

Citation Analysis of Doctoral Dissertations Submitted between 1990 and 2010 in the Department of Economics, Aligarh Muslim University, Aligarh (India)

Jamal Nasir
Aligarh Muslim University
India
jnasir11@yahoo.com

Devendra Kumar
Chaudhary Charan Singh University
India
dkdeobhu@gmail.com

ABSTRACT: *4,875 citations in the doctoral dissertations submitted between 1990-2010 in the Department of Economics, Aligarh Muslim University, Aligarh, India were analyzed to ascertain the authorship patterns, distribution of literature by format, language, country and decade, and ranking of journals by citation frequency,. It is found that books are the most dominant form in which information is communicated in economics. The dominant language of the literature cited is English. And the single authorship prevails in the citations.*

I. Introduction

Diodato (1994) defined citation as “A wide-ranging area of bibliometrics that studies the citations to and from documents. Such studies may focus on the documents themselves or on such matters as: their authors; the journals (if the documents are journal articles) in which the articles appear; the organizations or countries in which the documents are produced; the purpose of the citations.” Citation analysis is a worthwhile area of research in the domain of library and information science field. Liu (1993) asserted that knowledge providers in library and information have been at the forefront of citation analysis research.

Citation analysis is one of the popular methods employed in recent years for identification of core documents and complex relationship between citing and cited documents for a particular scientific community in a geographical proximity. The purpose of the present study is to investigate the use pattern of literature as revealed through the citation analysis of the doctoral dissertations submitted between 1990 and 2010 in the Department of Economics, Aligarh Muslim University (AMU), Aligarh, India.

II. Literature Review

A review of literature reveals that a considerable number of studies have been carried out on bibliometrics and citation analysis in various disciplines.

Hart (2007) did a study on the collaboration and article quality in the literature of academic librarianship. He utilized citation counts of 543 articles from *College & Research Libraries* and *The Journal of Academic Librarianship* over a ten-year period and found no evidence to support the hypothesis that co-authored articles are of a higher quality. In both journals, the majority of articles have one author.

Leiding (2005) conducted a study on the James Madison University Library's collection needs and found that the proportion of journal citations in relation to books has increased slightly over the period of 1993-2002. Though her intention was to examine the pattern of use of electronic journals, it could not be accomplished as there was no indication in the citations whether a journal article was accessed in print or electronic format.

Buttlar (1999) did a citation analysis of 61 LIS dissertations and found some interesting publication patterns. About 80% of the citations were of single authors. He also found that journal articles were cited more than books, book chapters, proceedings, theses, and other print resources. The most cited journals were *College & Research Libraries* and *Journal of the American Society for Information Science*. Over half of the works cited were published within the last 10 years and originated from USA and UK.

Tonta and Al (2006) studied on the scatter and obsolescence of journals cited in theses and dissertations of librarianship. They analysed bibliometric features such as the number of pages, completion years, the fields of subject, the number of citations and their distribution by types of sources and year of 100 theses and dissertations completed at the Department of Librarianship of Hacettepe University between 1974 and 2002. They found that monographs received more citations than journal articles. The more recently theses and dissertations were completed, the more citations of electronic publications they contain. Among the core journals identified in the field of librarianship were *Tu`rk Ku`tu`phanecilig` i*, *College & Research Libraries*, and *Journal of the American Society for Information Science*.

Line and Sandison (1974) stated that citation analysis documents not only the relationships among journals, papers and authors, but also investigates the quality and quantity of research work. Citation data is used in the study of the growth and aging of the literature, although some researchers preferred to use documented user data for studies of aging and obsolescence. Being an established research tool, citation analysis can be utilised by librarians, educators, researchers and information scientists to study the relationship that exists between the cited and citing documents.

III. Scope of the Study

The scope of the present study is the doctoral dissertations submitted in the Department of Economics, Aligarh Muslim University, Aligarh, India between 1990 and 2010. The main purpose of the study is to find out the current citation trends of the doctoral dissertations in social sciences. For this purpose each book and journal cited are taken for analysis.

IV. Objectives of the Study

The main objectives of the study are as follows:

- To identify the authorship pattern
- To identify the distribution of citations by format
- To identify the distribution of citations by decade
- To identify the distribution of citations by place
- To identify the distribution of citations by language
- To compile a ranking list of books and journals cited
- To compile a ranking list of authors cited

V. Research Methodology

References from 40 doctoral dissertations in the Department of Economics, Aligarh Muslim University, Aligarh, India between 1990 and 2010 were consulted. A total of 4,875 citations were collected, tabulated in Microsoft Excel, and analyzed.

VI. Data Analysis and Discussion

The 4,875 citations were analyzed to ascertain the authorship patterns along with calculation of collaboration coefficient, types of literature, languages, ranking of journals, origins of authors, time span, and geography.

Table 1: Format Distribution of Literature Cited

S. No.	Format	Frequency	Frequency %	Cumulative %
1.	Books	2,183	44.78	44.78
2.	Journals	2,048	42.01	86.79
3.	Reports	170	3.49	90.28
4.	Bulletin/Reviews/ Thesis	165	3.38	93.66
5.	Encyclopedias	44	0.90	94.56
6.	Conferences/ Proceedings	38	0.78	95.34
	Others	227	4.66	100.00
	Total	4,875	100.00	

The citations are from a variety of resources such as Books, Journals, Reports, Bulletins/Reviews/Theses, Encyclopedias, Conference/Proceeding. The main objective of this analysis is to rank the source materials by format. It is found that Books (44.77%) are the most dominant form of information cited. Periodicals and Reports constitute 42.01% and 3.48% respectively.

Table 2: Distribution of Cited Literature by Language

S. No.	Language	Frequency	Frequency %	Cumulative %
1	English	4,536	93.05	93.05
2	Arabic	139	2.85	95.90
3	Hindi	72	1.48	97.37
4	Urdu	66	1.35	98.73
5	German	62	1.27	100.00
	Total	4,875	100.00	

The literature cited was predominantly in English (3,051 citations, 93.10%) while Arabic (139, 2.85%), Hindi (72, 1.48%), Urdu (66, 1.35%), and German (62, 1.27%) combine for the remaining 6.95%.

Table 3: Ranking of Journals by Citation Frequency

Journal	Country	Frequency	Frequency %	Cumulative %	Rank
Economic and Political Weekly	India	232	11.33	11.33	1
Foreign Trade Review	India	98	4.79	16.11	2
Yojana	India	72	3.52	19.63	3
Indian Journal of Agricultural Economics	India	63	3.08	22.71	4
Nagarlok	India	43	2.10	24.80	5
Indian Journal of Commerce	India	39	1.90	26.71	6
Southern Economist	India	36	1.76	28.47	7
American Journal of Economics and Sociology	USA	36	1.76	30.22	7
American Economic Review	USA	32	1.56	31.79	8

IMF, Staff paper	USA	28	1.37	33.15	9
Journal of King Abdul Aziz University: Islamic Economics	Saudi Arabia	22	1.07	34.23	10
Review of Islamic Economics	UK	18	0.88	35.11	11
Islamic Economic Studies	Saudi Arabia	16	0.78	35.89	12
Indian Journal of Political Economy	India	12	0.59	36.47	13
Political and Economic Journal of India	India	10	0.49	36.96	14
Journal of Indian School of Political Economy	India	9	0.44	37.40	15
Reserve Bank of India, Occasional Papers	India	9	0.44	37.84	15
Reserve Bank of India, Bulletin	India	7	0.34	38.18	16
The Indian Economic Journal	India	7	0.34	38.53	16
Fertilizer News	India	7	0.34	38.87	16
Indian Journal of Economics	India	6	0.29	39.16	17
Financial Express	India	6	0.29	39.45	17
Organizer	India	6	0.29	39.75	17
IMF, Working Paper	USA	5	0.24	39.99	18
IMF, Occasional Paper	USA	5	0.24	40.23	18

Quarterly Journal of Local Self Government Institute	India	5	0.24	40.48	18
National Tax Journal	USA	5	0.24	40.72	18
Economic Journal	USA	5	0.24	40.97	18
Journal of Economic Literature	USA	5	0.24	41.21	18
Others		1,204	58.79	100.00	
Total:		2,048	100		

The journals are important source of current information and play a vital role in scientific communication. In the collected data, 2,048 citations appended to the Ph.D. dissertations were from journals. Only 29 journals, in which the frequency of occurrence is at least 5, are listed in the above table. *Economic & Political Weekly* ranks first, which accounts for 232 (11.33%) of the total citations.

Table 4: Authorship Pattern of Literature Cited

S. No.	Number of Authors	Frequency	Frequency %	Cumulative %
1.	Single Author	3,435	81.19	81.19
2.	Two Authors	687	16.24	97.42
3.	Three and more than three	109	2.58	100.00
Total		4,231	100.00	

Table 4 shows the authorship pattern of the cited literature. The single authorship is most prominent with 81.19% of citation frequency. Two authors account for 16.24% of frequency of occurrence while three or more authors are the least frequent with 2.58% of occurrence.

Table 5: Ranking of Cited Authors (Books)

Author	Frequency	Rank
Sidiqui, M.N.	45	1
Ramaiah, V.	39	2
Jalan, B.	38	3

Chatterjee, Partha	37	4
Nair, KRG	36	5
Haq, K. and Kirdar, V.	30	6
Natarajan, S.	27	7
Rauf, M.A.	25	8
Tilak, J.B.G.	22	9
Desai, V.R.M.	20	10
Mukerjee, R.K.	18	11
Chapra, M. Umer	16	12
Ariff, Mohamed	15	13
Faridi, F.R.	14	14
Ahmad, Ausaf	13	15
Ahmad, Sheikh Mohamed	10	16
Chardhwy, M.A. Rasheed	10	16
Anshari, Saifuddin	10	16
Aziz, Ungku Abdul	9	17
Agarwak, A.N.	9	17
Chapra, M.U.	9	17
Uzair, Mohammed	7	18
Mannan, M.A.	7	18
Prakash, S.	5	19
Sharma, J.S.	6	20
Sharma, R.D.	6	21
Ahmad, Ziauddin	5	22
Rehman, M.	5	22
Raju, Rao A.	5	22
Khan, M. Fahim	5	22
Schultz, T. Paul	5	22
Others	1,675	
Total:	2,183	

Table 5 shows the ranking of authors of books cited in the doctoral dissertations under study. M.N. Siddiqui ranks first with 45 citations, followed by V. Ramaiah with 39, and B. Jalan with 38.

Table 6: Ranking of Cited Authors (Journals)

Author	Frequency	Rank
Bhattacharya, Mrinal Kanti	35	1
Tilak, J.B.G.	32	2
Prakash, S.	29	3
Sen, A.K.	26	4
Schultz, T.W.	22	5
Balasubramaniam, M.	20	6
Rangarajan, C.	19	7
Laxminarayan, S.	18	8
Chakaravarty, S.M.	16	9
Shukla, P.R. and Modak, S.	14	10
Kumar, Nagesh	14	10
Kumar, Sanjeev	12	11
Kashyab, S.P.	11	12
Desai, Ashok and Tanija Nisha	10	13
Simpson, H.D.	09	14
Chatterjee, S. and R. Mohan	8	15
Srinivasan, R.	8	15
Rao, V.M.	7	16
Sharma, G.D.	6	17
Detiger, J.G.	6	17
Mali, D.D.	6	17
Kumar, Anil	5	18
Goldher, Bishwanath	5	18
Naidu, A. Subharama	5	18
Prasad, J. Chandra and	5	18

Rao, V. Narayana		
Mitchell, William, E	5	18
Others	1,695	
Total:	2,047	

Table 6 shows the ranking of authors of journals cited in the doctoral dissertations under study. Mrinal Kanti Bhattacharya ranks first with 35 citations, followed by J.B.G. Tilak with 32, and S. Prakash with 29.

Table 7: Frequency of Cited Books by Decade

Decade	Frequency	Frequency %	Cumulative %
1951-1960	17	0.78	0.78
1961-1970	54	2.47	3.25
1971-1980	283	12.96	16.22
1981-1990	397	18.19	34.40
1991-2000	921	42.19	76.59
2001-2010	511	23.41	100.00
Total:	2,183	100	

Table 7 shows the books cited in the doctoral dissertations under study by the decade when they were published. Books published in the decade of 1991-2000 were cited most (42.19% of the total) whereas that in the decade of 1951-1960 were cited least (0.78%). It reveals a trend toward citing more recently published books.

Table 8: Frequency of Cited Journal Articles by Decade

Decade	Frequency	Frequency %	Cumulative %
1931-1940	131	6.40	6.40
1941-1950	89	4.35	10.74
1951-1960	199	9.72	20.46
1961-1970	265	12.94	33.40
1971-1980	185	9.03	42.43
1981-1990	288	14.06	56.49

1991-2000	401	19.58	76.07
2001-2010	490	23.93	100.00
Total:	2,048	100	

Table 8 shows the periodical articles cited in the doctoral dissertations under study by the decade when they were published. Periodical articles published in the decade of 2001-2010 were cited most (23.93% of the total) whereas that in the decade of 1941-1950 were the least (4.35%). It reveals a trend toward citing more recently published periodical articles.

Table 9: Frequency of Cited Books by Country

Country	Frequency	Frequency %	Cumulative %	Rank
India	1,158	53.05	53.05	1
USA	428	19.61	72.65	2
UK	246	11.27	83.92	3
Saudi Arabia	109	4.99	88.91	4
Pakistan	89	4.08	92.99	5
Bangladesh	40	1.83	94.82	6
Hungary	39	1.79	96.61	7
Germany	29	1.33	97.94	8
Singapore	13	0.60	98.53	9
Switzerland	10	0.46	98.99	10
Others	22	1.01	100.00	
Total:	2,183	100		

Table 9 shows the books cited in the doctoral dissertations under study by country. India ranks first with 53.05% of the total citations, followed by USA with 19.61%, and UK with 11.27%.

Table 10: Frequency of Cited Journal Articles by Country

Country	Frequency	Frequency %	Cumulative %	Rank
India	531	25.93	25.93	1
USA	436	21.29	47.22	2
UK	322	15.72	62.94	3
Saudi Arabia	277	13.53	76.46	4
Pakistan	109	5.32	81.79	5
Malaysia	88	4.30	86.08	6
Bangladesh	73	3.56	89.65	7
North Holland	44	2.15	91.80	8
Netherlands	12	0.59	92.38	9
Switzerland	9	0.44	92.82	10
France	5	0.24	93.07	11
Others	142	6.93	100.00	
Total:	2,048	100		

Table 10 shows cited journal articles in the doctoral dissertations under study by country. India ranks first with 25.93% frequency of occurrence, followed by USA with 21.29%, and UK with 15.72%.

VII. Conclusion

For doctoral students of economics at Aligarh Muslim University, Aligarh, India, the preference of literature cited in their dissertations are books and journals in the English language and published in India. Books account for 44.77% of the total of 4,875 citations while journal articles, 42.01%. The English language is predominant in the literature cited (93.10%). And most of books (53.05%) and journal articles (25.93%) cited were published in India.

Of the books and journal articles, they prefer to cite more recently published. Most cited books were published in the decade of 1991-2000 (42.19% of the total) and most cited journal articles were published in the decade of 2001-2010 (23.93%).

Of the journals cited in their dissertations, 29 titles have been cited 5 times or more.

The single authorship (81.19%) appeared most in the citations under study. However, it does not suggest that doctoral students of economics at Aligarh Muslim University, Aligarh, India prefer to cite single-authored literature. It could be that researchers in the field of economics prefer to conduct research by themselves or do not need much collaboration with others. But that warrants another study.

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Author:

Jamal Nasir, Maulana Azad Library, Aligarh Muslim University, Aligarh (U. P), India.

Email: jnasir11@yahoo.com

Devendra Kumar, University Library/Department of Library and Information Science,
Chaudhary Charan Singh University, Meerut (U. P), India. Email: dkdeobhu@gmail.com

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