

The Status of Scholarly Communication in Nigeria: The Role of University Libraries for Sustenance

Chigbu, E. D.

Nnamdi Azikiwe Library

University of Nigeria, Nsukka

E-mail: chigbusonx@yahoo.com

Abstract

Purpose – The purpose of this paper is to examine the status of scholarly communication in Nigeria and roles University Librarians can play to ameliorate problems arising from it.

Purpose – Libraries are in constant touch with scholars, academics, publishers and their scholarly outputs are Librarian's stock in trade. They stand a better chance to discuss issues of scholarly communication (SC) and suggest proactive measures to improve the poor status.

Design/Methodology – A descriptive survey design was adopted for the study. A sample survey was carried out amongst three categories of staff namely scholars, librarians and publishers/editors of academic journals. A structured questionnaire was used to elicit responses from the 120 respondents.

Findings – The result from the paper reveal that SC is poor in Nigeria because the publication of scholars hardly circulate. This is due to lack of indexing and abstracting journals. University libraries cannot comprehend, procure and access Nigerian scholarly journals due to unsatisfactory marketing and lack of online access. Several suggestions were proffered towards the amelioration of the problems, including online publication, internet connectivity, digitization and supporting Google open access plans.

Keywords – Nigeria, Online Publications, Roles, Scholarly Communications, Sustenance, University Libraries

Paper Type – Empirical

Introduction

Scholarly communication is the process used by scholars to share the results of their research. The Wikipedia free encyclopedia defines scholarly communication as the “creation of knowledge related to teaching, research and scholarly endeavours”. The output of scholars published in journals, books, reports, proceedings of meetings, newsletters etc are the processes of scholarly communication (SC). These current methods of SC are increasingly restrictive and economically unstable. The print versions of the SC resources, especially print journals are very expensive to purchase. This high cost is felt more in the third world countries especially in view of high currency exchange rates.

University Libraries take centre stage in scholarly communication. Scholars are mostly employees of Universities. The functions of University Libraries in collecting, organizing, interpreting, preserving and dissemination of knowledge materials compliments scholarly communication. One can say without much contradiction that Libraries and Librarians are clearing ports and co-players in scholarly

communication. They participate in scholarly outputs, and at the same time, are organs of scholarly resource

communication. Librarians contribute articles of their research findings and which are published in journals. They procure scholarly outputs; archive and organize them; digitize their indigenous scholarly outputs making them available physically and electronically for scholarly consumption.

The paradigm of scholarly communication has shifted between paper and electronic contents. In the past the paper formats was sold cheaply such that scholars and institutions could subscribe to as many titles as possible. Later it became increasingly restrictive and economically unstable, such that even institution could hardly subscribe to as many title as they have been used to. Recently the prices have increased above inflation rates far above the budgets of libraries (Okerson, 1993). The reason is that scholars who author these resource usually sale their copyright ownership to publishers in the process of publishing them. The publishers in turn restrict access to specialized publications to ensure that they are adequately compensated. The result is that libraries are now unable to provide their readers with adequate

proportion of scholarly outputs needed. In turn this problem of limited access brought about unsatisfactory productivity of scholars so affected

In the same manner the electronic version of scholarly publications which started with free access are becoming increasingly restrictive. The online versions, especially of core journals, demand that individual users (scholars) or their institution pay some prices or subscribe to the print or electronic versions or both. Then, they are given ID and passwords to enable them access the publications.

In Nigerian, scholarly outputs are considerably low. Part of the problem is that scholars are not properly and timely exposed to the publications of their counterparts. This is because their institution libraries are not able to subscribe to most scholarly journals that they may require from outside the country, nor able to keep track of the local publications.

Scholarly communication is very essential to the benefit and growth of academics and development of the society at large. Libraries and librarians take a centre stage in effective scholarly communication. They are in a strategic position to begin to do something to rescue the scholars (their clientele) whose lives, growth and fame are dependent on continuous supply of communication outputs by their institutional libraries. This will enable the scholars continue to communicate with their fellow scholars, through publications. The National Universities Commission started their NUNET (Nigeria Universities Network) project, but could not link it up for networking (Iwhiwhu and Eyekpegba, 2009). This would have been a novel opportunity for Nigerian scholars to network, if it were successful.

This paper is expected to ascertain the status of SC and unravel the ramifications of the role of libraries and librarians in scholarly communication. It will find out the ways and means of getting through the debacle of effective scholarly communication. It will outline the role University Libraries can play to ameliorate the problems of scholarly communication in Nigeria, to put the scholars on their feet again to progress.

Research Questions

1. What is the status of scholarly communication among academics in Nigeria?
2. What roles do University Libraries play in scholarly communication?

3. In what ways has there been a paradigm in scholarly communication?
4. What are the hindrances to effective communication in Nigeria?
5. What should University Libraries do to enhance the status of scholarly communication in Nigeria?

Objectives of the Study

This study seeks to:

1. To explore the changes that has taken place in scholarly communication.
2. To show the relevance of libraries and librarians in effective scholarly communication.
3. To ascertain whether the transformation to electronic formats have bettered the lot of scholarly communication.
4. To outline the hindrances to effective scholarly communication in Nigeria.
5. To see how the stake holders of scholarly communication in Nigeria intend to bring about improvement to this all-important subject.

Significance of the Study

This study is significant because it will expound to its readers the processes, changes and challenges, effects of transformations that has taken place in scholarly communication. Libraries and Librarians who are stake holders in scholarly communication will be shown their pride of place in this global phenomenon. It will point the way forward for their continuous impact to resolve the problems that has arisen there from. A proactive approach to poor scholarly communication in Nigeria will be given vent to enable them find their feet again.

Literature Reviews

Scholarly communication is defined by Wikipedia as “the creation, transformation, dissemination and preservation of knowledge related to teaching. Research and scholarly endeavours. (Wikipedia, the free encyclopedia, downloaded 1/26/2010). Scholars who are mainly lecturers, academics, and researchers at Universities sustain and exact themselves by their scholarly publications, especially journal articles which are circulated among their peers.

Herther, (2009) has this to say concerning scholarly publication. “It is a key component of

social system of science that have evolved over the years as a key aspect of scholarly research". It is by publishing their work that scientists make their contributions.

The Cornell University Library describe scholarly communication as "The process used by scholars to share the result of there research". (Cornell University Library, 2009). This is seen as a crucial part of research and researchers many of whom are lecturer's and academics of Universities, are often judged by their academic output and list of publications. Their promotion will normally take into account the number of publications and how prestigious the journal they were published in. A researcher's publication list will help create him reputation within his discipline. (Wikipedia, The free encyclopedia).

Communication in academic is so very important to scholars that their lives, so to say are attached to University academic are judged by their academic output and list of publications, for promotion and for creating a reputation within their discipline. By so doing their employers force them to produce more published works under the popular mantra of "publish or perish" (Keefer, 2001).

Thus, communication of scholars has acquired so many tags and descriptions. Garvey in (Herther, 2008) describes it as "the essence of science". Also Meadows in Herther, 2008 describe communication as "vital for research as the actual investigation itself" Cole, Stephen and Jonathan who wrote a decades ago, referred to communication as "The nervous system of science-the system that receives and transmits stimuli to its various parts" (Cole and Cole, 1993).

Scholarly Journals

For the past 359 years, journals have been the medium that have proven to be extraordinarily robust in scholarly communication. Alice Kefer defined a journal as "a collection of articles normally bundled with additional material, in a unified presentation and adhering to a publishing schedule that ensures the production and timely distribution of the information" (keefer, 2001). Journals share with other serial publications the defining attributes of being: issued successfully in separate parts generally identified by chronological or numerical designation with no predetermined termination date.

Scholarly journals are journals that publish high proportion of articles based on original scholarship or research (keefer, 2001). Scholarly authors do not seek economic remuneration for their work but rather recognition in their field. Generally they do not receive payment for their work rather sometimes they pay fees for having their articles published. The publications of journalist sharply contrast those of scholarly authors.

Electronic journals made their appearance in the scene in the 1990's when they were launched as commercial product. They were page images of journals from major scientific publishers and were initially distributed to subscribers on C D ROM. With the extension of internet to cultural and educational institutions, the possibility of both timely mass distribution of e-journals was born. Alice keeper records that the cosmic shift of electronic journals occurred when the tremendous potential of WWW became apparent (keeper 2001). There were initial teething problems and improvements. After that, prestigious publishers began to produce electronic versions of their traditional print journals in electronic formats. Then, libraries began to subscribe to e-journals, and scholarly communication got better.

The Role of Libraries in Scholarly Communication

Academic libraries exist and play significant roles to meet the teaching, learning, scholarly research and other needs of their faculty, students and affiliates in the institutions they are resident. They do so, effectively and efficiently. Their mission is to create and maintain large self sufficient collections for their users. (Webster 1994). The old approaches to provide access to needed information are failing. The reason is that universities continues to reduce the proportion of their over all budgets dedicated to libraries (Webster, 1994). As resource of libraries gets scarcer, the cost of materials is globally rising dramatically. Libraries are forced to cancel their journal subscriptions and by so doing depleting scholarly communication.

The coming of information communication and technology (ICT) is redefining scholarly publishing and transforming libraries from a central repository of printed materials to a gateway for gaining global access to information. This technology has significantly affected scholarly communication. Now, libraries are using the technology to improve the

management of scholarly information and especially to strengthen and speed up access to scholarly information not held locally” (Webster, 1994). At the same time Duane Webster of IFLA sharpened this perspective when she said that the rapid emergence and development of electronic information technologies makes it possible to envision radically different ways of organizing the collections and services the libraries have traditionally provided (Webster, 1994). Thus, even as the crisis of funds lasts, I C T offers possible ways to mitigate costs and revolutionize ways of accessing information, not held locally. By so doing, the process of scholarly communication is enhanced as the scholars are provided additional means of accessing the publications of their peers, electronically. The emergence of one use of information technology is this century’s most significant development affecting scholarly communication (Webster, 1994).

Libraries can access free electronic journals from open access publications in the internet. They can also access free online journals if a library is subscribing to the print version. Libraries can subscribe directly from the publishers web sites or from journal aggregators. University libraries have access to many gigantic databases through licensing.

Libraries are using technology to improve the management of scholarly information. Therefore, libraries are major stake holders in scholarly communication. They perform three quarters of the functions of scholarly communication- which takes them to the centre stage.

Never-the-less, even in this new frontier of information delivery libraries still face tumultuous problems. The provision of the resources are not free of charge. Even the provision of internet connectivity and its

sustainability burden the libraries with very heavy financed out lay. Publishers on their own part charge outrageous high costs to institutions who are the major subscribers to academic journals. This forces the libraries to cancel subscriptions (ICOIC, 2001). The same institutions that sponsor many of the researches carried out by academics are made to pay so highly for the purchase of the research reports.

There is need for a concerted effort by the major players of scholarly communication (scholars academic institutions, publishers and libraries to share common interest in fostering the publication of research reports, to make information accessible and affordable to all. Libraries on their part should act globally to express their market positions on the pricing and other terms and conditions related to the purchase of scholarly journals.

Research Methodology

The descriptive survey design was adopted for this study. The population constituted three different categories of stake holders in scholarly communication namely: Academic Librarians; University lecturers and publishers of academic journals. A Total population of 120 members of the three categories were sampled in the University of Nigeria. A structured questionnaire which was the main instrument for data collection, was administered to the respondents personally. They were to indicate the degree to which the statements made, expressed their views on a four point scale of: Strongly Agree (SA) 4 points; Agree (A) 3 points; Disagree (D) 2 points and Strongly Disagree (SD) 1 points. A Mean of 2.50 was adopted as the criterion Mean. Therefore, any Mean ranking 2.50 and above was regarded as positive or acceptable, while any item or statement that received a Mean score ranking below 2.50 was considered negative or rejected. Data from the study were collected, analyzed and presented using mean scores.

Results

Data Analysis

Table 1: Status of Scholarly Communication in Nigeria

S/N	ITEM	Item Mean
1	Academics in Nigeria are not fully aware of what their peers have published	3.0
2	No locally organized methods of finding out what academics have published	3.0
3	No abstracting and indexing journals in Nigeria	2.6
4	Conferences/workshops are the few avenues of scholarly awareness	3.0
5	University libraries do not have comprehensive list of local publication	3.0
6	University libraries do not have access to all journals published in Nigeria	3.1
7	University libraries do not subscribe to all journals published in Nigeria	3.1
8	The status of scholarly communication in Nigeria is poor	3.0
9	Access to individual CVs is one of the few means of knowing about the publications of peers	2.6
10	Publications of Nigerian scholars are scattered in foreign indexes and abstracts	3.4

N = 120

In this table respondents accepted by varying degrees the items presented in the questionnaire as reflections of the status of scholarly communication in Nigeria. Their responses can be described under three segments. Lack of awareness and unavailability of regular data on scholarly publication (items 1,2& 4) ranked high (3.0 mean) in the mean table. The other segment encircles University Libraries inability to comprehend, procure or access Nigerian scholarly journals (item 5, 6, & 7) were also

highly regarded as contributory to poor scholarly communication (item 8). Highest in the mean table is item (10) the scattering of Nigerian scholarly publications in foreign indexes and abstracts. The least of the accepted items on the mean table are items 3 and 9 (unavailability of indexing and abstracting journals; the use of CVs as few means of locating individual publications). These managed to scale through the 2.5 least acceptable mean.

Table 2: Role of University Libraries in Scholarly Communication

S/N	ITEM	Item Mean
1	Providing scholarly outputs to their clientele	3.0
2	Subscribing to journals which bear academic outputs of scholars	2.6
3	Making available abstracts and indexes which captures scholarly publications	3.0
4	Assisting academics to locate communication materials not held locally	3.0
5	Offering online access which enable scholars communicate remotely	3.0
6	Proving biographies of their holdings to their communities in catalogues	2.6
7	Making available very expensive information resource freely to their clientele	2.5
8	Devoting time to process scholarly publications for easy access	2.7
9	Providing a platform for scholarly research and communication through serial services.	3.0
10	Digitization of their local resources for a web presence of the institution's scholarly output.	2.9
11	Providing network mediated scholarship through internet connectivity	3.6
12	Using Blogs, Portals and Electronic referencing to communicate globally to scholars.	2.4

N = 120

The item that received the highest accent of respondents as the role of libraries in scholarly communication is item 11 (with 3.6 mean). This was followed closely by items 1,3,4,5 & 9, on the table with 3.0 mean respectively (as roles of

libraries in the paradigm of scholarly communication (SC). The third segment of highly regarded and accepted items in this table as roles played by libraries are items 10,8,2 and 6 which scored between 2.9 to 2.6 in the mean table. The least accepted roles of university

libraries in SC is items 7 (which managed to accede the scale with 2.5 mean). One item which respondents failed to accept as role university

libraries play in scholarly communication is item number 12. (using Blogs, Portals and electronic referencing to communicate to scholars).

Table 3: Transformation Resulting from the Paradigm in Scholarly Communication

S/N	ITEM	Item Mean
1	Instrument of scholarly communication is more robust with ICT	3.0
2	Publication of journals are less cumbersome in digital formats	2.6
3	Circulation of scholarly journals are faster and smoother in digital formats	3.5
4	Distance is no longer a barrier in accessing current scholarly journals	3.5
5	Electronic journals are cheaper than their print counterparts	3.0
6	Scholarly peers receive faster communication and feedback in online publishing	3.1
7	Researchers get easily famous as their publication circulate wider	3.0
8	Short comings of huge capital outlay of print publishing are minimized in e-formats	3.1
9	Subscribing institution (libraries) receive timely supplies online	3.4
10	Publishers issue scholarly outputs faster and efficiently online	3.4
11	Frequent referencing and citation of authors makes them more famous	3.0
12	Publishers make more profit in e-publishing	2.9
13	Scarcity of information resources becomes a thing of the past with ICT application.	3.0

N = 120

Table 3 presents the respondents acknowledgment of the transformations resulting from the paradigm of scholarly communication. From the table, items 1,3-12 ranked very high as acceptable shifts in SC (with mean between 3.5

to 2.9). Item 2 on table 3 is the least, acceptable to respondents. Never-the-less it scaled through the acceptable mean score of 2.5. Therefore, all the items in table 3 were acceptable as transformations.

Table 4: Hindrances to Effective Scholarly Communication in Nigeria

S/N	ITEM	Item Mean
1	Local content materials are hardly available in searchable formats	3.0
2	Journals published in Nigeria has no organized market	2.9
3	Many journals published in Nigeria are not online	3.4
4	Many libraries in Nigeria are still battling to have web visibility	3.4
5	Effective and efficient use of ICT is still problematic in Nigeria	3.1
6	Unsteady power supply hinders ICT use in scholarly communication	3.5
7	Slowness of the internet causes limited retrieval capacity of online resources	3.5
8	Scholars in Nigeria have limited knowledge of internet search	2.6
9	Many scholarly outputs in the web are not given free of charge	2.8
10	University libraries do not have equal license to global databases	3.4
11	Many publishers in Nigeria do not have electronic access	3.4
12	Nigerian publishers do not have a national network / fora	3.0

N = 120

All the items (1-12) on table 4 were acceptable to respondents as hindrances to effective scholarly communication in Nigeria. The only item which does not seem to respondents as a

really threatening limitation is item 8 (limited knowledge of internet search) with 2.6 mean, on the table.

Table 5: Solution to the Problems of Poor Scholarly Communication

S/N	ITEM	Item Mean
1	Local journal publishers should publish online	3.4
2	University libraries should endeavour to initiate web visibility for their institutional research publications	3.1
3	University libraries in Nigeria must have internet connectivity	3.5
4	Scholars and researchers should be encouraged to publish in open access journals	3.5
5	Proactive reconstruction of intellectual property rights is necessary for authors to retain ownership	3.1
6	Libraries in Nigeria should assist faculty to start their own online publication	3.0
7	Nigerian universities should support Goggle open Access plans	3.0
8	Nigerian publishers should publish online	3.4
9	Nigerian National Universities Network is paramount for the sharing of resources	3.0
10	The NLA should develop and sustain a Nigerian periodicals directly	3.4
11	National Abstracting journals should be published in different fields of study	3.4
12	There should be a network of publishers in Nigeria	3.5

N = 12

Table 5 presented the proffered solutions towards the problems/ hindrances to scholarly communication presented in table 4. The items presented were regarded highly by respondents as commensurate to solving the problems. All of the items have mean between 3.5 to 3 points. They were therefore, acceptable to respondents as solutions to the hindrances of SC.

Discussion

The status of scholarly communication (SC) in Nigeria is poor. Several factors combine to make it so. Academics and scholars who are primary stake holders in SC are not fully aware of the publications of their peers. This is because there are not organized means of information, such as indexing and abstracting journals. As a result of this university libraries can not keep track nor subscribe to all the scholarly journals published. The only available means of keeping track of scholarly publication are through: foreign indexes and abstracts; attending locally organized conferences and workshops and through access to the individual CVs (Curriculum Vitae) at appraisals, appointments or departmental portals at web sites.

University Libraries are indispensable stake holders in SC. They provide scholarly outputs by: regularly subscribing to journals, abstracts and indexes, offering online access to publications not held physically to their communities. They devote time to process their holdings for easy access to their clientele. They

provide other platforms for scholarly research such as network mediated scholarship via internet, and data base connectivity. Materials that ordinarily, individual authors and researchers may not be able to procure due to their economic value are provided by university libraries. They also personally assist scholar to get at needed literature in their fields of study and areas of research. University libraries embark on digitization projects and participate in the processes of securing web visibility to their institutions for the benefit of scholars' world wide.

Respondents rejected the idea that, using Blogs, Portals and Electronic referencing, libraries play a role in SC. Their response is understandable because this is one of latest strategies that libraries use now. Many of the respondents are not librarians and may not have been aware of this strategy.

Scholarly communication has passed through transformations as a result of paradigm shifts in Information Communication Technology (ICT). As a result SC is made more robust; publications are less cumbersome; journal subscriptions are faster and smoother such that scholarly peers receive better communication and feed back. Publishers are also thriving in the new paradigm while authors are getting more famous from frequent references and citations to their outputs. ICT also make publication much cheaper and easily accessible than their print counterparts.

There are yet many hindrances to scholarly communication in Nigeria. Ranked by the mean scores, one of the major hindrances to scholarly communication is that of infrequent power supply and the slowness of the internet. Sequel to this problem is that many journals published in Nigeria are not online. Added to this is the fact that many university libraries are still struggling to secure license to access international Databases. Lack of effective and efficient use of the ICT by majority of Nigerian scholars hinders access and use of electronic information resources.

Other sets of hindrances to SC are that available local materials are hardly in searchable formats, and their publishers do not have electronic outlets for the publications. To procure all that local publishers have published is a problem because of lack of organized markets for them. When access to the internet is affordable, the problem of having free access is another hindrance. One of the problem not highly regarded by respondents in this research is that of limited knowledge of internet search by scholars. The capacity building programme of the university of Nigeria on ICT may have drastically reduced this hindrance, hence the rejection.

The solutions proffered to overcome the hindrances are articulated from respondents responses in this research. These be arranged in four segments following the pattern of the mean scores in table 5. The prime solution with 3.5 mean include the following: Respondents are agreed that internet connectivity is a must do for all university libraries in Nigeria. They are also agreed that Nigerian scholars should begin to publish in open access to enable academics communicate freely. That publishers in Nigeria should establish electronic networks was also highly favoured by respondents. This will enable them have a fora and revitalize scholarly access to their publications.

The second segment of the suggested solutions with 3.4 mean were: that publishers of local journals should endeavour to give their journals online access. Secondly respondents support the option that journal publishers in Nigeria should also have online access. They also favour the idea that the National Library of Nigeria should publish Nigerian Periodical Directory and ensure that they circulate to Nigerian University Libraries. There is also an urgent need for the publication and sustenance of indexing and

abstracting journals in various fields of study. This will enable researchers in Nigeria to be aware of what their peers are doing.

In the third segment respondents with 3.1 Mean supports that university libraries in Nigeria should as a matter of urgency initiate web visibility for their institutional repositories. This will encourage scholarly research and communication. The universities in Nigeria who sponsor many of the researches that their employees carryout, should take proactive initiatives to reconstruct intellectual property rights to enable authors retain ownership of their publications, rather than mortgage them to publishers. This will bring down the cost of journals and make them affordable to libraries.

The fourth segment with 3.0 mean cluster supports the suggestion that university libraries having acquired experience in Information Communication Technology should assist faculties in their institutions to start their own online publications. Also university libraries should support the campaign for the support of Google open access plans. This will be helpful to many repositories in the web. Subsequently, the institution of an electronic network of all Nigerian universities and their libraries received favourable support from respondents. This is because it will encourage resource sharing and SC between libraries and amongst researchers in Nigeria.

If these suggestions are adhered to, it will go a long way to alleviating the problems of SC in Nigeria.

Conclusion

Libraries are major players in Scholarly Communication. By their activities in procuring, archiving, organizing scholarly outputs; employing technology in accessing information materials not held locally to assist scholars whose lives, growth and fame is dependent on their outputs, libraries provide a rich platform for scholarly research and communication. Information Communication and Technology (ICT) has redefined scholarly publishing and enriched the paradigm of scholarly communication. With it scholars can easily share the results of their peers' research outputs all over the globe. The onus is on Nigerian libraries and librarians to adopt this technology in other to better SC within their domains. In so doing they will assist scholars whose individual lives, growth and fame are dependent on their research

outputs. There is an urgent need for a concerted effort of all the stake holder, (Institutions, Librarians, Publishers and Scholars academics) to cooperate in fostering a sustainable information communication platform, in Nigeria. This will be of tremendous help to scholarly communication.

References

- Cole, Stephen and Jonathan (1993). *Social Stratification in Science*. Chicago: University Press of Chicago Press. pp.106.
- Cornell University Library (2009). *Transforming Scholarly Communication and Libraries* (mhtml:file:///c:/user/chigbuson/Desktop) downloaded 2/6/2010. P.1-2.
- Herther, N.K. {2009}. Research evaluation and citation analysis: Key issues and implications. *The Electronic Library* vol. 27 (3) p 361-371.
- International coalition of Library consortia (ICOLC) (2001). Statement of current perspective and preferred practices for the selection and purchase of electronic information. (mhtml:file:///e:/user/chigbuson/Desktop) downloaded 2/8/2009. P. 1-9.
- Iwhuhwu B.E. and Eyekpegba, E.O. (2009). Digitization of Nigerian University Libraries. *The Electronic Library* vol. 27 (3) 529-536.
- Keeper, Alice (2001). *Electronic journals, scholarly communication and libraries* (mhtml:file:///c:/users/chigbuson/Desktop) downloaded 2/6/2009.
- Kling and Covil (2009). *Electronic journals and open access*. Internet download at <http://www.class.utoronto.ca/epc/chwp/kling/index.html#Toc>
- McEldowney,P.F. (1995). *Scholarly electronic journals, trends and attitudes: research proposal*. Masters Project of the Dept. of Library and Information Studies, University of North Carolina. (Downloaded 2/6/2009).
- Okerson, (1993). *Electronic journals* In McEldowney P.F. (1995). *Scholarly Electronic journals trend and attitudes: a research proposal* Masters Project of the Dept of Library and Information Studies, University of North Carolina (Internet download 2/6/2009).
- Webster, D.E. (1994) *University Libraries and Scholarly Communication: implications of the Mellon Foundation Report IFLANET: 60th IFLA General Conference (proceedings)* p 1-4.
- Wikipedia: the free Encyclopedia (2009) *Scholarly Communication* (mhtml:file:///c:/user/chigbuson/Documents/scholarlycommunication.) Downloaded 1/26/2009. P 1-3.