CITATION ANALYSIS OF THE LITERATURE USED IN POLITICAL SCIENCE DOCTORIAL THESES AND DISSERTATIONS IN THE UNIVERSITY OF LAGOS 1990-2000: IMPLICATIONS FOR COLLECTION DEVELOPMENT

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Abstract

In this study a bibliographical citation of Political Science Doctoral dissertations and theses in the University of Lagos was carried out using the manual technique of citation counts. Results show that researchers cited more textbooks than journals in the research work. The researchers' use of journal at this level is rather inadequate. The study provides Librarians with data necessary for a review of the library instruction programme for researchers. A recommendation is made for a discipline based collection development policy.

Introduction

The University of Lagos was established by an Act of Parliament in April 1962. However, its academic programme started in October of the same year. Its development stage was planned in three phrases – phase one started in October 1962, the second phase commenced in October 1964 while the third phase started by October 1971. The current enrolment is about 33,000 dispersed among nine faculties including the School of Postgraduate studies.

The School of Postgraduate studies was established in 1981 by the Senate of the University. It is saddled with the responsibility of streamlining graduate studies in all the departments in various faculties while the academic departments retain full responsibility for graduate programmes.

The Faculty of Social Science emerged in the late 1980s from the School of Social Studies, which was initially a unit of the Faculty of Business, and Social Studies. The Political Science department is one of six in the Faculty, each of

which offers wide ranging courses from undergraduate to postgraduate courses including a Ph.D programme.

The purpose of this study is to analyse the doctoral dissertations in political science submitted to the University from 1990 to year 2000. The objective of the study is to identify the information sources used by the researchers, examine the materials available to them and analyse the literature citied by them. The analysis will be applied to the collection development process at the University library in order to determine whether it has a discipline based collection development policy or not.

What is citation analysis?

Citation analysis according to Johnson (1996) have been applied to a number of library acquisition activities, yet the utility of these studies have been questioned. He claims such a study too often incorporates a worldwide data set in a relatively broad discipline. According to him, this sort of approach may lack relevance to a specific university, its research specialities and ultimately its library collection.

Cronin (1996) also asserts that citation analysis is one of the techniques imported from information science into other disciplines.

Hall (1985) defines citation analysis as a quantitative method of identifying the important literature in a subject discipline. It is used to predict from works authors have used previously, materials likely to be used by researchers in the future. The method studies the numbers of references researchers have made to the published works of other researchers and the number of citations these works have received. Citation analyses have been mainly based on journals, while books are usually used as source of citations (Hall, 1985).

The principle underlying citation studies is Bradford's law of scattering (1948), which postulates that a small core of journals will publish the great majority of articles in a discipline and the remainder will be scattered in large number of journals. Thus if one can determine the core journals for a discipline,

one can likely satisfy a majority of the demands of researchers in that subject by collecting the core journals.

Two approaches to citation analysis according to Hall (1985) can be of value in collection development. The first is Bibliographic citation, which use ad hoc corpus of basic texts, research reports, annual reviews, dissertations or journal articles as sources of references to the cited literature. According to him these references are then compared to library holdings to find out if the work could have been written with the resources available at that library.

The other approach he concludes is non-Bibliographic citation and uses the citation analysis studies available from the Institute for Scientific Information (ISI). Many studies have been performed using the techniques of citation analyses, all of which are based on the assumption that the act of citing an author is meaningful. (Busha 1980). Thus citation studies have been used to establish networks of scientific papers, to rank-journals by importance, to generate additional documents relevant to a search question and to evaluate a scientist's productivity. Studying scholarly literature can reveal citation bridges between different communities. Thus citation analysis is one way of studying relationships between disciplines and research areas. Perhaps a more significant indicator of importance of a particular piece of published research is not the degree that it is used in research. This is best demonstrated by how often a work is cited.

Collection Development Process

Collection development is asserted by Evans (1979) as the universal process in the library world, where by the library staff brings together a variety of materials to meet patron demands. This, according to him, consists of six definable elements, namely: community analysis, policies, selection, acquisition weeding and evaluating. Given the sequential relationship of elements of collection development process, then it is possible to begin to describe the cycle at any point. However, the library's examination of its own community is an appropriate

starting point for an overview as community analysis is the way in which those needs can be best ascertained.

Community in this sense, is used to cover the group of persons that the library has been established to serve. It does not mean only the active users; it means everybody within the community's defined limits. Thus a community might be an entire political unit like the nation, region, town or a more specialised grouping or association like the University, College and Government Agency. Also, the number of patrons that library is to serve may range from the tens of the millions.

For collection development personnel, it provides data on what information the patron community needs; it also establishes a valuable mechanism for patron input into the process of collection development (sash, 1991).

One use the library can make of data collection in a community survey is in preparing a collection development policy. Clearly delineated policies on both collection development and selection provide the librarian involved in collection development with guidelines for choosing items for inclusion in the collection.

Literature Review

A brief survey of the literature illustrates the breadth and potential application of conducting a citation analysis. A substantial number of research papers involving bibliographic citation have been published. The first three articles discussed here analyse the citation patterns of both physical and social sciences and exemplify the usefulness of such studies to collection development. They also addressed the practical application of *bibliometrics*.

Lawani (1976) states that a method of evaluating the quality of a given publication, the work of a researcher or groups of researchers based on citation analysis is gradually gaining ground. He contends that in order to assess the quality of a given publication, the number of times the paper is cited is counted and the quality of an authors work is determined by the number of times he is

cited. Bookstein (1988) sought to establish a foundational argument in favour of using citation patterns for collection development. Garfield (1988) also claimed that the frequency of journal citations could be used in collection development, even so as to select particular titles of local interest in order to address the issue of relevancy. The paper by Swigger and Wikes (1991) attempted to broaden the scope of factors used in collection development decisions to include professional judgement of libraries, faculty request and use studies. A basic tenet to citation analysis is presented by Spies (1991) in his paper in which he indicates that the reference that an author cites are a roughly valid indicator of influence, hence value, to his work.

Finally, Olanlokun (1999) shares the same view with Garfield (1972) on the importance of citation analysis as a tool for evaluation. The latter argues that citation frequency and impact factor could be helpful in determining the optimum make-up of special and general collections. The question on each of these aforementioned parameters and scope raised for librarians is – "How is this relevant to the local collection for which I have to build based upon the research and curriculum programme on going at my institution"?

Limitation

This study has revealed that not much has been done on citation analysis in the political sciences in Nigeria. In his preliminary studies on English and Nigerian languages, Olanlokun (1999) had expounded the need for this kind of study which according to him will show the similarities and differences in perception of scholars on the source of materials they use and how they rate such materials in researches completed by them.

This study was thus based on the researches completed in the political sciences from 1990 to 2000 at doctoral level. its main purpose is to identify sources cited by the scholars. How the researchers rate books, monographs, journals, articles, seminar papers, government documents, dissertations and newspapers. The study also tries to identify the age of monographs, and journal

articles and find out if there is any citation preference in the organs of materials in the reference source used.

Methodology

This study focused on the political sciences theses in the Department of Political Science of the University of Lagos. The period covered was ten (10) years, (1990-2000). Eight of the theses selected fell within the period of study. Lancaster (1977) states that statistical analyses of the literature cited by authors in teir papers are acceptable research procedures in bibliometrics and have been in use for a long time as citation counts. These procedures include techniques as citation counts, bibliographic coupling and co-citation analysis (Merton 1973). Ogunleye (1996) and adds that with the emergence of citation tools as Science Citation Index (SCI) a machine-readable database of citations, and Journal Citation Reprots (JCR), most bibliometric researchers who do not have access to these tools carry out their analysis manually. For this reason this researcher used the manual technique of citation counts. Three information sources; primary, secondary and tertiary, were examined under six subgroups; monographs and books, journal articles, seminar papers, thesis and dissertations, newspapers and magazines, and government documents. Authorship of cited documents was categorized into Nigerian and Non-Nigerian. Nigerian monographs and other documents as it is used in this paper delineated cited publications, which are authored by Nigerians, while those tagged non-Nigerian are of non-Nigerian authorship. In the same vein journal sources were classified into national and international authorship. National journals are those published and mainly focused on Nigeria. international journals in this context cut across national, regional and international boundaries. For each dissertation analysed, the total number of each type of reference was examined. Occasional papers were treated as seminar papers. For each of the titles under consideration in a particular year, the frequency of citation was recorded for each source.

The appendix shows the list of theses and dissertations covered by this study. The nature of each reference in terms of authorship, title and date of publication were recorded.

Data Analysis Results

Five different tables were provided to illustrate the citation pattern of the eight dissertation analysed. Table 1 shows the information on the total number of monographs, journals and other sources cited by the researchers in terms of the six sources of information in their theses. The most intensely cited are books and monographs, followed by journals, government documents, newspapers and magazines, seminar papers and thesis.

Table 1:   Data distribution of materials cited

S/No	Author	Total items cited	Monographs books	Journal articles	Seminar & occasional papers	Newsapers	Govt. publication
1	Abumere	288	180 62.5%	74 25.6%		23 7.9%	14 4.86%
2	Ekerendu	73	37 50.7%	7 9.5%	3 4.1%	-	26 35.6%
3	Enemuo	103	73 70.9%	23 22.3%	5 4.8%	1 0.97%	2 1.9%
4	Maiye	126	85 67.5%	16 12.7%	-	-	25 19.8%
5	Maduabum	126	58 46%	46 36.5%	7 5.5%	-	15 11.9%
6	Obi	241	117 48.5%	45 18.7%	27 11.2%	19 7.99%	28 11.6%
7	Ofondu	47	12 25.5%	9 19.1%	-	16 34%	10 21.3%
8	Omeruah	144	90 62.5%	33 22.9%	7 4.8%	6 4.2%	18 12.5%
	Total	1,151	652	253	49	65	138

Table II: Citation preference of author sources for monographs

S/No.	Authors	Nigerian	Non-Nigerian
1	Abumere	37 20.5%	143 79.4%
2	Ekerendu	5 13.5%	32 86.5%
3	Enemuo	22 30.1%	51 69.9%
4	Maiye	56 65.9%	29 34.1%
5	Maduabum	10 17.2%	48 82.8%
6	Obi	28 23.9%	89 76.1%
7	Ofondu	4 33.3%	8 66.6%
8	Omeruah	48 53.3%	42 46.7%
	Total	210	442

Table III: Data distribution of citation preference of journals sources

S/No.	Authors	International	National
1	Abumere	64 86.5%	10 13.5%
2	Ekerendu	5 71.4%	2 28.6%
3	Enemuo	12 52.2%	11 47.8%
4	Maiye	9 56.2%	7 43.8%
5	Maduabum	32 69.6%	14 30.4%
6	Obi	27 60%	18 4.0
7	Ofondu	-	9
8	Omeruah	14 42.2%	19 57.6%
	Total	163	87

Table IV: Data distribution of monographs

Year	Frequencies	Year	Frequencies
1911	1	1965	9
1913	1	1966	5
1914	1	1967	5
1915	1	1968	4
1918	1	1969	8
1929	1	1970	5
1932	1	1971	5
1936	1	1972	8
1937	1	1973	6
1938	3	1974	6
1939	1	1975	6
1940	1	1976	7
1941	1	1977	7
1943	2	1978	6
1944	2	1979	9
1946	1	1980	6
1947	1	1981	8
1948	2	1982	8
1949	1	1983	10
1950	4	1984	2
1951	1	1985	5
1952	2	1986	6
1953	1	1987	6
1954	2	1988	7
1955	2	1989	5
1956	2	1990	3
1957	4	1991	2
1958	6	1992	2
1959	2	1993	1
1960	4	1994	3
1961	5	1995	1
1962	4	1996	1
1963	4	1997	1
1964	8		
Total			248

Table V: **Data distribution of journal articles cited n=652**

S/No.	Year	Freq.	S/No.	Year	Freq.	S/No.	Year	Freq.
1	1914	1	16	1970	2	31	1985	3
2	1932	1	17	1971	2	32	1986	6
3	1944	1	18	1972	3	33	1987	6
4	1953	2	19	1973	3	34	1988	3
5	1956	2	20	1974	7	35	1989	24
6	1957	4	21	1975	5	36	1990	10
7	1958	1	22	1976	5	37	1991	2
8	1961	2	23	1977	4	38	1992	12
9	1962	2	24	1978	4	39	1993	1
10	1963	1	25	1979	2	40	1994	3
11	1964	4	26	1980	5	41	1995	4
12	1965	3	27	1981	3	42	1996	1
13	1966	2	28	1982	7	43	1997	1
14	1967	3	29	1983	4			
15	1968	2	30	1984	6			
	Total							174

Findings

The results on Table 1 indicate a citation preference for monographs by the researchers. The implication is that more current information sources are not cited. For each of the researchers the ratio is almost 1 journal to 3 monographs, which is rather very low. It also indicates a very low usage of theses sources. 2 out of 8 researchers cited theses sources. This is also an indication that either related work these areas of research is limited, or knowledge of researches completed in the field is low. Government publications rated third in rank of total materials cited. This could have been applied as substitute for unavailable journals.

In all, monographs accounted for 56% of the total materials cited while journal articles accounted for 21.9%. Government publications accounted for 11.99%, while seminar papers, thesis, and newspapers account for the remaining 10.11.

Table 2 indicates a citation preference of Non-Nigerian monographs to Nigerian monographs by over one hundred percent increase. This goes to prove the fact that there are more books on Nigeria by Non-Nigerian authors. Table 3

indicates a citation preference for intenraitonal journal sources by 66 per cent to 34% for national journals. Omekwu and Atinmo (1998) as well as Irvine and Martin (1985) have also shown that there were large differences in citation behaviour based on country of journal publication. According to the former authors, the reason for more citation of international and regional journals may be that these are published more frequently and in greater number than national ones. The survey also reveals that Nigerian published journals are not as popular as international journals because of lack of bibliographic and physical access. Usage of these sources however, may also stem from the fact that political science has international implications.

Table 4 and 5 illustrates the frequency level of the sources of information cited. The tables show that majority of monographs cited were between 1957 and 1989 while the intensity of citation was between 1976 and 1990. The mode year is 1983.

Majority of journal articles cited on Table 6 were also published between 1964 and 1997. This analysis indicates that most of the articles cited were published within thirty years of the time of research.

This study shows that researchers under study cited monographs more than any other sources in the course of carrying out their doctoral research. This result though a departure from the pattern of citation at doctoral level, is consistent with the studies by Tewolde (1992) and Obokoh (1985). Relying on data collected from 25 theses in geology submitted for Master's degree in Addis Ababa University, 1870-1990, Tewolde discovered that books and book chapters were heavily cited than journals. This argument may however, not hold for postgraduate students who should be engaged in more serious research. The implication for citation of monographs could be lack of knowledge of recent issues in the fields of investigation.

The heavier use of monographs notwithstanding, on the average, the students' use of journals in this study is encouraging. It was discovered in the

study that about 65 percent of monographs cited in the work were found in the records of the University Library. However, the author cannot confirm physical availability of such materials. Similarly about 50 per cent of the journal articles cited are listed in the University of Lagos records while the frequency of such journals are also not maintained. The author however relies on the argument of Cole and Cole (1971) that the numerical strength of citation counts whether high or low, is evidence that the materials cited are consulted by the researcher. This study then has demonstrated the extent to which the students have used the research information sources held by the library. The results of this study are computed with Olaniokun's (1999) findings on the importance of monographs and books in the works of scholars analysed by him.

Conclusion/Recommendations

This study has utilised the manual technique of citation analysis to analyse researchers' citation of political science doctoral dissertations and theses in University of Lagos. Their citation patterns with reference to books, journals and other documents by national and international authors have also been analysed.

The findings of this study have thus necessitated the need for improvement in researchers citation behaviour. Students and researchers need library user education to enable them embark on more useful and relevant research work as well as make proper citations. This type of education would increase researchers' awareness of information sources of works authored by especially Nigerians.

The library needs to liase with the appropriate academic departments to collect relevant materials for both research and instruction.

The library also needs to ensure that there is a balance between foreign and African titles in order to attain their full impact on teaching and research. There is the need to sustain the publications of local journals which have very short life span due to lack of funding. What is being published needs to be more regular and of better quality. There is also the need for reliable and systematic channels for obtaining the required journals and journal articles.

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The federal government is therefore enjoined to assist the University Libraries to benefit from the supply of books and journals. This will further strength the Library's collection and resources. This assertion is consistent with Olanlokun's (1999) findings in which he states that their regularity depends on government funding and that many of them are in a coma.

References

1. Johnson, Bill (1996). "Citation analysis of the Texas Tech University's statistics facility: A study applied to collection development at the University Library". *Library and information Science Research Electronic Journal*, 6(3):1-8.

2. Cronin, B. (1996). "The export of ideas form Information Science". *Journal of Information Science* 16(6) 1990.

3. Hall, Blaine H. (1985). *Collection Assessment Manual for College and University Libraries*. Phoenix Oryx Press.

4. Bradford, S.C. (1948). *Documentation*. London, Crosby Lockwood.

5. Busha, C.H. and Harter, Stephen P. **(1980)**. *Research methods in Librarianship: Techniques and interpretation*. New York, Academic Press: p.180.

6. Bookstein, A. (1988). "Applications of the bibliometric distribution". In: L. Egghe and R. Rousseau (eds.) *Infometrics* 87/88. Amsterdam, Elsevier Science Publishers, 1988:

7. Swigger, Keith and Wilkes, Adeline (1991). "The use of data to evaluate serials subscriptions in an academic library". *Serials Review* 17(2):41-52.

8. Olanlokun, Olajire S. (1999). Citation analysis of dissertation in English and Nigerian languages submitted to the University of Lagos from 1969-1981: *A preliminary study*. Nigerian Libraries Vol.33 No.2.

9. Garfield, E. (1988). *Citation indexing: Its theory and application in science, technology and humanities*. New York: Dekker S.

10. Garfield, Eugene (1972). "Citation analysis as a tool in journal evaluation". *Science* 178(4060): 471-479.

11. Lancaster, F.W. (1977). "The measurement and evaluation of library service". *Scientific and Technical Journal*. P.126.

12. Merton, R.J. (1973). *The Sociology of Science: Theoretical and empirical investigation*. Chicago: University of Chicago Press.

13. Ogunleye, G.O. (1996). Undergraduate use of research literature: A bibliographical citation analysis of science project reports accepted by a Nigerian University (1986-1992) Library. *Bulletin Nigerian of University Library System*. 1(2):58-68.

14. Tewolde, Stephaness (1992). "Citation patterns in M.Sc. Geology theses submitted in Addis Ababa University Planning 1980-1990". *Nigerian Library and Information Science Review* 10(1&2): 14.

15. Obokoh, N.P. (1985). "First-degree research project on education: characteristics of bibliographic citations". *Nigerian Library and Information Science Review*. 3(1&2):39-43.

16. Cole, J. and Cole, S. (1971). "Measuring the quality of Sociological research problems in the use of science citation index". *American Sociologist*. 6(1):24-27.

17. Omekwu, Charles O. and Atinmo Morayo (1998). "Citation patterns of Agricultural Communication Researchers". *American Journal of Library, Archival and information Science* 8(2):105-112.

18. Irvine, J. and Martin, B.R. (1985). Basic research in the east and west: A comparison of the scientific performance of high energy physics accelerators. *Social Studies of Science* 15:293-341.

19. Lawani, S.M. (1976). Citation analysis and the quality of scientific productivity in Youdeowei A (ed.). *Entomology and the Nigerian Economy* (Proceeding of the 9th Annual Conference and 10th Anniversary of the Entomology society of Nigeria) Ibadan: Entomology Society of Nigeria: p.234-271.

20. Spies, Brian R. (1991). The effectiveness of journals in exploration geophysics. *Geophysics* 56(6):844-858.

APPENDIX

LIST OF THESES AND DISSERTATION COVERED IN THE STUDY

1. Abumere, Paul E. (1998). The effect of organisational climate on work behaviour a study of the federal civil service. Ph.D, Lagos, University of Lagos. 410p.

2. Ekerendu, Edet Hutai (1990). Manpower placement and utilization in the federal civil service of Nigeria. Ph.D, Lagos, University of Lagos. 266p.

3. Enemuo, Francis Chigbo (1990). Communal organisations, the state and rural development: The political economy of community self-help efforts in Anambra State, Nigeria. Ph.D, Lagos, University of Lagos. 286p.

4. Maiye, Joseph Olajide (1992). The dialectic of food politics in Africa: The Nigerian expression. Ph.D, Lagos, University of Lagos. 329p.

5. Maduabum, Chukwuma Paul (1991). The utilization of trained middle-level management in the federal civil service of Nigeria. Ph.D, Lagos, University of Lagos. 300p.

6. Obi, Cyril Iwenwanna (1992). State and oil in Nigeria. Ph.D, Lagos, University of Lagos. 389p.

7. Ofondu, Nnamdi Chika (1994). *Nigeria's trade relation with industrialised capitalist countries of the West: The problem of unequal change and the impact of Nigeria's economy.* Ph.D, Lagos, University of Lagos. 687p.

8. Omeruah, Samson Emeka (1999). The impact of military rule on Nigerian federalism. Ph.D, Lagos, University of Lagos. 284p.