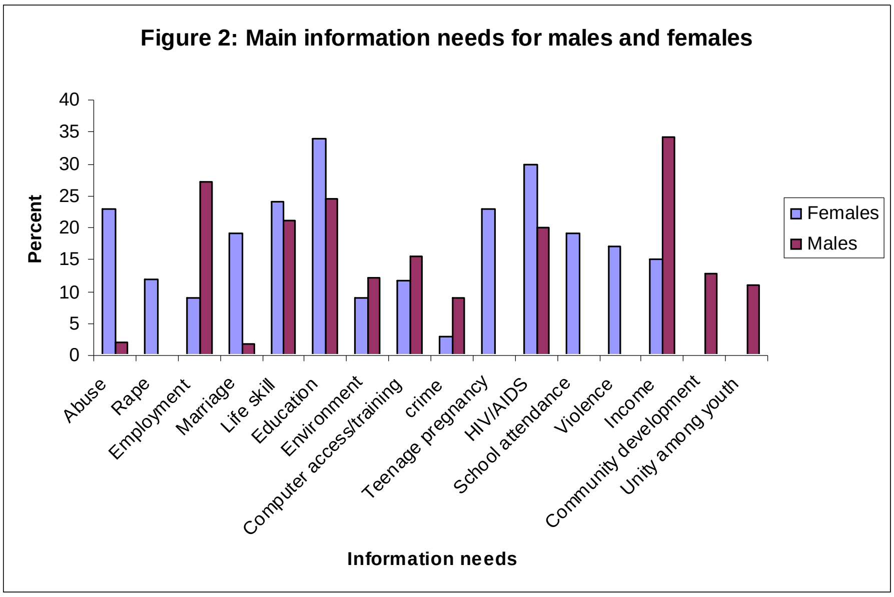
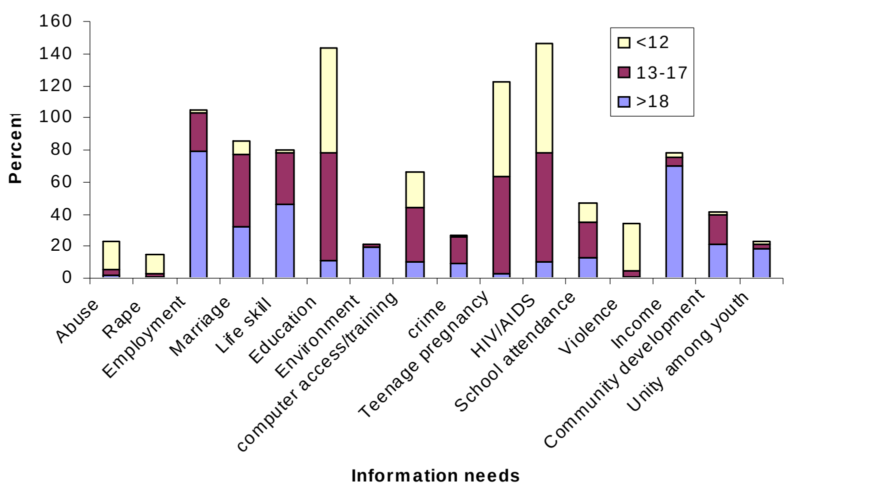


Figure 3 shows the age category distribution of the responses of the youth. There is evidence of variation in the information needs of the youth in the different age groups probably more than could be visualised in the gender categorisation. Employment is the most crucial information need of those aged above 18 years old age, followed by income and life skills. Issues such as unity among the youth and rape, as well as abuse and teenage pregnancy, are at the bottom of their information needs. For those aged between 13 and 17 years, HIV/AIDS ranks first in the information needs, followed by education and marriage. Information pertaining to rape, environment and unity among the youth constitute their least needs. Finally, for those youth less than twelve years of age, HIV/AIDS and education, as well as teenage pregnancy and school attendance, rank as the leading issues on which the youth need information, while information on the environment, crime and community development were least needed.

Figure 3: Main information needs by age groups



Findings from the Questionnaire Survey

Characteristics of the Respondents

Altogether, 250 copies of the questionnaire were completed. When the data in the questionnaire were analysed, it was found that 20.4% of the respondents were secondary school students, 55.9% were not in school, 1.2% have had tertiary education, and 27.5% did not indicate their educational status. Of the whole sample, only 3.8% reported that they have used a computer previously. When these figures were disaggregated, the result remains similar for gender, although males seemed to have a slightly higher percentage in the tertiary education category (66.7%) compared to 60% for females. For the sample as a whole, 43.2% are unemployed, 6.2% had full-time employment, 14.8% had part-time employment, 6.5% were self employed and 19.3% fell into the 'other' category which included volunteer work and students.

Most important Information Needed

The respondents were further asked to rank a provided list of information according to their importance to them. More than 70% of them reported that they wanted information on education. More importance was attached to socio-cultural news (19.1% of all respondents) than local news (8.7%), although local news was slightly more important to them than national news (6.7%) and much more than government news (2.7%). Much more important to them than the preceding information is information about employment (31.5%), health care (19.1%) and prices of goods (16.8%). A comparison of males and females shows that higher proportions of males (75.2% and 24.6%) than females (69.1% and 0.9%) wanted educational information and national news respectively. Furthermore, males reported needing information about employment (43.0%) more than females (19.2%). By contrast, females seemed to be more interested in information on healthcare (21.2%) and prices of goods (22.9%) than the males (1.4%) and (2.9%) respectively.

Respondents were asked in an open-ended question if they thought computers were important and why they thought so. All respondents noted the importance of computers, for various reasons, including job searching, information, education, enhancement of efficiency and communication.

Most important Sources of Information

Table 1 shows that television is considered both by the whole sample and the gender groups as the most important source of information, although females appear to consider the source more important than males. Radio and newspapers are the next important sources of information to all the groups, but they serve males more than females. Pamphlets, friends/relatives and community meetings follow but males seem to consider pamphlets as an important source more than females, while females see their friends and relatives, as well as community meetings as more important sources of information. None of the respondents mentioned computers or the Internet as a source.

Table 1: Important information sources

Information source	*Whole Sample %*	*Males %*	*Females %*
Radio	32.3	34.5	28.9
Television	43.6	46.5	49.9
Newspaper	22.1	21.1	11.1
Pamphlets/Magazine	18.4	19.1	17.1
Clinical health	5.9	4.9	11.1
Place of worship	5.2	4.6	6.3
School teacher	2.9	3.6	9.7
Community meeting	12.9	17.1	23.2
Friends/relatives	16.2	18.8	32.2
Workplace	0.9	2.1	0.1
Cinema	0.2	0.3	0.2
Exhibition	2.1	1.9	2.4
Adult education	1.9	2.1	1.3
Political leaders	1.2	0.9	0.0

Discussion

The objective of this paper is to assess the information and learning needs of male and female youth in Uzoagba community in order to generate information that could assist in planning. Having examined the different information and learning priorities of the youth across age and gender groups, it is feasible to tease out the information priorities of the groups.

Table 2 summarises the main types of information needs of the surveyed youth. The needs may be classified as follows. For those aged 12 years or less, information concerning education, health/HIV/AIDS and rights/abuse dominated the needs. However, for those older than 12 years, the main information needs pertained to income/employment (job searching, career information, and entrepreneurship); health (HIV/AIDS, general well-being); education (school-related information, access to further and higher education, information about educational opportunities, information about funding for education, educational counselling) and life skills (decision making, safe sex, how to keep healthy, how

Table 2: Summary of information needs by age groups

12 years and below	
FGD	**Individual opinion**
1. Education 2. Health, HIV/AIDS 3. Rights, abuse	1. Health, HIV/AIDS 2. Pregnancy 3. Education
13-19 years	
FGD	**Individual opinion**
1.Income/Employment 2. Education 3. Life skills	1. Employment 2. Life skills 3. Education 4. Computer training
20-30 years	
FGD	**Individual opinion**
1. Employment 2. Education 3. Health, HIV/AIDS	1. Employment /Income 2 Community development

to look after and protect self, how to be successful and how to be financially capable). Information concerning employment/income was most prominent, and information concerning education appeared to be important to all age categories.

The details of the results presented earlier in this paper indicate that differences in information needs were greater across the different age groups than between the gender groups. But the need for gender-related discussions was evident specifically in the 13-19 year age group where the girls expressed strong negative feelings towards males. Gender differences were also found with respect to employment status, with females showing much higher levels of unemployment than males.

Some questions need to be addressed in this discussion. Why is information concerning education important to all age and gender groups? Why does education, health/HIV/AIDS and sexual abuse constitute major issues for the youth aged 12 years or less? Why is employment- and income-related information a major need for those youth more than 12 years old? The fact that education is a stronghold of modern development (Ahmed and Nwagwu, 2006), and that it influences earning in the formal sector (Juma, 2003; Okuwa, 2005) is a common knowledge among the young and the old. Incidentally, educational opportunities are not easily accessible to those who need them in many rural communities, while those who have access study under sub-standard and difficult conditions.

The additional focus of the under-12 years age group on HIV/AIDS and sexual abuse and pregnancy is an indicator of likelihood of insufficiency of HIV/AIDS and sexuality awareness promotion activities in the community. UNAIDS (2006) revealed that reports from various international organisations involved in HIV/AIDS work in Nigeria indicated that there was insufficient data to describe current prevalence rates of HIV among young people aged 15-24 years. Nwagwu (2007) has also highlighted the insufficiency of infrastructure for disseminating information about HIV/AIDS in the rural communities in South-Eastern Nigeria.

Like in most rural communities in Nigeria, the surveyed youth in all the different age and gender categories, whether schooling or otherwise, see themselves as people who ought to participate in the generation of income required to run both their individual and social lives. They are concerned with livelihoods – capabilities, assets, activities – which people need to be economically successful. Acute family-level poverty must be one of the main reasons why the youth desire information on employment and income-related activities rather than focusing on their education. Such activities may however affect their education either positively (by providing sources of funding for the schooling) or negatively (by distracting their attention from schooling). In the context of the usual provisions of the Child Right declarations and statutes that ban work by young and schooling children, one may ponder whether the concern of the schooling youth themselves with employment and income-related matters should be encouraged or discouraged. Further studies will also be required to unearth how these findings relate to other observed areas of need of the youth. For instance, how does the youth participation in income generation relate to commercial sex work and HIV/AIDS trends in the communities?

Conclusion and Recommendations

The methodology and findings of this study have clearly highlighted the need for governments and development planners to adequately understand the socio-economic circumstances and desires and needs of the youth of different age categories in order to plan and implement programmes for them effectively. The opinions, needs and preferences of children and young people, particularly in rural areas where most Nigerians live, should be studied when decisions are being taken about children's own lives and where services for or used by children are being developed, implemented or evaluated. Such understanding may also be gained from studies of their information needs, in order to plan programmes for the youth.

Strategies that could be adopted in enrolling the youth in decisions about issues that affect them can be suggested. First, ad hoc and routine suggestion schemes and ways for children and young people to offer compliments and complaints should be created in the rural areas through rural community infrastructures, which are linked with appropriate government agencies. Periodic formal surveys or FGDs, such as the one used in this study, could also be adopted to find out the opinions of the youth about national policies, current services or gaps in service. Children's opinions and input could also be obtained through the creative use of drama or music, games and youth-friendly activities and non-traditional forms of communication. It will also be very helpful to involve young people directly in providing services such as involving them in peer led education activities. Young people could also be asked to produce information for other young people; design ways to communicate better with their peers, use information technology and other new media; provide 'mentor' advice and help to their fellows and to take part in development and recruitment of staff who execute activities that affect their wellbeing.

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A Survey of Knowledge Management in Law Firms in Botswana

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Abstract

This article provides an empirical assessment of knowledge management in law firms in Botswana. It employs survey research methodology and triangulation of qualitative and quantitative methods of data collection. Data were collected mainly through a questionnaire administered to the 217 lawyers in all the law firms registered with the Botswana Law Society. The response rate was 64.5% (i.e. 140 returned copies of the questionnaire). Fifteen other lawyers were interviewed. The findings reveal that lawyers in Botswana are still grappling with the concept, requirements and implications of knowledge management. It was concluded that law firms in Botswana need to become proactive about knowledge management in law practice. The study recommended that lawyers in Botswana should consider talking to others in the legal community about knowledge management issues, attend meetings and workshops on knowledge management, invest time and money in creating bulletins boards, form alliances with international professional associations, and get connected to electronic forums that foster collaborative thinking.

Keywords

Knowledge management, law firms, lawyers, Botswana

Introduction

Knowledge intensive organisations such as law firms have always intuitively appreciated the value of knowledge management because their competitive advantage lies in the expertise and knowledge of the lawyers and their firms. Buckler (2004) notes that some of what is now called knowledge management have been with lawyers since the time of the manual typewriter. Lambe (2003) posits that from the Code of Hammurabi, almost four thousand years ago, to modern law reports and Lexis Nexis, the practice of law has been one requiring the effective and objective acquisition, creation and use of knowledge. In recent years, as law firms have learned that acquiring and leveraging knowledge effectively within the client organisations can propel the firm to become more adaptive and innovative, knowledge management is becoming an imperative as these firms continue to expand and tackle the challenges in the changing legal environment.

Botswana has most of what it needs to be fully integrated in the knowledge economy – the financial means, political stability and a very liberal economic environment. During the 1990s, it had one of the fastest growing economies in the world. With the rise in the knowledge economy in the last decade of the twentieth century and the recognition of the importance of knowledge as a critical resource for sustainable competitive advantage, the Botswana government has continuously tried to mobilise the business sector and organisations in the country into the knowledge economy. In this respect, country's Vision 2016 spells out its desire to be involved in the knowledge economy and to have a globally competitive knowledge-based information society (Presidential Task Group for Long Term Vision for Botswana, 1997). In spite of the moves by the government to promote a knowledge economy, there are indications that law firms in the country are yet to institutionalise knowledge management in their practices. Those indications motivated a doctoral thesis that investigated how knowledge was being managed in law firms in Botswana (Fombad, 2008). The discussions in this paper summarise aspects of the findings of the thesis.

Lawyers, Law Firms and the Knowledge Environment

Lawyers are knowledge workers who have gained knowledge from internalising valuable information gathered during legal studies and research (explicit knowledge) and through expertise and experience from learning on the job (tacit knowledge). Even after qualification from the law school, lawyers continue to develop their intellectual capacity and professional skills by acquiring specialised knowledge in particular areas of law and legal procedure and by solving legal problems. Law firms are learning organisations because lawyers are always in need of accurate up-to-date information and "snapshots" of law at particular points in time. If a lawyer ceases to learn, he/she would not be able to provide precise, unbiased and expert advice to the client or present the client's case convincingly and confidently. This may explain why lawyers tend to address each other as "learned friend", "learned colleague" or "learned lawyer".

Knowledge in the law firm resides in many different places, such as databases, filing cabinets, print material and the intrinsic skills and experiences of the lawyers and their staff. Legal researchers have classified the knowledge in the law firms into different categories. For example, Rusanow (2003) defines the broad category of knowledge used in the law firm as knowledge of the law, knowledge of the firm, client information, commercial markets and specific industries, staff skills and expertise, past projects, and knowledge about third parties (judges, opposing counsel, or external consultant). According to Kay (2002), knowledge in a law firm includes knowledge of the law, knowledge about clients and their industries, marketing information and financial information. Edwards & Mahling (1997) used a slightly different subdivision by categorising the different types of knowledge involved in the practice of law as administrative data, declarative knowledge, procedural knowledge and analytical knowledge, a classification that was adopted by Gottschalk (1999, 2002). For our purposes in this article, knowledge in the law firm can be put into three broad categories as tacit knowledge, explicit knowledge and knowledge of the business of law. This is because elements of tacit and explicit knowledge run through the different categorisations of knowledge suggested by the various legal researchers while the other knowledge crucial for the practice of law may be conveniently referred to as knowledge of the business of law.

Explicit knowledge is expressed in words found in documents and embedded in the firms' routines, processes, practice and norms and can be easily codified. This includes knowledge acquired through formal education in the law school and can be easily communicated and shared. Explicit knowledge may be created either externally or internally. Legal knowledge and declarative knowledge (substantive principles of law) are examples of externally created explicit knowledge. Legal knowledge exists in the form of legal texts, legislation, case law, legal principles contained in statutes, printed resources, databases, commentary and interpretation, the firms' repository of template documents, court opinions, research sources, CD ROM sources and other sources of primary legal authority (Kofoed, 2002; Rusanow, 2004). Examples of internally created explicit knowledge (also referred to as explicit procedural knowledge) are standard forms and best practice (model documents). Standard forms, also referred to as precedents, are generic documents that the firm has typically invested in producing for use in many matters. When dealing with conveyancing for example, a lawyer does not necessarily have to draft a new agreement but may use one of the existing precedents and apply limited amendments to the new circumstances.

Tacit knowledge is dynamic knowledge that is not easily expressed, not easily codified or shared in the law firm. It is expertise and experience developed from learning on the job and from training and interaction with the environment. It enables one to do things unconsciously without being able to articulate it. It is highly personal, hard to formalise and difficult to communicate to others. Tacit knowledge in the firm can be exchanged during transient events, by e-mails or discussions, at meetings that may not be formally documented, or may just pass between people in question and answer dialogue at in-house seminars or training sessions. Although amorphous, this kind of knowledge is generally higher in value and differentiates the firm in a competitive legal market. Analytical knowledge and implicit procedural knowledge form part of the tacit knowledge base of the firm. Implicit procedural knowledge is knowledge required in enforcing the substantive principles of law. It is practical and concerned with skills and expertise described in terms of the results they lead to, but cannot be fully explicit. This is knowledge on the mechanics of complying with a legal requirement in a particular situation, or ethical obligations to maintain the confidentiality of information furnished by the clients (Edwards & Mahling, 1997).

Knowledge of the business of the law firm is non-legal knowledge, administrative data (administrative data includes all the information about the firm's operations such as hourly billing rates for lawyers, clients' names and matters, staff payroll data and client invoice data) and knowledge of the firm's market position and business strategy that makes it possible for any one to find and access the firm's procedures and policies (Kay, 2002; Rodriguez et al., 2002; Rusanow, 2003). It includes knowledge of clients and their industry, marketing information, knowledge about third parties, knowledge about the firms' relative market strengths and weakness, its competitors, industry trend, market opportunities, financial position, financial news, expert information, knowledge about judges, opposing counsel, consultant business, scientific and scholarly information on subjects such as medicine, science, statistics, and demographic information. A major challenge for law firms is not only to capture and leverage the explicit knowledge but also to make the knowledge that rests with the individual members of the firm available to the entire firm.

Knowledge management can be described as systematic and disciplined actions that a law firm takes to identify, capture, create, share and leverage the knowledge of the individual lawyers and other members of the firm so that the knowledge becomes an organisational resource, benefiting clients, other lawyers and the law firm. Knowledge management systems in the law firm may enable the lawyer to benefit from the explicit and tacit knowledge that is accumulated in the firm and its members. The following have been identified as some of the benefits that may accrue from successful implementation of knowledge management strategy in the law firms (Chester, 2002; Kay, 2002; Kofoed, 2002; Maister, 1993; Staudt, 2003; Terret, 1998; Wesemann, 2006):

- Saves firms time and saves clients money;
- Provides better quality product to the clients;
- Provides professional satisfaction to the lawyer;
- Increases profitability in the law firm and an enhancement of teamwork;
- Supports team effort and the culture of knowledge sharing;
- Assists young lawyers to become self-sufficient;
- Ensures that lawyers do not repeat the firm's past errors but rather learn from the firm's past;
- Assists with the integration of new lawyers into the firm while focusing on improving the skills of junior and senior lawyers;
- Enhances economic profitability;
- Improves retention rate;
- Supports and encourages a learning culture; and
- Meets the information and knowledge needs of the lawyer.

Literature Review

Research studies abound that highlight the enormous potential for knowledge management in law firms and the importance of knowledge tools and techniques for knowledge representation and knowledge transfer (Rusanow, 2003, 2004; Terret, 1998; Staudt, 2003; Platt, 2003; Nathason and Levison, 2002; Leibowitz, 2002; Campbell, 2002). Most studies on knowledge management in law firms (Campbell, 2002; Gottschalk, 1999, 2000, 2002; Hunter et al., 2002; Khandelwal and Gottschalk, 2003; Rusanow 2007; Staudt, 2003) tend to adopt a technological approach overlooking other perspectives. The adoption of a one-dimensional technological approach to knowledge management confirms the view that most lawyers still consider knowledge management as a concept that begins and ends with building of information systems, whereas the mere existence of technology or the use of technology will not turn a knowledge hoarding organisation to a knowledge sharing one. Hence, considerable emphasis has been placed on the use of knowledge-based systems in creating, sharing and utilising collective knowledge, tools and techniques for knowledge representation, the capturing and storing of explicit knowledge in the work product repository, knowledge repository, and on intranet and extranet projects. In a study of knowledge management in Scottish law firms, it was concluded that all the five firms sampled limited their knowledge management initiatives to technology (Hunter et al., 2002). One of Australia's largest and leading international firms, Blake Dawson Waldron, has invested significantly in knowledge management technologies and developed software products that facilitate knowledge management such as virtual deal room, electronic discovery of files and emails (Rusanow, 2007). Most of Gottschalk's empirical studies on knowledge management in the law firm adopt the technological dimension (Gottschalk, 1999; Gottschalk, 2000; Gottschalk, 2002). For example, the 1999 study on the use of knowledge management in Norwegian law firms revealed that the extent to which law firms in Norway use information technology to support knowledge management is significantly influenced by the extent to which firms generally use information technology. The 2000 study on the use of information technology to support inter-organisational knowledge management on Norwegian law firms indicates a significant positive relationship between the extent of information communication technology use and the extent of co-operation and knowledge co-operation among law firms.

There are however few studies where knowledge management in law firms has not focused only on the technological approach. For example, a leading Australian firm has, unlike most of its rivals, focused its management initiatives on managing knowledge relating to the business of law and the existing and prospective client information and business position (Rusanow, 2007). Also, in a survey of knowledge management in Australian law firms, Khandelwal & Gottschalk (2003) adopted the information technology stage model to identify the different stages in which information communication technology may support knowledge management activities in the law firm, as well as the knowledge-based view of the firm to develop a framework for comparing the knowledge management approach in individual law firms. Similarly, Carine (2003) developed a framework for comparing the knowledge management approach in individual law firms and law firm alliances, while Kofoed (2002) carried out a case study of two law firms in the UK to identify the factors critical to the success of knowledge management.

Most knowledge management initiatives in law firms have been undertaken by large firms. A study of knowledge management in Virginia law firms found that most of the firms were waiting to see how the large firms fared before adopting knowledge management (Gonzalez, 2002). A 2003 global law firm knowledge management survey report revealed that leading law firms in the United States, United Kingdom and Australia recognised knowledge management as a key business driver, even though many of the firms had embryonic knowledge management organisations (Curve Consultant Survey Report, 2003). Rusanow (2007) observed that one of the current leading law firms in knowledge management is one of Australia's largest firms known as Allens Arthur Robinson (www.aar.com.au), with 800 lawyers (including 190 partners) and approximately 700 non-legal staff. Though large firms may be logical users of sophisticated knowledge management systems, small firms like law firms in

Botswana possess the flexibility to take advantage of many of the technologies that exist today.

Methodology

Law firms typically consist of one to several hundred lawyers who practise together as a formal entity. However, law firms in Botswana are mostly solo firms, which traditionally have individual clients and provide personal legal services. The Botswana Law Society, created in 1996 under the Legal Practitioners Act, regulates the activities of law firms in the country. Generally, in order to practise law, one must have at least a first degree in law after which he/she would be initially admitted to the profession as a student-lawyer (pupil) depending on the regulations governing the lawyers' jurisdiction of practice. In Botswana, the training of lawyers is a joint responsibility of the Law Society and the Department of Law at the University of Botswana. Competition for admission to study law is more intense than other areas of study in the social sciences at the university. To practise law in the courts of Botswana, a person must have completed a five-year law degree programme, be admitted to the roll of practitioners and must have obtained a practising certificate unless he/she is exempted from obtaining the same. Sections 18-28 of the *Legal Practitioners Act* envisage a twelve months professional training period after the law degree. Commonwealth citizens are also allowed to practise law in Botswana provided they fulfil the requirements stipulated in Section 5 of the Legal Practitioners Act.

This study employed the survey research methodology and a triangulation of qualitative and quantitative methods of data collection (descriptive and exploratory surveys, and qualitative interviews) and data analysis (descriptive statistics and content analysis). The sampling frame for the study was constructed from the lists of law firms and lawyers as at 15 October 2007 obtained from the Botswana Law Society. There were 115 registered law firms and 217 lawyers. A questionnaire was designed and administered on all the 217 lawyers, out of which 140 completed copies were returned, giving a return rate of 64.5% (Fombad, 2008). The purpose of the questionnaire was to seek valuable insights into the knowledge management patterns in law firms in Botswana.

In order to obtain in-depth information about the experiences of lawyers in knowledge management activities, semi-structured interviews were conducted with 15 lawyers from different firms in Gaborone. Gaborone was chosen because most of the law firms in Botswana (84 firms out of 115) are located in Gaborone. The data from the interviews and open-ended questions in the questionnaire were analysed qualitatively.

Results and Discussion

Characteristics of the Lawyers

The majority (83%) of the participants had only a bachelor's degree, and the remainder had master's degrees. The preponderance of bachelor's degree holders may be because lawyers in Botswana are too busy and have no time to pursue further studies, or they do not see any need for an additional degree because a bachelor's degree in law is the basic qualification required to practise. From the knowledge management perspective, although the bachelor of law degree is the basic requirement for legal practice, an additional qualification particularly in the lawyer's area of practice or specialisation will surely provide an added advantage to the lawyer. This is because law is a learned profession where lawyers are obliged to develop their intellectual capabilities, reasoning and textual analysis in order to be able to analyse and solve legal problems, as well as apply specialised knowledge to clients' unique problems (Best, 2003; Leckie, et al., 1996). Besides, law is not static; the continuous development and changes in the law should be a very good reason for lawyers to continue to crave for and acquire new knowledge.

Characteristics of the Law Firms

Data on the organisational characteristics of the law firms was collected to determine the total number of lawyers in each law firm, establish the most strategic resource in the firm, assess whether participants have knowledge management systems in place, identify the persons responsible for knowledge management functions, and establish whether the firms have policies and budgets for knowledge management. The lawyers mostly agreed that knowledge was the most strategic resource of the firm. This was not surprising because law is a knowledge intensive profession where the lawyers spend a lot of time in deploying knowledge at the service of clients. But some lawyers considered the quality of clients and time as the most strategic resource. Nevertheless, if a lawyer has all the time without knowledge, he/she would not be able to provide precise, unbiased and expert advice to the client or present the client's case convincingly and confidently. Consequently, the lawyer would lose clients or be unable to attract new ones.

The survey found that law firms in Botswana are mainly small firms with more than two-thirds of them having either only one or two lawyers. This is an important finding because knowledge management may likely not be a priority in small firms. Information from the interviews suggests that law firms in Botswana will likely continue to remain small because, as noted by one interviewee, "there is constant splitting up of firms by lawyers to start off as sole proprietors or to form partnerships because lawyers want to get a share of the profit rather than just a salary." The study also found that most of the firms (72.9%) did not have a formal knowledge management programme and very few (27.1%) were planning to introduce one; most (76.4%) did not have a knowledge management officer; a majority (78.6%) did not have a knowledge management policy, and very few firms (17.9%) had a knowledge management budget.

The implications of these findings are that although law firms in Botswana were unconsciously practising some form of knowledge management, they have not yet adopted formal knowledge management programmes. One of the reasons may be that a majority of the firms are sole proprietors (39.3%) and two-lawyer firms (35.0%) who lack the personnel to man formal knowledge management programmes and therefore consider knowledge management as a concept for large firms only. Another reason may be that law firms are not aware of the concept of knowledge management and therefore do not consider it as one of their strategic objectives that may necessitate a policy. This view was confirmed by the findings from the interviews which indicated that most of the lawyers in Botswana are still grappling with the whole concept of knowledge management. In fact, most do not even seem to know what knowledge management is all about. Most defined knowledge management as information management, while some lawyers even thought that knowledge management is a client's affair. An interviewee opined that knowledge management is difficult because clients are not sufficiently rich to pay for same.

Categories of Knowledge in the Law Firms

In order to appreciate how knowledge is managed in law firms in Botswana, it was crucial to identify the different types of knowledge that are used in the law firms. Participants were asked to indicate how frequently the different types of knowledge are used in their firms.

Tacit knowledge used frequently or very frequently in the law firms are as follows (Table 1): skill and expertise of lawyers and staff (98.6%), procedural knowledge (95.0%), lessons learned from past projects (82.6%), analytical knowledge (78.9%), tips on drafting (hints on creating legal documents, 77.2%) and conversation in the hall ways (60.7%). The top ranking of skills and expertise of lawyers and staff (98.6%) confirms that most of the knowledge in the law firm is from the skills and experiences of the lawyers and staff in the firm.

Examples of explicit knowledge identified in the law firms in order of significance are: standard documents (95.0%), legislation and case law (90.0%), knowledge of the law (90%), court decisions (87.9%), legal texts (80.0%), knowledge from judges (58.6%), and expert opinion (43.5%). It is clear from this that standard documents, legislation and case law, and knowledge of the law constitute the most important types of explicit knowledge in the production and management of legal work. Standard documents are required in the day to day legal operations to ensure consistency and enhance productivity. On the other hand, every legal issue in the law firm requires the knowledge of the law and the application of case law and legislation. The least important form of explicit knowledge is expert opinion. It may be that law firms do not resort to expert knowledge unless it is unavoidable because engaging the services of an expert is usually expensive.

Knowledge pertaining to the business of law identified in table 1 above are: client information (66.4%), financial information (38.8%), and marketing information (22.9%). It is interesting to note that knowledge of the business of law was the least used type of knowledge in the law firms even though the practice of law is a business where lawyers seek to maximise profits. This may be because a law firm depends almost entirely on the legal knowledge, the skills and experience of the lawyer and staff in providing services to the clients rather than knowledge of the business of law. Ethical concerns may explain the low rating of marketing information (22.9%). Legal ethics requires lawyers to serve clients rather than seek a morbid quest for pecuniary gain by solicitation of prospective clients. Marketing the firm's information may be seen as advertising the firm for active search of clients, whereas lawyers in Botswana as in most countries of the world are prohibited from advertising by Section 53(2) of the *Legal Practitioners Act*. Clients' details and financial information such as financial news, data, clients' names and matters, staff payroll data, and client invoice data are administrative information generated in the firm's day-to-day business and are often handled by support staff in the firm. Nevertheless, the relatively high rating of the use of client information (66.4%) may imply that some lawyers do monitor client information in order to make informed decisions about necessary action that would lead to client satisfaction.

Table 1: Categories of knowledge in the law firms (N=140)

	Very Frequently	Frequently	Not at all	Not Frequently	Non-Response
Skill and expertise of lawyers and staff	80.7	17.9	0.0	1.4	0.0
Lessons learned from past projects	69.3	17.9	0.0	11.4	1.4
Analytical knowledge	51.4	23.6	2.9	17.1	5.0
Tips on drafting	38.6	38.6	3.6	14.2	5.0
Procedural knowledge	47.9	47.1	0.7	4..3	0.0
Conversation by the hallways	31.4	29.3	7.9	26.4	5.0
Knowledge of the law	59.3	30.7	5.0	5.0	0.0
Expert opinion	16.4	27.1	7.9	46.3	4.3
Legal text	40.7	39.3	5.0	10.0	5.0
Legislation and case law	57.1	32.9	5.0	5.0	0.0
Standard documents	50.7	44.3	0.0	5.0	0.0
Knowledge from judges	13.6	45.0	15.7	25.7	0.0
Court decisions	68.6	19.3	0.0	12.1	0.0
Financial information	7.9	30.7	17.1	44.3	0.0
Marketing information	9.3	13.6	33.6	38.6	5.0
Client information	27.1	39.3	12.1	21.4	0.0

*Table values are percentages, which may not add up to 100% due to non-responses.

Tools and Technologies for Knowledge Management in the Law Firms

Different tools and technologies often used for knowledge management were listed and participants were asked to indicate whether they "strongly agree," "agree," "disagree," "strongly disagree" or were "neutral" that they were being used for knowledge management in their firms. The responses for "strongly agree" and "agree" are considered as "agree" while the results of "strongly disagree" and "disagree" are considered as "disagree".

Most responses on the ways information communication technologies are used for knowledge management in law firms from the above questions either fell below a 30% range or were neutral. This may be because most of the information communication technologies for knowledge management identified have not been adopted in the law firms or because law firms are not aware of these technologies. It was evident from the findings of the interviews that participants were excited about

Table 2: Tools and technologies for knowledge management in the law firms

	Strongly agree	*Agree*	*Neutral*	*Disagree*	*Strongly disagree*	*Non-response*
Lawyers subscribe to online forums, Intranet news groups or email distribution lists	10.0	15.7	18.6	33.6	12.9	9.3
My firm uses communicative tools and technologies such as Lotus Notes to support the knowledge transfer process and to encourage the sharing of ideas and projects	0.0	0.0	34.3	33.6	20.7	11.4
My firm uses the Internet/Intranet, Extranet and World Wide Web, for gathering knowledge so that it can be used through out the firm	32.9	22.1	11.4	5.0	28.6	0.0
My firm uses legal information systems such as Lexis-Nexis, Justastat, Westlaw, and Thomas and Dialog to facilitate legal research	35.7	21.4	12.9	16.4	13.6	0.0
My firm uses “Yellow Pages” containing CVs, competency profiles, and research interest of experts	12.9	13.6	40.7	26.4	2.1	4.3
My firm has knowledge maps that act as electronic intermediaries connecting knowledge seekers to knowledgeable people.	1.4	0.0	31.4	40.0	17.9	9.3
My firm uses document and content management systems in managing the content of knowledge	4.3	24.3	33.6	17.9	15.7	4.3
My firm uses indexing tools to organise and cross-reference material by subject and practice area	13.6	7.1	37.9	20.7	14.3	6.4
My firm has an expert system that captures the knowledge of experts	0.0	5.0	38.6	28.6	22.1	5.7
My firm uses artificial intelligence to support advanced information searching and retrieval	0.0	0.0	27.1	38.6	30.0	4.3

*Table values are percentages, which may not add up to 100% due to non-responses.

the potentials of the technologies for knowledge management in law firms, although they were not quite sure as to how information technologies would be used for knowledge management. There were only two main ways in which information technologies are used for knowledge management. The first is the use of legal information systems for legal research and the second is the use of intranets, internet, extranet, and World Wide Web by the firm to gather knowledge so that it can be used in the firm. Whilst 26.5% agreed that they use Yellow Pages containing curricula vitae, competency profiles, and research interest of experts, only two (1.4%) acknowledged that their firms use knowledge maps that act as electronic intermediaries connecting knowledge seekers to knowledgeable people. Yet, Yellow Pages are examples of knowledge maps. This is some indication that the lawyers are inadequately familiar with knowledge management technologies and concepts.

Techniques for Knowledge Management in Law Firms in Botswana

Like the tools for knowledge management, participants were requested to indicate by ticking a "Yes" or "No" as to the different techniques of knowledge management applicable in their firms.

Table 3 shows that several techniques of knowledge management were used in the firms, although there were no formal structures for knowledge management in the law firms and lawyers might not have been aware that they are performing knowledge management tasks. There is no doubt that precedents (100%), legal research (80.0%) and hiring and training of young lawyers (61.4%) were the most frequently used techniques in law firms. Like in any legal practice, precedents in the form of reasoned judgments or standard forms are indispensable for any legal practice and in the day to day operations of any law firm. The interviews confirmed the importance of precedents and legal research as the major techniques for knowledge management in the law firms. Interviewees indicated that they carry out research at the University of Botswana Law Library where registered users have access to electronic resources, Law reports and judgements on CD-ROM, such as South African law reports, Canadian Supreme Court judgements and the Australian Court judgements.

Table 3: Techniques for knowledge management

Technique	Yes
1. Precedents	100
2. Legal research	80.0
3. Weekly learning report	70.1
4. Record management	69.3
5 Hiring and training young lawyers	61. 4
6. Office directory and office newsletters	47.1
7. Yellow pages	46.4
8. Meeting of lawyers with a common interest	46.4
9. Regular in-house seminars	41.4
10. Best practices	39.3
11. Litigation strategy	35.0
12. Client relation management	28.6
13. An excellent staffed knowledge centre	27.9
14. Professional development programmes	26.4
15. Know-how systems and info-banks	22.1
16. Discussion of major projects with other lawyers after conclusion	21. 4
17. Work product repositories	19.3
18. Presentations	15.7
19. Conflict checking	12.9
20 Brief banks	12.1
21. Know-how index	11.4
22. Client information and matter	11.4
23. Skills and expertise locator	7.1
24 Internal publications	5.0
25. Knowledge concierge.	1.4

* Table values are percentages, which may not add up to 100% due to non-responses.

Factors Critical to the Success of Knowledge Management in the Law Firms

In order to further understand the state of the art of knowledge management, it was necessary to also establish whether the conditions in law firms in Botswana were favourable for knowledge management. Table 4 presents information on the extent of agreement by the lawyers on some critical factors for successful knowledge management in their firms.

Most participants did not agree that promotion in their law firm was based on the ability to share knowledge (only 5.7% agreed, 52.9% were neutral, and 41.4% disagreed). A good reason may be that lawyers are used to the traditional methods in the law firm wherein a lawyer is recognised for his/her effective delivery of legal services rather than in sharing knowledge. It could also be that most law firms are one lawyer firms that did not need to share knowledge in the first place. Also, very few lawyers acknowledged that there is special recognition of staff for the time spent in knowledge creation, sharing and distribution (30.7% agreed, 40.0% are neutral and 29.3% disagreed). This means that, contrary to the recommendations of such studies as Kofoed (2002), Leibowitz (2002) and Platt (1998), most of the law firms have not been using rewards such as promotions, incentives, and special recognition as extrinsic motivation for encouraging the knowledge creation and sharing among lawyers. Nevertheless, 78.5% of the lawyers agreed that there was mutual respect, trust, care and concern amongst individuals. This is an encouraging finding because several researchers have noted that an organisational culture where ideas are sharply criticised, individuals are respected, and staff are encouraged to discuss their mistakes is crucial for knowledge management to flourish (Maiden, 2000; Nonaka & Takeuchi, 1995; Nonaka et al., 2002; Smith, 2001; Soliman & Spooner, 2000; and Stover, 2004).

Table 4: Factors critical to the success of knowledge management in the law firms

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
There is monetary and non-monetary rewards for sharing knowledge	11.4	41.4	30.7	7.9	8.6
Promotions are based on the ability to share knowledge	5.7	-0.0	52.9	35.7	5.7
There is special recognition of staff for the time spent in knowledge creation sharing and distribution	6.4	24.3	40.0	18.6	10.7
Mutual respect, trust, care and concern exist among lawyers	22.1	56.4	21.4	0.0	0.0

* Table values are percentages, which may not add up to 100% due to non-responses.

Factors that Inhibit Knowledge Management in the Law Firms

Table 5 summarises the data on the extent to which the lawyers agreed that certain factors could inhibit knowledge management in law firms.

The lawyers agreed that inadequate technological infrastructure and limited financial resources and the size of the firm were the major obstacles to knowledge management. Law firms in Botswana are small, and may therefore lack the necessary financial resources required to invest in knowledge management. In general terms, it can be very expensive to purchase and implement some of the typical law firm technologies for knowledge management such as automated document, content and practice management systems, intranets and portals. Studies have also shown that small firms do not usually consider knowledge management as a priority and that the size of a firm has something to do with the willingness of the firm to devote personnel and money to new technologies (Campbell, 2002; Curve Consultant Survey Report, 2001; Nathanson & Levison, 2002).

Most participants did not view knowledge as a source of power (53.5% disagreed, and 23.6% were neutral), whereas it was revealed in the interviews that lawyers in Botswana are often not willing to share their expertise, because knowledge is regarded as power and lawyers believe that monopoly of particular information will lead to personal indispensability, job security, influence, and professional respect within the firm. It could therefore be that lawyers did not quite understand the implications of knowledge as a source of power. The knowledge is power culture is typical of law firms (Carine, 2003:3; Handy, 1985; Hunter et al., 2002; Maiden, 2002; Rusanow, 2003; Rusanow 2007; Terrett, 1998). A major cultural shift is needed for law firms in Botswana to move from the concept of “individual knowledge is power” to “collective knowledge is competitive advantage" where the benefit of sharing information and knowledge is seen as real.

Most of participants did not consider the inability of the firm's leadership to implement knowledge management as a barrier to knowledge management initiatives in the firms whereas, generally, lack of leadership commitment has been observed as a major obstacle to knowledge management (Mason & Pauleen, 2003; McDermott & O'Dell, 2001:78 2003; Ndlela & du Toit, 2001). The fact that 53.6% participants were neutral could be that most of the firms are small, and one may therefore not be talking of leadership because a single lawyer mans the firm. It may also be that lawyers in firms with more than one lawyer were being cautious to say anything about management or did not understand the implication of the role of leadership in knowledge management because they are still grappling with the concept.

Table 5: Factors that inhibit knowledge management in the law firms

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Non-response
Lawyers' view of knowledge as a source of power	5.7	15.0	23.6	31.4	22.1	2.1
The perception that knowledge management is an additional workload	12.9	23.6	42.9	17.1	1.4	2.1
The feeling that it puts pressure on billable hours	14.3	20.7	40.0	20.7	0.0	4.3
The feeling that the firm size is too small	23.6	22.9	26.4	22.9	-0.0	4.3
Limited financial resources	21.4	33.6	40.0	5.0	-0.0	-0.0
Inadequate technological infrastructure	24.3	42.9	27.8	5.0	-0.0	-0.0
The inability of the firm's leadership to enforce knowledge management	11.4	23.6	53.6	7.1	-0.0	4.3

Recommendations

The need for lawyers to have access to current and accurate knowledge in a profession where there are constant changes in legislation, legal precedents and opinion cannot be gainsaid. Sole proprietors and partnership should also consider investing at least 1/10 of their time each week on knowledge management (Fombad et al., 2008). Lawyers should be proactive and consider talking to others in the legal fraternity about knowledge management, attend meetings and workshops on knowledge management, invest time and money in creating bulletins boards, sample skill directories, form alliances with international professional associations and get connected to physical or electronic forum that engages in collaborative thinking. Law firms in Botswana should also consider working with stakeholders across multiple streams and institutions with different expertise such the Law Society, the University of Botswana legal academics, the courts, the legal secretaries, the law librarians and professional associations for effective implementation of knowledge management in law firms.

This study addresses only a few of the numerous aspects of the concept in the context of law firms thus leaving gaps for many other issues to be explored in the future. Future studies may concentrate on the knowledge processes in the law firms. There has also been little acknowledgement from lawyers of the importance of managing the knowledge about clients, the skill and expertise of staff, or knowledge about the third party. Attention should also be paid to the identification and sharing of tacit knowledge and on the knowledge management process. Although the research approach, the instruments for data collection and methods of data analysis were found very suitable for the purposes of this study, it is likely that other insights could still be gained if other research approaches and methods of data collection were adopted.

Conclusion

The findings show that lawyers in Botswana are still grappling with the concept, requirements and consequences of knowledge management. However, with the rise of the knowledge economies worldwide, law firms in developing countries like Botswana have to get out of the box, and consciously and systematically acquire and leverage knowledge effectively to gain competitive edge in the fiercely competitive markets of today. Knowledge management may not be a quick fix or ready-made panacea to all the challenges posed by the rapidly emerging knowledge society. Nevertheless, it will certainly help to prepare law firms to face the challenges of an increasingly competitive legal environment in rapidly globalising world.

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Access to and Use of Export Market Information by Non- Traditional Commodity Exporters in Ghana

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Abstract

Ghana has traditionally depended on a number of export commodities such as cocoa, timber, gold and diamonds for its economic and social development. Recent economic policies of government have aimed to expand the country's exports to include non-traditional exports such as horticultural products, textiles, fishery products, wood products and handicrafts. Growth in exports depends on both domestic factors, such as the quality, quantity and cost of production of the commodities, as well as conditions in the export markets. It was in that context that this paper analysed the nature of access to and use of export market information by non-traditional commodity exporters in Ghana. A mail questionnaire was used to collect organisational-level perception and activity information concerning export market information from forty non-traditional commodity exporting firms in Ghana. The study found that 32 (87%) of the firms sought information from diverse sources concerning foreign markets, although the information was mostly obtained from institutions and organisations. The types of market information sought included prices of product; consumer tastes and preferences; export logistics and facilities; political issues; and customs procedures. The study recommended specific roles in the dissemination and provision of access to export information for the Ghana Export Promotion Council, and for public, community and academic libraries and trade associations in Ghana.

Keywords

Information access, export market information, commodity exporters, Ghana

Introduction

Exports can be divided into two main groups, namely: traditional and non-traditional exports. Ghana's traditional exports are predominately raw materials or primary commodities and comprise commodities – cocoa, timber, gold and electricity. Non-traditional products are all other export products such as horticultural products, textiles, fishery products, wood products and handicrafts. This sector is considered a major means for poverty alleviation as it has great potential for job creation and income generation, especially in the rural communities in Ghana. In regard to income generation, the non-traditional export sector, for instance, earned a total of US $671.11 million, representing 57.6 % of the total export revenue for Ghana in 2007 (*Spectator*, April 19, 2008, p.22).

Exports increase foreign exchange for the country. Exports also increase labour employment which, through income and multiplier effects, leads to higher standards of living for the people. Exports have featured prominently in the Ghanaian economic development since independence in 1957. This made Ghana the richest country in West Africa (Sorensen et al, 2000). However, for about two decades now, the country has experienced a continuous deterioration of her traditional exports (Buame, 2000). The Economic Recovery and Structural Adjustment Programme (ERP and SAP), implemented in April 1983 and August 1986 respectively, emphasised production for export in order to increase the country's foreign exchange earnings.

Alemna (1998) defines information as knowledge given or received of some fact or circumstance. Certo (1993) defines information from the management perspective as conclusions derived from the analysis of data that relate to the operation of an organisation. Mintzer (1972) explains that the information received heavily influences managerial decision-making which eventually leads to the success or failure of the organisation. Toften et al (2003) view export market information as filtered, transformed and organised data on current and potential international customers. All these definitions sum up to one thing: that information aids decision-making by reducing uncertainty. Market information is critical in formulating an effective marketing programme for entering a foreign market and for identifying good trading partners. Information that is crucial to the non-traditional export business includes: customs procedures, standards of commodities, partnering, pricing, packaging, market identification, distribution networks and cultural issues. Studies conducted on exports have identified the major role of information in export business (Doole et al. 2006; Wang and Olsen, 2002}. Therefore, lack of effective market information or inappropriate application of such information would be detrimental to the survival and growth of the non-traditional export sector in Ghana.

The body responsible for providing export market information to the export sector in Ghana is the Ghana Export Promotion Council (GEPC). However, other sources where export market information can be obtained include the Ghana Chamber of Commerce, the embassies, and the Federation of Associations of Ghanaian Exporters. However, no studies have been conducted in Ghana on the challenges faced by Ghanaian firms in accessing and using export market information from these and other sources to drive their export intentions and plans. But such studies are required because of the importance of non-traditional exports to Ghana's economic growth and the critical importance of export market information in organisational decisions to produce for such markets.

Objectives of the Study

The objective of the study was to investigate the availability, accessibility, affordability and use of export market information among non-traditional export firms in Ghana. The study also aimed to identify the challenges that such firms face in respect of export information, as well as recommend solutions to them.

Literature Review

Sources, Nature and Uses of Export Market Information

A fundamental ingredient of any market selection process is the availability of adequate market information (Wood et al, 2000). However, the main logistical issue is the actual accessing and collection of the requisite market information. The collection of information involves seeking sources of existing information and selecting and using research methods to obtain the required information.

Albaum et al. (1989) categorise the sources of market information into internal and external types. Internal market information originates from sales and cost records and the acquired knowledge of company personnel. The sources include salespersons, company officers and technical personnel who obtain information in the course of their contacts with customers, competitors, personnel, or government officials. The external sources of market information comprise both primary and secondary sources. Primary sources include information obtained by observation, controlled experiments, surveys and other techniques. The use of primary sources becomes necessary when the information needed has not already been collected and published elsewhere.

The secondary sources are published information, including government pamphlets or books, news and trade papers and magazines, competitors' house organs, trade association publications and published research studies. An exporter can gain much from secondary data in the early stages of the market screening process. This includes information on general market indicators that can be obtained through regular reporting and special reports from national government agencies and international bodies. Such international bodies include the United Nations, Organisation for Economic Cooperation and Development (OECD), the European Community (EC), European Free Trade Association (EFTA), General Agreement on Trade and Tariffs (GATT), World Bank and International Monetary Fund (IMF). Others include the World Health Organisation (WHO), the Inter-American Development Bank (IADB), and the International Finance Corporation (IFC). Albaum et al (1989) note that besides reporting historical and current data, some of these supranational organisations publish reports on forecasts, outlooks and trends. These assist the exporter to improve the decision making process.

Albaum et al (1989) also see non-governmental agencies as useful sources of information for the exporter. Large commercial banks and investment houses often have an international department that collects and disseminates useful statistics. The experienced personnel of these institutions are quite capable of providing assistance and guidance. Other service businesses such as insurance and freight-forwarding firms are also useful, especially, to the new exporter. The service industries, such as transportation, are also helpful in providing information on foreign markets and conditions, techniques of exporting, financing, insuring and shipping products to foreign countries. Business, trade and professional associations are also sources of relevant information. Commercial marketing research agencies also conduct research for clients.

Albaum et al (1989) state that secondary sources of information are not sufficient for making export market decisions. However, available data from secondary sources should be collected, processed, analysed and interpreted so that it can serve as a background for primary research. They contend that the main challenge of the export marketer will not be finding data, but selecting, evaluating, interpreting and using the data already available. In their view, the appropriateness of various sources of information depends on the type of information needed and how it is analysed, interpreted and applied. For instance, in order to enter international markets, a firm needs an estimate of the political and legal situation and knowledge of the financial institutions which are vital to the planned venture. Also, in order to make product, channel, promotional and pricing decisions, data would be available on consumer needs, attitudes and other behaviours. Finally, they point out that information on such issues can be obtained in part from the literature of a nation's publication of sociologists, social psychologists, and cultural anthropologists who report the result of their research in scholarly journals and books. In their view, it becomes necessary to have a great deal of detailed information obtained mainly to solve the firm's individual marketing problems. Such information, according to Albaum et al (1989), might be obtained from specialists in the market; but often some kind of direct observation, experiment or survey is required. The information is then processed for effective application.

Access to and Use of Export Market Information in Ghana

Godwin (1993), in discussing the wide gap between Ghana's export earnings and import bill, saw increased export activity as very crucial for the country's survival. However, Levy (1994) points out that when market penetration begins, transaction costs are high and market support can be important. Hence, institutional support provided by public, private or cooperative organisations have been recognised as essential for export growth, especially the non-traditional exports.

In this regard, Solormey (1998) identifies information generation and dissemination as one of the fifteen required components of the export promotion package in Ghana. The others are : liberalisation of exchange rate; intensification of export and investment drive; removal of administration and procedural bottlenecks; strengthening of supply base via export free zones; export development and investment fund; capital market; stable macro-economic environment; government reduction of its deficit to give private sector access to funds; creation of favourable legal environment; and pluralistic political democracy. Others include mobilisation of domestic savings; facilitation of flows of international capital to Ghana; supply of financial services competitively to the economy; and protection of investors through the Securities Regulatory Commission.

Levy (1994) who studied Columbia, Indonesia, Japan and Korea realised that the most effective collective marketing support can be provided more effectively by decentralised organisations such as industry associations, local government and chambers of commerce. Nkrumah (2000) investigated how Ghanaian exporters had negative perception of government promotion support. He discovered that the non-traditional exporters scarcely obtained valuable information from the public administration and considered export support services unsatisfactory.

In another exploratory study of four Ghanaian local governments, Nkrumah (2000) revealed that Ghanaians local authorities were neither aware of their responsibilities for export sector development nor did they have the resources to provide promotional support. By contrast, Sorensen and Nyanteng (2000) however state that the Aalborg Commune (the equivalence of a local government) in Denmark undertakes various export support activities for business, especially the small and medium-sized enterprises. Its support activities, among others, include dissemination of trade information and sales leads and Trade Newsletters and Reports on Aalborg trade issues. This, in their view, appears to minimise the costs of access to export market information and thereby facilitates its use by the small and medium export enterprises.

Sorensen and Nyanteng (2000) found that Ghanaian entrepreneurs responded positively to the government's policies targeted at export development. But the study did not explain the ease with which the entrepreneurs accessed export information about their overseas markets. In Nkrumah's (2000) view, the lack of progress in the export drive generally in Ghana tends to make the position of Ghana's promotional system unimpressive.

In Ghana, it has been observed that parts of the trading system have some monopoly features that hamper the free flow of export market information. Sorensen and Nyanteng (2000) point out that in the case of a non-traditional commodity like salt, for example, although the producers are few and relatively big, they cannot easily export themselves because of a strong network of traders and foreign buyers linked together by ethnicity or language barrier (Hausa) and religion (Muslim). In such markets, the free generation, dissemination and availability of export market information may be curtailed as the information is considered the basis of the monopoly power. Market participants may therefore be unwilling to disseminate important market information among potential and actual exporters outside their ethnic group. Such imperfect markets and inadequate dissemination and availability of market information may be some of the factors responsible for low trade among West African countries.

Wangwe (2000) has observed that trade among African countries is not more than five per cent, including both formal and informal trade. Asenso-Okyere and Asante (1997), quoted in Buame (2000), note that the European Union is the leading destination of most of Ghana's non-traditional exports. According to their study, between 1993 and 1996, the European Union accounted for an average of 58.1% of total exports, whilst the ECOWAS market accounted for only between 14 and 20 per cent of Ghana's total non-traditional exports in the same period. In assessing the Ghanaian producers' knowledge of the ECOWAS regional market, Sorensen and Nyanteng (2000) observe that some domestic producers stated that they were aware of the market, but have not taken any action in terms of investigations, business visits or actual exports. Their finding signpost the possibility that most producers in Ghana lack essential export market information in respect of the West African regional market required to stimulate export.

Characteristics of Non-Traditional Exporters in Ghana

Buatsi (2000) states that Ghanaian exporters are still predominantly micro and medium-sized firms. The volume of commodity exported by firms is small. He states that the fallout or attrition rate of exporters is high and they still experience problems in the areas of production, finance, human resources, and markets. Problems with markets can be attributed to inadequate market information. Baah-Nuako et al (1996) confirm that small firms are at a disadvantage in exporting because of limited resources. Baah-Nuakoh et al (1996) find a positive relationship between firm size and exporting. This is because managers of small firms tend to be less well qualified in terms of formal education, accounting and marketing skills than managers in the larger firms. According to Baah-Nuakoh et al., quoted in Buatsi

(2000), the lack of price and quality competitiveness, the decision to focus on local market, lack of finance and inadequate information about external markets were the main reasons why manufacturers did not export.

Methodology

Primary and secondary data were used to analyse the access to and use of export market information among the non-traditional commodity exporters in Ghana. The main source of primary data was a questionnaire survey of a sample of non-traditional commodity exporters in Ghana. Other sources of primary data were the Ghana Export Promotion Council and the Federation of Associations of Ghana Exporters, in the form of interviews of staff and search and analysis of organisational documents and databases. The secondary sources of data comprise periodical articles and book publications from various sources such as the library and the Internet. Basically, books and directories from GEPC Library.

A self-designed questionnaire was used in the questionnaire survey. Neuman (2007) suggests that local norms should be taken into consideration when framing questions for questionnaire surveys. This is because issues about local norms would have significant influence on the perceptions and responses of potential respondents. Accordingly, the researchers relied heavily, while designing the questionnaire, on the existing literature on export market information access and use, as well as insights gained from interviews with decision makers in the exports sector institutions and firms.

The questionnaire was divided into three sections. The first section sought information about the characteristics of each exporting firm. These include location of firm, products and export destinations. The second section collected information on the firm's access to export market information from export assistance institutions. Variables in this section included: nature and frequency and accuracy of export market information received by the firm from export assistance, and whether the information was received on time, was in the right form, was affordable, etc. The final section collected information on the use of export market information by the firm, either for immediate use in export transactions decisions or for future use. There were a total of 21 closed- and two open-ended questions.

Population of the study consisted of 435 exporting firms in 12 non-traditional export industries in Ghana listed in the Federation of Associations of Ghanaian Exporters, 2007 database. One hundred and eleven copies of the questionnaire were mailed to all the firms located at Accra and Tema, which are the most industrialised locations in Ghana. Multistage cluster sampling and judgemental sampling were adopted in selecting two of the industries (Agriculture and Manufacturing) and the firms. Export managers or their assistants were asked to complete the questionnaire.

Ten copies of the mailed questionnaire were returned by the post office as undeliverable, five were returned uncompleted, and 40 were returned completed (for an overall return rate of 36%). The low return rate may be due to a combination of factors, including: many firms might have closed shop, as noted by Buatsi (2000); wrong addresses provided by some non-traditional commodity exporters during their registration with the Federation of Associations of Ghanaian Exporters. Another possible reason could be irregular updating of the non-traditional exporters' database which still holds some addresses that are no longer in use. This may be inferred from the fact that 10 posted copies of the questionnaire were returned as undeliverable. The above factors, as well as the apparent reluctance on the part of some non-traditional commodity exporters to return their copies of the questionnaires (either completed or uncompleted), seem to account for the low return rate. However, Aina (2004) indicates that the general principle of sample size is that if the population is less than 1000, then a 30% sampling rate would provide an adequate representation. On the basis of this suggestion, the return rate of 36% can be considered an adequate representation of the population of non-export commodity firms in Ghana.

Results and Discussion

Characteristics of Market Information

The results show that 32 (87%) of the firms sought export market information from various sources. Furthermore, 22 (71%) of the firms sought market information from organisations, such as the Ghana

Export Promotion Council, the Ghana Chamber of Commerce and from Ghana's embassies abroad. This finding appears to negate the previous finding by Nkrumah (2000) that non-traditional commodity exporters in Ghana had negative perception of government promotion support and thus scarcely obtained valuable information from the public agencies. This may also indicate improvements in the provision of export market information by the agencies. However, some firms indicated that they still faced many challenges in accessing and using the organisational sources of export market information in Ghana. These challenges might be what made 9 (29%) of the responding firms not to patronise organisational sources of export market information in Ghana. The results also show that only six (16%) of the respondents received market information from libraries. When respondents asked how timely they received market information, the findings indicate that about 23 (77%) of the firms received market information when they wanted it. However, the decomposition of the responses by sector reveals that, although about 12 (92%) of the firms in the agricultural sector indicated that they received market information when needed, many firms in the manufacturing sector that needed to receive and respond frequently and quickly to market information were not comfortable with the timeliness of market information supply from the organizational sources. It might also be true that 10 (25%) of the responding firms who did not answer the question, out of which nine were from the manufacturing sector, were either not sure what to say or wanted to register their dissatisfaction. Some of the firms suggested that the organisational sources of market information should be more proactive in their activities. This also suggests that some firms were missing out on important information because the information was outdated or brought to their attention late.

Twenty-four (80%) of the firms affirmed that they had easy contact with organisational sources of market information. The analysis of responses by sector showed that 12 (92%) of the firms sampled from the agricultural sector find the location of market information right, whilst about 12 (70%) from the manufacturing sector said the same. But there was a suggestion from some firms that more organisations should be involved in the provision of export market information services. This suggests that, at least for some firms, the location of market information services relative to their own locations might be less than optimal.

Most of the respondents (79%) claimed they received the information in the right form, and a further 87% indicated they received accurate market information, implying that market information obtained from various sources are generally correct, relevant and tailored to the decision-making on exports markets. However, two firms suggested that the Ghana Export Promotion Council's Trade Information Centre should be more informed about their needs in order to serve them better.

Eighteen (56%) of the 32 firms that responded to the relevant question claimed they received market information at affordable cost, with the remainder expressing a contrary opinion. Suggestions offered by the firms in this respect include the need for information and education to be made available to every exporter at affordable cost. Eighteen (60%) out of the 30 firms used market information immediately upon receipt to inform immediate export market decisions, whereas the remaining 12 (40%) either processed and stored the information or disseminated it to staff or business partners.

The types of market information sought and used by the firms in the order of importance were (Table 1): prices of products (34.8% of the firms); consumer taste and preference (24.6%); consumer trends (17.4%); customs (7.2%); logistic facilities (7.2%) and political issues (7.2%). The "prices of products", which top the types of market information used, is useful mainly for decisions with short-term consequences. This suggests that the firms might be

Table 1: Type of Market Information Sought

Types of Information	***Frequency***	***%***
Prices of Products	24	34.8
Consumer Taste and Preference	17	24.6
Consumer Trends	12	17.4
Customs	5	7.2
Logistic Facilities	5	7.2
Political Issues	5	7.2
Others	1	1.2

Source: Responses from the field study too focused on short-term market plans and activities.

The study also revealed that the majority of the firms wanted the market information to be provided in both detailed and summarised forms. Summarised and detailed information are connected with the instrumental and conceptual uses of information respectively. Table 2 shows that almost three-quarters of the firms 26 (74.3%) wanted the market information to be provided in both print and electronic formats. Seven (20%) of them preferred only electronic delivery, whilst only two preferred print only delivery. This suggests that most of the firms wanted fast access to market information through electronic media, and also desired print versions due to the generally inadequate infrastructure for accessing electronic information in Ghana.

Table 2: Preferred Form of Market Information

Source: Responses from the field study

Form of Information	***Frequency***	***%***
Print	2	5.7
Electronic	7	20.0
Both Print and Electronic	26	74.3
Total	35	100.0

Access to Market Information Measured by Firms' Moment of Value

The analysis of firms' level of access to market information shows that 24 (81%) of them had adequate access to market information. This was determined by averaging each firm's perception of the timeliness, ease of contact, format and accuracy (i.e. time, location, form and accuracy) dimensions of market information. These four variables constitute the components of a firm's moment of value. However, when each firm's perception of the affordability of market information was included in the computation of the firms' moment of value, the number of firms that had adequate access to market information reduced from 24 (81%) to 22 (76%). This indicates that the affordability of market information is an important factor considered by the firms when relating to export market information services and that the affordability of market information may be a problem for some of them.

Recommendations

The Ghana Export Promotion Council should identify the market information needs of the non-traditional commodity exporters in Ghana by conducting regular information needs assessment of such exporters. The Council should intensify contacts with the appropriate sources of export market information outside the country, including the foreign embassies in Ghana. The Council should also package the market information appropriately to meet the needs of various non-traditional exporters that have been identified in this study. In order to be able to do all these, the Council should be well resourced in terms of infrastructure, as well as human resources adequately trained and experienced in market information search, acquisition, analysis and interpretation.

One of the findings of the study is that only six (16%) of the firms reported receiving market information from libraries, even though libraries in Ghana are in a good position to serve as market information delivery centres in the country. The libraries in the country should be empowered to become dissemination centres for export market information in the country. For market information to benefit both potential and actual users, the dissemination points have to be close to them, and libraries across the country are strategically located to play such a role. The Ghana Public Library Service can deploy its branches along with the community libraries to accomplish the role on dissemination to non-traditional exporters.

The various trade associations, of which non-traditional commodity exporters are expected to be members, should form part of the market information dissemination network. Their major role will be to identify the relevant market information for the members. They can be the main sponsors of periodic surveys to assess the market information requirements of non-traditional commodity exporters.

Conclusion

In order to achieve and maintain effective and efficient market information management for non-traditional commodity exporters in Ghana, the information collation and research function should be separated from the information dissemination function. Accordingly, the Ghana Export Promotion Council, in partnership with the Ghana Chamber of

Commerce, trade associations and the Ghanaian embassies abroad, should have responsibility for the collection of market information, whereas libraries in Ghana should constitute the dissemination channels of market information.

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Information Literacy in Higher Education: Overview of Initiatives at Two Ghanaian Universities

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Abstract

The paper examines information literacy (IL) initiatives in two universities in Ghana, namely: the University of Ghana and the University of Cape Coast. IL initiatives such as library literacy, computer and media literacy and communication skills literacy carried out at the two universities for their students are described. Information on the IL activities was obtained from various interviews held with directors, heads of departments or officers in charge of the different programmes. Some challenges in the programmes include the lack of collaboration between departments running IL programmes, the large number of students undertaking the courses, inadequate staff and the cumbersome mode of access to and delivery of the IL programmes. Among the recommendations for improved information literacy programmes include commitment by the university management, improvements in information technology infrastructure, fostering of effective partnerships between the library and the teaching faculty, as well as a review of the curriculum of the library schools to include a new core course in information literacy.

Keywords

Information literacy, life-long learning, higher education, University of Ghana, University of Cape Coast

Introduction

The explosion of information and information sources has informed modern societies of the growing importance of special skills in accessing and using information from different sources and media efficiently and effectively. Such skills are known as information literacy (IL) skills. End-users of information are increasingly becoming overwhelmed by and frustrated with the sheer quantities of information available, especially with the advances in information technology (IT). Information literacy (IL) has thus become one of the most vital sets of skills for the twenty-first century. Everyone needs IL skills to enable him/her to function adequately as a citizen in the community. Specifically, IL skills also enable students succeed academically and help them to secure future job opportunities.

Over the last few years, the increased attention to IL has been underscored by some important actions such as the Prague Declaration (2003) and the Alexandria Proclamation (2005). These statements envisage a society that possesses effective control and mastery of information, and have urged governments and international organisations to develop policies and programmes to promote IL and life-long learning respectively. The reason is that both IL and life-long learning are deemed essential for social inclusion, economic development and quality of life in the information society.

This paper presents an overview of information literacy initiatives in two universities in Ghana, namely: the University of Ghana, Legon and the University of Cape Coast. It highlights the prospects of the IL programmes and the challenges faced in the implementation of these programmes for their students. Recommendations are also made for a smooth implementation of a campus-wide information literacy programme.

Nature and Context of Information Literacy

Information literacy has been 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" (ACRL 2000). It has also been defined as a self empowering attitude and commitment by individuals and people, at all levels of society, to seek, access, analyse, translate, transform information and create knowledge to solve problems to achieve personal, social, occupational and learning goals for the improvement of their quality of life (IFLA/ALP 2007).

Information literacy skills are a fusion of library literacy, computer literacy, media literacy, technological literacy, critical thinking, ethics and communication which when acquired would empower individuals to become independent life-long learners. (Parang, Raine and Stevenson, 2000). It would help individuals to apply knowledge from the familiar environment to the unfamiliar.

Figures 1 through 4 are some diagrams that various IL researchers have used to characterise the nature and constituents of IL. Figures 1 and 2 identify the different concepts influencing and coexisting with IL. Information literacy is seen as an umbrella term comprising:

- Media literacy – the set of skills, attitudes and knowledge necessary to understand and utilise various kinds of mediums and formats in which information is communicated such as images, sound, and video… knowing when and how to use print newspapers and journals, magazines, radio, broadcast television, cable television, CD-ROM, DVD, mobile telephones, PDF or HTML text formats, JPEG or JIF formats for photos and graphics, and so forth (Horton, 2008).
- Numerical literacy – the ability to use and interpret numbers.
- Computer literacy – the set of skills, attitudes and knowledge necessary to understand and operate the basic functions of information and communications technologies (ICT), including devices and tools such as personal computers (PCs), laptops, cell phones, iPods, Blackberrys, and so forth (Horton, 2008).
- Alphabetic literacy – ability to read and write.
- Library instruction – includes instruction on both how to evaluate information resources and how to use library resources such as the library catalogue or other bibliographic databases.
- Cultural literacy – comprising knowledge and understanding of how a country's, a religion's, or an ethnic group's traditions, beliefs, symbols and icons, celebrations, and traditional means of communication impact the creation, storage, handling, communication, preservation and archiving of data, information and knowledge, as well as in using technologies (Horton, 2008).
- Visual literacy - the ability to understand graphs and charts (Rockman, 2004).
- Network literacy - the ability to identify, access, and use electronic information from the information network (McClure, 1994).

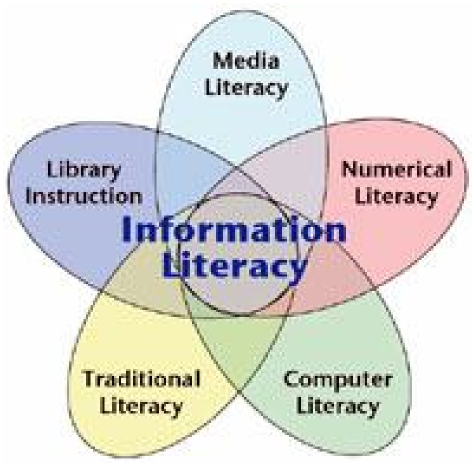

Figure 1: Aspects of Information Literacy
http://programs.durham.edu.on.ca/ddsbinfoli/Information_Literacy.jpg

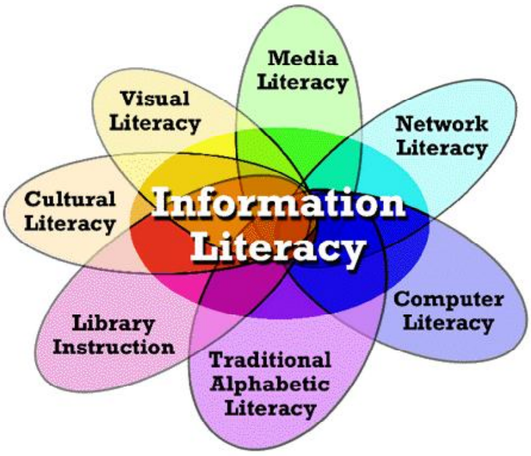

Figure 2: Dimensions of Information Literacy
http://weblogs.elearning.ubc.ca/googlescholar/bloom.gif

In Figure 3, IL is depicted as a way of learning through engaging with information. It involves:

- seeking information by locating, evaluating, selecting and organising the information (Processes and Skills).
- using information for decision making, creating new knowledge, problem solving, independent learning, lifelong learning and understanding (Personal Impact).
- using information for participative citizenship and social responsibility- wisdom, lifelong learning ethics, decision making problem solving (Social Impact).

Finally, Figure 4 identifies several terms that are part of or contribute to the IL concept. These terms include:

- Information fluency: capability or mastering of information competencies.
- User education: teach information access to users.
- Library instruction: focuses on library skills.
- Bibliographic instruction: train users on information search and retrieval.
- Information competencies: compound skills for achieving the IL goals.
- Information skills: focuses on information abilities.
- Development of information skills – process of facilitating information skills.

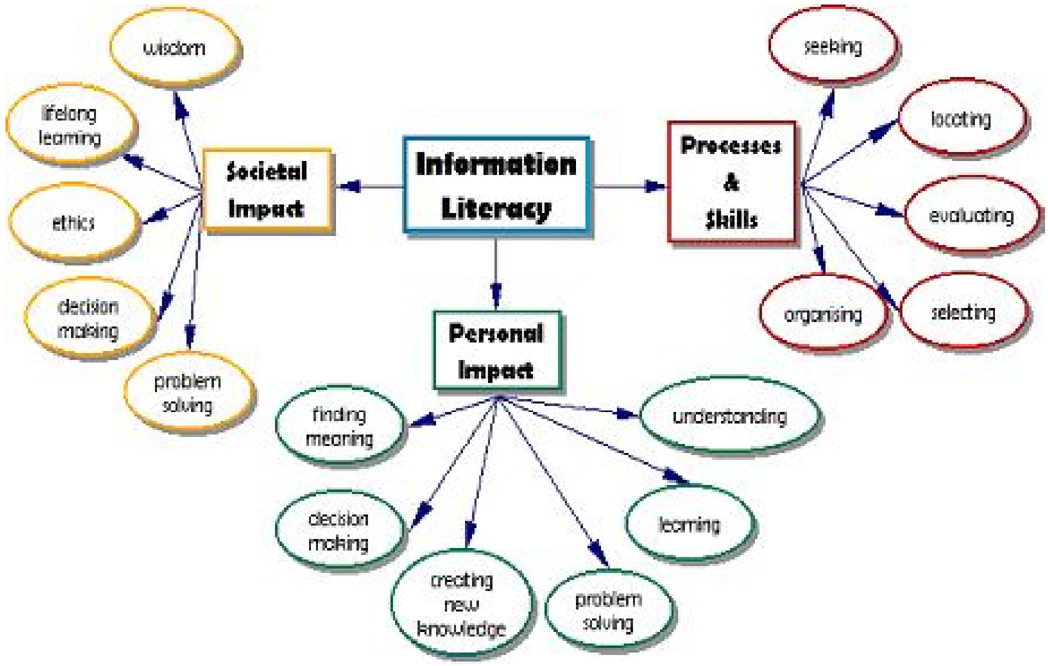

Figure 3: Processes, Skills and Impact of Information Literacy
http://www.griffith.edu.au/centre/gihe/griffith_graduate/toolkit/images/infoLit/informationLiteracy.gif

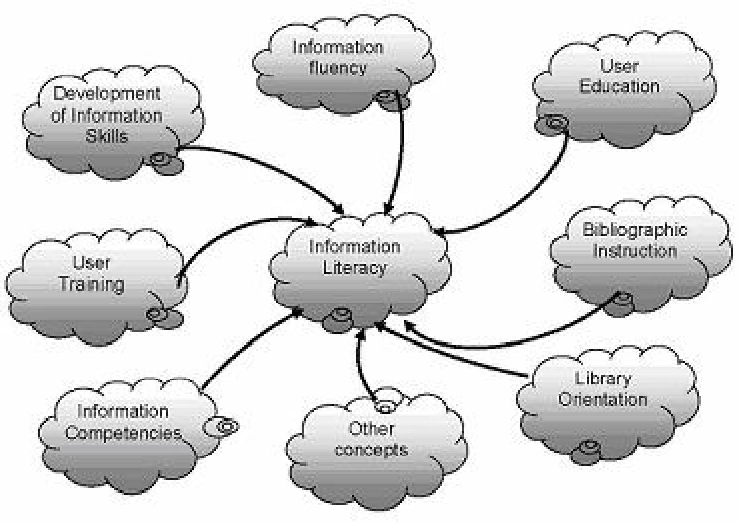

Figure 4: The Concept of Information Literacy
Lau, Jasus (2006) www.ifla.org/VII/s42/pub/IL-**Guidelines**2006.pdf

Importance of IL in Higher Education

IL is of crucial importance to institutions of higher learning. One reason is that some students entering college and university have limited knowledge of fundamental research and information competency skills. They may not have learned how to effectively locate information, or evaluate, synthesise and integrate ideas; or may not have learned how to use information in original work or give proper credit for information used. Although some students may have picked basic computer skills to send electronic mail, chat, and download music, they may not have learned how to effectively search the Internet or use databases effectively for academic work (Kavulya 2003; Rockman, 2004). Thus, IL programmes reinforce the educational process. Students who follow such programmes have fewer difficulties in writing papers; are better able to identify reliable sources of information and assess available resources and services provided by the library; and learn how to understand and draft bibliographical references and avoid plagiarism (Malliari and Nitsos, 2008).

Another reason why IL is important in higher education is that today's young generation is growing up in a digital world where so much information is produced by the minute. Students are continually being inundated with a great deal of information or "data smog". Simply being exposed to so much information does not necessarily make one informed. One needs to learn how to use the information effectively, efficiently and ethically. Wilson (2004) describes this young generation of people as "digital natives" who are accustomed to being completely connected to each other via cell phones and the Internet all the time. They have a strong preference for online sources, but may not be aware of the types of information available from the library's electronic resources, how they are organised, how they can be retrieved or how the quality of the information can contribute to their information needs. This situation affirms the need for IL skills in higher education.

Furthermore, students at college or university level cannot learn everything they need to know in their field of study within a few years in college or university. Hence, they need to acquire critical IL skills in order to become independent lifelong learners. Indeed, Bundy (2003) stresses that the need for IL in higher education is due to the 'use by' date of 10 years of many degree programmes. He intimates that the rapid obsolescence of much of the content in professional first degree programmes makes knowledge of how to learn and how to find, evaluate and apply new information that much important. Students need to be able to build upon the foundation of information literacy knowledge by successfully transferring this learning from course to course, and from college life to later life.

IL also helps to ensure graduates being employed are productive. For instance, some employers in Ghana have been known to have complained that graduates lacked the essential transferable skills that they needed to make them productive at work.

IL Curriculum

Universities have recognised that one way of empowering students is to develop a curriculum framework that would support student-centred learning. Rockman (2004) presents a clear view of what an IL curriculum should entail. It should be campus-wide, problem-based, inquiry-based, and resource-based (that is, it uses a variety of information resources); makes effective use of instructional pedagogies and technologies; and is integrated and articulated with a discipline's learning outcomes. This view is shared by Hepworth (2000), Grafstein (2002) and Lupton (2004) who posit that information literacy is best enhanced when it is integrated into the curriculum of another discipline.

The Boyer Commission on Educating Undergraduates in the Research University (2001) called for a first-year experience to provide stimulation for "intellectual growth and a firm grounding in inquiry-based learning". The Commission holds the view that a student should ideally be introduced to information literacy at the beginning of his or her freshman year in a required course such as "Introduction to University Life," "Expository Writing and Research," or "Technology and Information." They add that it is even better if the student learns about information literacy principles in a course, such as "Fundamentals of Information Literacy," that is linked to a freshman learning community, with library assignments aligned with assignments in other courses. They believe that general education courses help students to make intellectual connections between disciplines, solve problems, and think deeply, independently, and critically outside of their major areas of study. This view is supported by Johnston and Webber (2003) and Parker (2005).

Arguments may be made for IL courses that are either stand-alone or integrated with other courses. Stand-alone courses can meet the needs of the student who recognises the importance of being information-literate. It is also practical-oriented and less costly (Parker 2005). But stand-alone courses may not motivate students as they have no relevance to their assignments or research skills. On the other hand, a number of authors share in the opinion that the ideal method for enabling students to develop their information literacy skills is by embedding the information literacy activity into the student's course materials. This method allows information literacy to be delivered in the context of the subject students are studying, as well as consolidating the partnership between librarians and teaching faculty in providing IL training.

Course-related IL programmes require the active participation of the faculty librarian. This means that where there is no effective partnership between the faculty and the librarian, the integration of IL into the curriculum may not be feasible. This partnership is necessary to consolidate the contents of IL programmes offered to students. In this connection, there has been much debate about the competence of the librarian as a teacher, developer of the curriculum and assessor of students. Webber (2006) is of the view that the relationship between librarians and faculty may depend on the nature of the university or college, the general status of librarians, and the willingness of librarians to be proactive and to gain teaching qualifications. Ideally, librarians teaching the IL courses should have academic status and credentials in order to be recognised as peers by faculty.

Another important issue is the nature of assessment of student learning in IL courses. Some students would not take the courses seriously enough if they are not examined, or if the assessment forms only a small part of the overall grades. Mittermeyer and Quirion (2003) and Mulherrin et al. (2004) have described specific types of test and assessments for IL courses. It is preferable that the courses should be credit-bearing and a requirement for graduation.

Role of Libraries in IL

Some authors have stated that IL is not a new concept. Indeed, they have traced its origins to the early library instruction and bibliographic courses held in libraries (Grassian and Kaplowitz, 2001, Rockman 2004). Information literacy has since evolved and is no longer just a library issue. It is the critical issue for the twenty-first century and it is of great importance to institutions of higher learning. All stakeholders in quality education, including faculty, librarians and administrators, should work together to facilitate the empowering role of information which is an important goal of education. It is however important for librarians to spearhead the IL process in order to convert users to lifelong learners and critical thinkers. Doskatsch (2003) posits that given the pace at which electronic media and resources are proliferating, faculty may not always be familiar with the latest developments in information technology and access. It is the librarian's role to inform faculty and others about new developments and provide a variety of opportunities for them to learn about electronic information resources.

Information Literacy Initiatives in Universities in Ghana

A number of IL initiatives are ongoing in universities in Ghana. These IL initiatives may be grouped into three main categories: library literacy, computer and media literacy and communication skills literacy.

Library Literacy

Library literacy involves teaching users to find information from the library's print resources and other electronic resources, evaluating and using the information appropriately. Traditionally, academic libraries in Ghana have attempted to provide library literacy through library orientations and tours of their services to new students.

Since 2003, the University of Cape Coast Library has, in addition to its traditional function, introduced a mandatory Information Retrieval (IR) course in which all first year students are given the skills in accessing and using information. Approximately four thousand freshmen who enrol each year at the university benefit from this course. The specific objectives of the IR course are as follows:

- To get students to appreciate the role of the library in the academic community – how the library supports teaching, learning, research and extension activities in the university.
- To teach students the essential components and uses of the computer.
- To make students aware of the resources and search tools of the library (the traditional and the digital) and teach them how to use the tools.
- To teach students how to access, retrieve and evaluate information from the Internet for their academic work, later working life and personal development.
- To equip students with skills that will enable them manage and use online journals and other electronic resources.

The IR course, which is a one-credit course, starts during the first week of lectures. It is a requirement for graduation. At the end of the thirteen weeks of lectures, students have to write a final hour and a half examination consisting of multiple choice and essay questions. The course content includes a study of the types of libraries, library resources and their uses, the library's role in the academic community, an introduction to computers, the Internet, Internet search tools, web search strategies, bibliographic and full-text databases.

There are twelve groups of students with each group having about five hundred students. Students attend an hour long PowerPoint presentation or lecture each week. They are subsequently placed into groups of 100 where they have instructor-led practical sessions for another hour. A large computer laboratory with approximately 100 computers is made available for it. Students also receive handouts and have scheduled tutorials. Students also have the opportunity to practise on their own and do their assignments whenever the laboratory is free. They also have the opportunity of using the computers in the main library for their assignments.

Six professional librarians, all of whom have master's degrees in Library Studies, are involved with the teaching of this course. Having such calibre of staff teaching the IR course gives credibility and also enhances the image of the library.

The IR course is more of a stand-alone IL module and, as has been expressed earlier, it is not the most effective method of enabling students to develop their information literacy skills. It is however, a good start and the UCC library should look forward to integrating the skills in a few disciplines. The above information was obtained through interviews with the Acting University Librarian and the Coordinator of the Information Retrieval Course.

Library literacy at the University of Ghana's Balme Library takes the form of user education. The aim is to familiarise new students with library facilities and services. Library orientation involves the basic introduction to the library's services given to about five thousand new students during the first two weeks of the new academic year. It includes library registration, a video presentation and a guided tour of the various departments in the library. Each student is given a handout entitled 'An Introduction for Readers' to enable him or her to use the library. Bibliographic instruction and information skills training are only available to graduate students. Bibliographic instruction comprises instruction in the use of the OPAC, bibliographies (indexes and abstracts) and reference books (encyclopaedia, almanacs).

Information skills training includes the use of the Internet, an introduction to Electronic resources (the library subscribes to about 23 databases), how to effectively search the databases and how to cite references. This information was obtained from an interview with the librarian in charge of the computer laboratory, as well as from the handouts given to students.

The Department of Information Studies, the only institution in Ghana which trains information professionals/librarians and archivists, introduces students to user education and information literacy during the second and third year of studies (Level 200 and 300). These are offered as part of the Information Management and Information Services and User Studies courses respectively. These courses are however inadequate to prepare students to embark on any information literacy programme when they complete their studies.

Computer and Media Literacy

Computer and media literacy feature prominently in undergraduate training at the University of Ghana. An ICT Directorate has been established to provide leadership in the development, management and use of ICT in the University.

The Directorate has 500 computers spread over the three floors of the building and runs computer courses for interested students. Eight different sessions are held during the day and each session takes 100 students. The preliminary instructor-led course is the Computer Driving License Programme (CDLP), an internationally recognised qualification that enables people to certify their competence in essential computer skills. It aims to raise the level of knowledge about information technology and increase the level of competence in using personal computers and common computer applications. A follow-up course is the Electronic Computer Driving License Programme (eCDLP) which is online and offers intermediate Microsoft programmes. Three thousand students are trained every semester and students are given 30 hours free access to the Internet. The Directorate limits Internet access to 2 hours per day per student. However, students with laptops can access the Internet for as long as they wish from the Wireless Hot Spots around the ICT Directorate (Dadzie, 2007).

Additional computer literacy is offered by the Balme Library at the request of faculty. The librarian in charge of the computer laboratory mentioned that training sessions are given to the second and fourth year students of the Department of Information Studies as part of the practical sessions in the elective Information Retrieval course. Students are introduced to the Internet and its resources and also taught how to effectively search the Internet for needed information.

Computer literacy training is also offered to all interested parties during the long vacation. It includes an introduction to computers and Windows, Microsoft Word, Excel, PowerPoint, Publisher, Access and Internet use. Two sessions a day are held for 5 weeks in the laboratory, which can accommodate 30 people. Postgraduate students are also given training in the use of available electronic resources in the library.

The Department of Information Studies offers courses at various levels in computer and media literacy. Some of the courses include Introduction to Information Technology, Introduction to Computing, Database Management, Telecommunications and Information Networks and so on. Computer practical sessions are also given to all students in the department. They are introduced to software packages such as Word, Excel, Access and Visual Basic. It is significant to note that before the establishment of the ICT Directorate, the Information Studies Department was the only department offering basic training to students in computer literacy. This could probably be the reason why the Department recorded large enrolment levels.

There does not seem to be much collaboration in the delivery of these programmes between the Department of Information Studies and the ICT Directorate nor between the ICT Directorate and the Balme Library. For IL to be successful, it is important that partnerships be formed in the university community. For example, as the ICT Directorate is better endowed in offering computer literacy, the library should forge closer links with the former to introduce an important aspect of computer literacy which involves the searching and effective use of online databases that the library subscribes to.

Communication Skills Literacy

Communication skills are the set of skills that enable a person to convey information so that it is received and understood. It is also the ability to use language and express information clearly. A Communication-skills course is offered at both universities to all freshmen. At the University of Ghana, the Language Centre undertakes research and teaching related to the improvement of performance in both Ghanaian languages and the official language, English. The Centre runs three major programmes: Certificate of English Proficiency for Learners of English as a Foreign Language; Academic Writing (LANG 100/ LANG 200) for entering students to the University; and a basic course in Ghanaian Languages for second year students on behalf of the Institute of African Studies.

An interview with the Director of the Language Centre revealed that the Academic Writing course is compulsory for all freshmen and all students entering the University in the second year. The main objective of the course is to equip students with the communication skills that would enable them to succeed in the academic discourse community. Students are taken through strategies for paragraph development, reading strategies, gathering and using information from the library and other sources, integrating information into essays (summarising as part of exposition and writing citations) all within the larger context of enhancing the quality of language of students.

The Academic Writing course is run in two semesters. There are 35 groups for each semester with 70 students in each group. Ten lecturers are involved in the Academic Writing course and each lecturer has three groups to handle. It is a three-credit course where students take a minimum of two and a half hour examination paper at the end of each semester. It is also interesting to note that even though the Language Centre has a component in this course which is about using libraries, no one from the Balme Library is involved.

At the University of Cape Coast, the Communicative Skills course which is under the Faculty of Arts is offered to all first year and post diploma students of the University. An interview with the co-ordinator of the course revealed that the Communicative Skills programme, which is run in two semesters, provides six credits and entails developing reading and writing skills, note making/ taking and conventions of usage and referencing. It also includes organisation of ideas, development of paragraph and usage in essays. About 4,000 students are involved in this programme and are placed in 34 groups comprising 60 students in each group. Forty faculty members co-opted from the Arts and Education faculties are involved in the instruction.

Programme Implementation Challenges

The implementation of IL initiatives at the two universities in Ghana is not without challenges. The challenges identified include:

Lack of Collaboration

Each of the stakeholders in the University of Ghana is doing their bit to ensure information literacy goes on. Unfortunately, the stakeholders are not talking to each other so there is some duplication. A comprehensive IL programme could be developed if there were collaboration between the ICT Directorate and the Balme Library, and/or between the Language Centre and the Balme Library.

Inadequate Number of Staff

At the University of Cape Coast, all the professional staff (six) have to be engaged in IL instruction as a result of the large student numbers. In order not to let the core activities of the library run to a halt, two hours a week have been set aside for this instruction. If there had been more professional staff, the instruction could have been spread through out the week. Some concerns have been expressed over the limitation of IL training only to the first year of university education. Indeed, The Boyer Commission (2001) recommends that training should be throughout a student's life on campus. This limitation at the University of Cape Coast could be linked to the shortage of staff implementing the IL programme.

Large Numbers of Students

The large number of students involved in the programme makes it overwhelming for staff. At both universities, all freshmen including those entering at Level 200 have to go through the course. The University of Ghana has about 5,000 fresh students annually, while the University of Cape Coast has about 4,000 students enrolling each year. As a result of the numbers, delays in grading examination scripts of students from the University of Cape Coast have been reported.

Mode of Access and Delivery

The delivery mode of these courses also leaves much to be desired. Most of them are instructor-led. In this era of online/web-based learning and instruction, efforts should be made to convert the IL module into an interactive online/web-based learning. IL in e-learning or web-based mode would not only enable students to learn at their own pace but also give them the opportunity to revise or review portions of modules that they did not understand.

Recommendations

The following recommendations are provided to enable the implementation of a university- led information literacy drive.

University Commitment

For IL to be successfully implemented in the University, there is the need for a policy which acknowledges information literacy as an attribute of graduating students. The top hierarchy of the university should know and understand the importance of IL for the graduates they are training. This would mean workshops/seminars/conferences organised for the hierarchy to buy into this idea. For the University of Ghana for instance, this would involve changing the students' overloaded curriculum to include information literacy. The library staff would have to write a proposal to the Faculty of Social Studies and defend the introduction of this programme also at the Academic Board. The programme would also have to be accepted by the Academic Planning Committee before it can be implemented. This process can take between two to five years depending on how well the information is packaged. The University of Cape Coast is at least a step ahead, but also needs to fine-tune their mode of access and delivery of the course.

Mode of Access and Delivery

The problem of large student numbers accessing the course and the inadequate number of teachers can be solved if the IL courses are web-based. The University of Ghana has an E-Learning platform where students access a variety of course notes, syllabi, and interact with faculty. It would be advisable for the University of Ghana to introduce the IL course in the web mode so that many of the challenges being experienced by the UCC staff would be avoided. Assessment of students' performance can also be done electronically as and when the students take various tests at the end of different modules in the IL programme.

Improved IT Infrastructure

An e-learning mode can only be possible if the right infrastructure is made possible. It is important for the university hierarchy to ensure that computers and reliable Internet connectivity are in place, as well as adequate bandwidth for university access.

Role of Libraries

IL is transforming the role of librarians and information professionals and aligning it with the core business of the university, which is teaching, learning and research. Librarians must undergo training in IL through workshops/ seminars to enhance their competencies beyond that of basic user education. They also need to build solid partnerships with faculty to be able to integrate IL into course disciplines. Collaboration with IT administrators would be needed to introduce IL as a web-based course.

Role of the Library School

The Department of Information Studies at the University of Ghana should review its curriculum to include a new core course in information literacy. This would enable the graduates to have a good grasp of IL issues and assist with IL programmes introduced at the workplaces in the future. It would also help them to access, evaluate and use information ethically and legally.

Conclusion

Though a few initiatives in IL are being implemented in universities in Ghana, there needs to be a more concerted effort to have IL firmly institutionalised. Commitment from the top hierarchy is essential for the success of the information literacy programme. In addition, partnerships should be formed between librarians, faculty and IT staff to address curriculum development issues, access and delivery of the course, as well as assessment of the course. When these challenges are confronted, efforts to make students information literate and by extension life-long learners would then be successfully achieved. This would not only have the immediate benefit of empowering students through better access to and use of information in their studies at the university, but also make them resourceful workers and members of their society.

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Short Communication

Retrospective Conversion of Arabic Collections at a Nigerian University Library

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Abstract

The University of Jos Library, Nigeria had envisioned the computerisation of its functions and services since the 1980s, but it was not until 1992 that it had its first set of microcomputers. The retrospective conversion (RECON) of the library's collection is currently in progress, and the Integrated Technical Services (ITS) for Windows software is being used for it. This paper highlights progress and challenges in connection with the RECON of the Arabic collection in the library, including lack of bibliographic details of many of the collection items, inaccessible search information in the database and lack of imprint in some Arabic collection. It is recommended that the library should consider acquiring library software that can handle the RECON of Arabic and other foreign languages, as well as acquiring Arabic materials with bibliographic data that are in accordance with international standard.

Keywords

Arabic collection, retrospective conversion, academic library, Nigeria

Introduction

The increasing use of information and communication technology (ICT) to facilitate daily routine has transformed the traditional functions of academic libraries from manually processing library collections to electronic methods of performing such technical library processes as cataloguing, indexing, etc. Kanungo (2008) wrote that libraries supporting instruction and research are facing huge challenges because ICT is changing the nature of library and information services, and that the challenge is more severe in developing countries because libraries there need to, for a start, undertake costly retrospective conversion of their usually large paper-based bibliographic records to machine readable ones. Retrospective conversion (RECON) entails converting the existing records in manually produced catalogues to machine readable form (Bryant, Chapman and Naylor, 1995). "Retro conversion means the conversion of the existing records in manually produced catalogues to machine readable form" (Bryant, Chapman, and Naylor 1995). According to Cohn, Kelsey and Fiels (2001), when conversion is done with a given library's entire existing collection and current acquisitions, the process is referred to as retrospective conversion

The usual primary aim of retrospective conversion (RECON) is to make information on the library holdings accessible by computer to library staff and users. Kanungo (2008) mentioned that the idea of retrospective conversion in India was to make information accessible from anywhere and encourage resource sharing among libraries.

An aspect of RECON that is often not considered or written about in RECON projects is the creation or conversion of bibliographic records pertaining to materials written in languages that have their own peculiar character sets, such as Arabic, Russian, Finnish, Bengali, etc. Vassie (2000) pointed out that bibliographic control of Arabic books is more difficult than the Western language books due to inconsistency in imprint. The challenges are even more for a non-Arabic language reader in cataloguing Arabic books. Another aspect of the problem is the use of appropriate software to capture the bibliographic data pertaining to such foreign language materials. The software used in the retrospective conversion of Arabic collection at the Arabic and Middle Eastern Electronic Library, Yale University are NOTIS and Voyager (Samoeil, 2008).

RECON at the University of Jos Library

The University of Jos Library was established in 1972. The library started with a stock of about 1,000 books and 40 journal titles supporting teaching and research in Arts degree courses. At present, the library houses collection to support eight faculties: Arts, Education, Environmental Sciences, Law, Medical Sciences, Natural Sciences, Pharmaceutical Sciences, and Social Sciences. English is the language of the bulk of the collection, but materials in Nigerian and foreign languages are collected based on their relevance to the university programmes and the university community at large (University of Jos Library, 2008). The Arabic collection aids instruction and research in Arabic and Islamic studies degree courses of the university. The library currently has 685 volumes of Arabic books out of the library's total collection of 163,297 volumes of books, 20 Arabic journal titles out of the library's 25,824 bound journals, and 19,522 special document collection (University of Jos Libraries, 2007; Yusuf, 2002). The volumes of Arabic materials are distributed by subject as follows: Arabic grammar (54 volumes); Arabic Literature (461); Islamic studies (those written in Arabic language only) (163); Medicine (2); Law (3); and Environmental Science (2). There are also 103 Arabic reference books.

The University Library had envisioned the computerisation of its functions and services since the 1980s, when the library's collection grew quickly thereby making it difficult to handle serials lists and control subscriptions. However, it was not until 1992 that it had its first set of microcomputers. In preparing to computerise some of the library functions, the library staff participated in training programmes organised by the Computer Centre of the University. Aspects of the library activities considered for the computerisation exercise were records on acquisition, retrospective conversion of cataloguing records and digitisation of abstracts and records of postgraduate theses (A Jos-Canegie Partnership Project, 2006). Accordingly, two cataloguers and a programmer from the library, along with a member of staff of the UJNet (University of Jos Network), were sponsored to a two-week train-the-trainer attachment at the Balme Library, University of Ghana, Legon, Ghana. These staff received advanced training on ITS for Windows, the software already in use at the University of Jos library (Jos-Carnegie Partnership, 2006).

Retrospective conversion of the collection of the University of Jos Library commenced with the conversion of bibliographic titles included in the catalogue records. The retrospective conversion started with Natural Sciences, Environmental Sciences and Pharmaceutical Sciences collection from the Main Library at the Bauchi Road campus; Medical Sciences collection from the Medical Science Library along Murtala Muhammad Way; Education, Arts and Social Sciences collection from the Arts and Social Sciences Library at the Permanent Site campus, some four (4) kilometres away from the Cataloguing Unit, venue of the retrospective conversion project; and Law collection from Law Library, also on Bauchi Road campus. The Arts collection includes the Arabic collection.

In retro-converting the library collection, the University of Jos Library uses Integrated Technical Services (ITS for Windows) software that supports library functions supplied by the Library Corporation of the United States. Arkorful (2003) mentioned that four universities in Ghana use ITS for Windows software for the automation of their libraries – University of Ghana, University of Cape Coast, University of Education, Winneba, and the Kwame Nkrumah University of Science and Technology.

The RECON is done in-house using 23 library staff, comprising 10 library officers and 13 librarians. Eight of them are cataloguing staff, while the rest are from other sections of the library. The RECON team has the use of eight computer workstations, In order to make the workstations available to every member of the team, a shift timetable was drawn up in such a way that team members could work in turn between 8 am and 6 pm each work day. At present, the RECON of about 27,590 records has been done, out of which 265 records pertain to the Arabic collection. The RECON of the Arabic collection is being done by a bilingual (Arabic & English) member of staff that has a first degree in Arabic studies and a diploma in library science. The RECON of the records of French and German language materials is yet to begin because none of the members of the project team is literate in these languages.

Challenges of retrospective conversion

The RECON of an Arabic collection in an English-speaking environment where library software and hardware are purchased with little or no consideration for non-English languages poses some challenges, which, in the experience of the University of Jos Library, are enumerated below.

Inaccessible search information

Many Arabic texts' information are not found in the Integrated Technical Services (ITS for Windows) database. A search for an Arabic item entails typing in any of its available search terms like author, title, subject, ISBN, etc. to query the database. The Arabic cataloguer then effects modifications to a retrieved record as required. For instance, only 23 out of 425 Arabic books brought to the cataloguing unit for retrospective conversion had records in the database.

Use of template

Working on a book template takes longer time than imputing information on an existing bibliographic data. The Arabic cataloguers' expectation in retro-converting Arabic collection is to find records corresponding to items in the bibliofile, and then modify and save them to the database as appropriate. But, because there are no records in the bibliofile for many items, the cataloguer must resort to the use of a blank book template and key in the bibliographic details of many items from scratch. This entails searching the Library of Congress subject headings and classification scheme for appropriate subject and classification numbers for items. Furthermore, a minimum of 13 fields on the template, including subfields, need to be fully completed to provide the basic data for each item. Also involved is the transliteration into English of the bibliographic details of items that were originally in Arabic such as author and title, and translation of other information like publisher and place of publication.

Lack of imprint information

Many of the items in the Arabic collection lack core bibliographic data like publisher, date of publication and place of publication. Out of the 425 books brought for retro-conversion, 186 had no publishers, 262 had no place of publication, and 382 have no date of publication

Lack of ISBN and LCCN

The fastest way to search for an item in the ITS for Windows database is by using the International Standard Book Number (ISBN) or the Library of Congress Control Number (LCCN). But many of the Arabic collection do not have ISBN or LCCN. Out of 425 books, 387 did not have ISBN, while 419 books had no LCCN.

Problems with logistics

Physical books (instead of existing catalogue card records) were used for the retrospective conversion at the library. Books were packed from shelves into cartons and taken to the Cataloguing Unit, venue of the retrospective conversion project. For Arabic books, they had to be transported from the Arts and Social Sciences Library, about 4 kilometres away to the Cataloguing Unit. Often times, the Arabic books did not arrive as soon as work was completed on existing ones, thus causing delay in the RECON processes.

There was also frequent interruption of power supply. Public power supply would be interrupted for hours on some days. Frequent power outages often increased the cost of a RECON projects in developing countries as libraries. Nok (2006) wrote that infrequent power supply was a problem to automation and the cost of maintaining a generating plant was high. The recent delivery of a 60 KVA power generating plant to the library had been of help in solving this problem at the library.

A third problem is the delays that have been experienced in the supply of barcode labels after existing ones had been exhausted. This slowed down progress of the RECON project. Retrospective conversion of the Arabic collection had to stop for about one month on one occasion because barcode labels were not available.

Conclusion

The average time that an Arabic collection item spends in the processing room has reduced significantly with the RECON project. If the record of an item is found in the Bibliofile of ITS, less than 15 minutes of additional keyboarding is required to complete the conversion process for the item. Before the retrospective conversion project, a current Arabic book could take a whole day or more to be processed because the subject and classification number had to be manually searched for using the bulky Library of Congress Subject Headings and Classification Scheme. One of the goals of a RECON project is to speedily convert the bibliographic details of all Arabic items into machine readable format. However, such challenges as the absence of records in the ITS database corresponding to many items, which necessitates the identification and keyboarding of bibliographic details unto blank book templates from scratch, as well as the absence of imprint, ISBN and LCCN information on many items and some logistical problems, pose serious challenges.

Recommendations

In view of the challenges being faced at the University of Jos Library in the RECON of its Arabic collection, it is recommended that the library, as well as other libraries contemplating or implementing RECON projects should consider acquiring special software designed for the conversion of the bibliographic data of Arabic and other foreign language collections. Such software may also have databases that contain bibliographic records of documents in those languages. Secondly, the University of Jos Library should acquire only Arabic materials published by reputable publishers so that the materials would have standard cataloguing-in-publication data that conform to international standards. Logistical challenges should also be adequately addressed. For instance, the inventory of barcode labels should be replenished on time in order that shortages of bar codes do not hamper the progress of the RECON project.

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