University of Nebraska - Lincoln

# DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)          Libraries at University of Nebraska-Lincoln

# Information Sources Used by Postgraduate Students in Library and Information Science: A Citation Analysis of Dissertations

R. I. Echezona
*University of Nigeria Nsukka*, ifeomaechzona@yahoo.com

V. N. Okafor
*University of Nigeria Nsukka*, vickaforn@yahoo.com

Scholastica C. Ukwoma
*University of Nigeria Nsukka*, stica2004@yahoo.com

Follow this and additional works at: https://digitalcommons.unl.edu/libphilprac

Part of the Library and Information Science Commons

Echezona, R. I.; Okafor, V. N.; and Ukwoma, Scholastica C., "Information Sources Used by Postgraduate Students in Library and Information Science: A Citation Analysis of Dissertations" (2011). *Library Philosophy and Practice (e-journal)*. 559.
https://digitalcommons.unl.edu/libphilprac/559

# Information Sources Used by Postgraduate Students in Library and Information Science: A Citation Analysis of Dissertations

R.I. Echezona, PhD
Principal Librarian

V.N. Okafor, PhD

S.C. Ukwoma

Nnamdi Azikiwe Library
University of Nigeria Nsukka

## Introduction

Academic libraries are struggling with diminishing funds for acquisition of library materials. The price of books continues to rise, which has forced many libraries to cut back on purchasing. Academic libraries are faced with the problems of meeting the information needs of researchers in different fields of study. This ugly trend affects learning and research in our academic institutions, and leaves researchers with few resources. Online resources can help alleviate these problems; however, there is a limit to the quantity and quality of information that one can easily access. Some electronic materials require subscription fees that may not be within the reach of the users. Librarians must have a clear understanding of information needs and information resources used by researchers. One way to do this is by analysing theses to discover what materials are cited most by researchers. This will enable librarians to provide these materials and encourage learning and research. This can be done through citation analysis. The result of the analysis will help librarians base the acquisition of library materials on facts not on opinion.

Citation analysis is a tool for measuring library collection use. It has been applied in the evaluation of journal collections, for deciding whether to acquire, continue, or discontinue the subscription (Smith 1981). Citation analysis is an aspect of bibliometrics, which studies the references used in documents. Citation analysis involves counting how many times a paper or researcher is cited, assuming that influential scientists and important works are cited more often than others. Citation analysis was developed in information science as a tool to identify core sets of articles, authors, or journals in particular fields (http://sherlock.ischool.berkeley.edu/asis96/node4.html)

The study was carried out to find out what journals were most cited, the major subject areas covered in the research, and the extent to which different library and information science resources were cited by postgraduate students in the Department of Library and Information Science. Citation analysis can be used to determine information sources used by doctoral students in their research projects (Kuruppu and Moore, 2008).

Researchers need access to many different kinds and formats of information, including books, journals, etc. The type of information sources used and their currency are necessary for both research and for national development. The poor economic situation and devaluation of the currency make it difficult to acquire the much needed resources to keep our resources up to date. The Internet has contributed to the provision and spread of information, information are accessed irrespective of time and location. Majority of the information we access are current and up-to-date. Publishing in the Internet is quite easy. It is much faster and easier than with print publication. These are all recent innovations that have come in to easy the problem of accessibility of information materials, all it involves is to sit down at a computer and navigate from one information source to another by the click of the mouse. Information is power and there is need for it to be always current and up to date. This can be achieved through the libraries performing their functions in the provision of information.

The understanding of the information sources used by postgraduate students will help the library to acquire regular and current journals and other information sources needed by these researchers. Acquisition of needed information resources leads to availability of required current information and will help students to conduct effective research and sound comprehensive work. It is based on this background that postgraduate theses submitted in the department of library and information science University of Nigeria, Nsukka (UNN), from 1997 to 2007 were studied. UNN is the first federal university to start a postgraduate programme in library and information science in south eastern Nigeria. It is also the first indigenous university in Nigeria. It started its postgraduate programme in 1997, since then it has graduated many students from both the masters and doctorate degrees programmes.

## Objectives of the Study

The broad purpose of the study is to examine the references used by postgraduate researchers to identify the materials that are mostly needed in their research work while specifically the study was designed to:

- Analyze the extent of different library and information science resources cited by postgraduate students in the Department of Library and Information Science.
- Ascertain the number of Internet resources cited.
- Find the average number of citations per project.
- Determine which library and information science journals are cited most
- Discover the major subject areas

## Scope of the Study

The study covered a period of eleven years, from 1997-2007. This was chosen because it was when the Department of Library and Information Science began postgraduate studies. The years covered help ensure a sufficient number of works that have been assessed by external examiner.

## Literature Review

Citation analysis is an unobtrusive research method that identifies core lists of

journals and monographs in a subject discipline (Kuruppu and Moore, 2008). The usefulness of a discipline is measured by the amount and quality of research completed in the  discipline (Onyancha 2007). Lancaster (1991) stated that "research productivity and impact is measured through an analysis of the number of publications produced and the quality of the sources in which the published materials appears." This implies that sources of citation are important in determining the quality of a work. Journals are accorded importance because they contain firsthand information. Sam (2008) reports that a majority of the items cited were journals (44.5%), while books accounted for 32.5%. Gooden (2000) revealed the same findings. Kuruuppu and Moore (2008) examined the information sources used by doctoral students in agriculture and biological sciences, and found that journals had 24,072 out of 29,894 citations (80.5%). Okafor and Ukwoma (2007) discovered that journals are more frequently used than other resources. Tuńón and Brydges (2005) reported that of the 69.6 references, 47.7 citations (68.7%) on average were from periodicals. Nkiko and Adetoro (2007) discovered that out of the 14,655 citations generated from 557 projects with an average citation of 26.3% per project, monographs had 53.3%, journals 25.1%, online resources 7.7%, followed by others and grey literature with 2.7%. LaBonte (2008) discovered that out of 4,023 citations analyzed from 643 journals, 318 journals (49.5%) had one citation, and one journal (*Applied Physics Letters*) had 267. The mean number of citations per bibliography was 28.77, of which 90.2% was journals, 3.4 % conference proceedings, and 6.4% other formats such as books, patents, and personal communication. Omekwu and Popoola (1991) and Ogunleye (1996) found that monographs are cited more than journals.

Megnigbeto in Nikiko and Adetoro (2008) studied citation of dissertations of library and information science undergraduate students and discovered that the number of citations to online resources was very low. Tuńón and Brydges (2005) had the same findings.

The subject area of research is also an important consideration. Some studies cover different types of library service. Sam (2008) discovered that academic libraries were the subject area covered most. Aina(1999) discovered that the most frequently covered area was professional education, with 12.3%, followed by information technology at 8.5%.

## Methodology

Citation analysis is the research method used in this study. As Aina (2002) describes, references cited are systematically analysed to discover what journals are cited by researchers in a discipline. The population of the study is all the theses of masters and doctoral students of library and information science students who graduated from 1997-2007. There were 79 theses available. All of them were studied, with no sampling. The researchers consulted the theses and use descriptive methods to collect the information needed. The data collected were analyzed using percentages and means.

## Results

Table1: Citation of Library Sources

| Rank | Information source | No of citation | Percentage of citation |
|---|---|---|---|
| 1 | Journals | 2594 | 53.8 |
| 2 | Books | 1484 | 30.8 |
| | | | |

| 3 | Conferences/workshops | 330 | 6.9 |
|---|---|---|---|
| 4 | Dissertations | 210 | 4.4 |
| 5 | Reports | 91 | 1.9 |
| 6 | Newspapers | 57 | 1.2 |
| 7 | On-line Resources | 48 | 1.0 |
|  | Total | 4814 | 100.0 |

Of the 79 masters and PhD theses examined, 4,814 citations were recorded

Table 2: Online Resources Cited

| Year cited | No of citation | Percentage |
|---|---|---|
| 1997-2001 | - | 0 |
| 2002 | 5 | 12.2 |
| 2003 | 2 | 4.9 |
| 2004 | 1 | 2.4 |
| 2005 | 3 | 7.3 |
| 2006 | 9 | 22.0 |
| 2007 | 21 | 51.2 |
| Total | 41 | 100.0 |

Table 2 shows that from 1997-2001, no online information was cited. Online resources were mostly cited in 2007. Out of 41 times that online resources were cited in the 79 projects studied, 51.2% of them were cited in 2007, with 22% in 2006.

Table 3: Average Citations for Types Information Resources

| Rank | Information source | No. of citation | Average citation |
|---|---|---|---|
| 1 | Journals | 2594 | 32.8 |
| 2 | Books | 1484 | 18.8 |
| 3 | Conferences/workshops | 330 | 4.2 |
| 4 | Dissertation | 210 | 2.8 |

| | | | |
|---|---|---|---|
| 5 | Reports | 91 | 1.2 |
| 6 | Newspaper | 57 | 0.7 |
| 7 | Online resources | 48 | 0.6 |

Table 4: Library and Information Science Journals Cited Most

| Rank | Journals | Number of citation |
|---|---|---|
| 1 | College and Research libraries | 178 |
| 2 | African journal of library ,Archive and Information Science | 155 |
| 3 | Nigerian libraries | 58 |
| 4 | Journal of Academic Librarianship | 52 |
| 5 | Nigerbiblio | 39 |
| 6 | Microform Review | 31 |
| 7 | AACD Quarterly | 28 |
| 8 | International journal of information review | 21 |

## Major Areas of Research

The most popular research area between 1997-2007 was Library management/administration (25.3%), followed by user studies (21.5%), Collection development and library cooperation (8.9% respectively), academic libraries (6.3%), school libraries, publishing, the book trade, and technical services (3.8% respectively), preservation studies (2.5%), while bibliometrics, special libraries, and public libraries scored 1.3% each.

## Discussion

The 79 theses generated 4,814 citations. As shown in table 1, journal articles (53.8%) were most cited of all the information sources by the postgraduate students. This is in line with Sam (2008); Okafor and Ukwoma (2007), Gooden (2000) who found  that researchers make reference to more journal articles than other information sources in literature search. This can be attributed to the fact that professional journals are major sources of information for academics to carry out meaningful research. Books in all forms, including monographs and encyclopedias were also frequently used (30.8%) but not most cited. This is not in line with Omekwu and Popoola (1991), Ogunleye (1996), and Nkiko and Adetoro (2008), who found that monographs are cited more than journals.

Online resources were cited least, as shown in Tables 1 and 2.This agrees with Megnigbeto (2007) and Tuñón and Brydges (2008) who found that the percentage of online resources is very low when compared with other information sources.

This may be because students are not familiar with online searching or a lack of training and access to the Internet. Lack of access may be non-availability, non-affordability, or lack of power supply.

*College and Research Libraries* was the journal cited most (178 times). This has to do with availability of the journals in the departmental library. *African Journal of Library, Archive, and Information Science* was also cited, because it was available and individuals usually have access to it.

Finally, the study revealed that library management and administration was the most-researched topic, followed by user studies. This does not agree with Sam (2008), who found that discovered that academic libraries were the most popular subject area. Aina (1999) found that professional education was the most covered subject. Areas like bibliometrics, special libraries, and public libraries were least studied. Other areas with low coverage were school libraries, technical services, publishing and book trade, and preservation.

## Conclusion

The use of citation analysis for this study was to provide a better understanding of the information used by postgraduate students in library and information science in the University of Nigeria Nsukka. The study revealed that the students consulted and used mostly journals in their research work, and the most-cited journal was *College and Research Libraries*. This confirms one of the problems with citation analysis: the fact that journals are cited most when they are available. The most-cited journals were available in the departmental library. Citation analysis must be used in combination with other methods for acquisition of library resources. The study also revealed that online resources were poorly cited, which may be due to lack of information literacy, cost, and inadequate power supply. The study is also an insight into major subject areas in LIS which are most researched. Low research areas may be due to lack of information and information sources in these areas. It is eye-opening to the acquisitions librarian and the lecturers in the library school.

## Recommendations

- There should be an Information and Communication Technology (ICT) laboratory in the department of Library and Information Science to enable the students and lecturers to have access to online resources.
- Information literacy should be part of the curriculum to enable use of open access resources that are available.
- The library management should collaborate with the department in acquisition of the information sources that are relevant for their studies, especially the most cited journals and monographs.
- Journal acquisition should be given priority, with subscriptions to journals in library and information science.
- There should be more awareness in the curriculum of areas of LIS such as bibliometrics.

## References

Aina, L.O., & Mooko, N.P. (1999). Research and publication patterns in library and information science. *Information Development* 15 (2) p116

Aina, L.O., & Ajiferuke, I.S.Y (2002). Research methodologies in Information science. In Aina, L.O. (Ed.) *Research in information sciences: An African perspective.* Stirling-Horden. Ibadan

Burke, J. (1999). *Intronet: A beginner's guide to searching the Internet*. Neal-

Schuman, New York.

Gooden, A.M. (2001). Citation analysis of chemistry dissertations: An Ohio State University case study. http://www.ist/org/o1-fall/index.html. Accessed on 20/11/08

Kuruppu, P.U., & Moore, D.C. (2008). Information use by PhD students in agriculture and biology: A dissertation citation analysis. *Portal: Libraries and the Academy,* 8(4), 387-405.

Nkiko, C., & Adetoro, N. (2007). Pioneer bachelor degree: Citation analysis of Covenant University Students' Research projects. *Library philosophy and Practice*

Ogunleye, G.O. (1996). Undergraduates' use of research literature: A bibliographical citation analysis of science project reports accepted by a Nigerian University 1981-1992. *Library Bulletin* 1(2).p58.

Okafor, V.N., & Ukwoma S.C. (2007). Availability and use of information resources by academics in science and engineering faculties in Southern Nigerian Universities. *The Information Technologist* 4(2) p 175.

Omekwu,C.O., & Popoola, S. (1998). Improving citation behavior of University students in developing countries: A critical review of thesis literature at the University of Ibadan. *Library Bulletin* 2(1&2) p 44-51

Onyancha, O.B. (2007). LIS research in Africa: How much is it worth? A critical analysis of the literature, 1986-2006. In *World Library & Information Congress: 73rd IFLA General Conference 19-23 August 2007, Duban, South Africa.* http://www.ifla.org/iv/ifla73/index.htm. accessed on 3/11/08

Sam, J. (2008). An analysis of papers published in the Ghana Library journal: A bibliometric study. *African Journal of Library, Archives & Information Science* 18(1) p55.

Smith, L. (1981). Citation analysis. *Library Trend*s *30* summer. 83-106

Tuñón, J., & Brydges, B. (2005). Improving the quality of University Libraries through citation mining and analysis using two new dissertation bibliometrics assessment tools. In *World Library & Information Congress: 71st IFLA General Conference 14-18August 2005, Oslo, Norway* http://www.ifla.org/iv/ifla71/programme.htm. Accessed on 20/11/08