

LIBRARY HERALD JOURNAL: A BIBLIOMETRIC STUDY

Dr. S. Thanuskodi

Assistant Professor
Library & Information Science Wing,
Directorate of Distance Education
Annamalai University, Annamalai Nagar, India.

ABSTRACT

This paper presents a bibliometric analysis of the journal titled “Library Herald” for the period between 2006 to 2010. The analysis cover mainly the number of articles, authorship pattern, subject wise distribution of articles, average number of references per articles, forms of documents cited, year wise distribution of cited journals etc. All the studies point towards the merits and weakness of the journal which will be helpful for its further development. The result showed that out of 138 articles single author contributed 72 (52.17%) articles while the rest 66 (47.83%) articles were contributed by joint authors. Study reveals that most of the contributions are from India with 89.85 % and the rest 10.15 % only from foreign sources.

Keywords: Bibliometrics, Bibliography, Authorship pattern, Source of Information, Geographical distribution, Citation, Websites, Dissertations.

INTRODUCTION:

The subject of bibliometrics was first defined by Pritchard (1996) as “the application of mathematical and statistical methods to books and other media”. It involves the analysis of a set of publications characterized by bibliographic variables such as the author(s), the place of publication, the associated subject keywords, and the citations. The methods of bibliometrics (and the closely related specialism of informetrics, scientometrics and webometrics (Hood and Wilson 2001)) are used to investigate an increasing range of topics, including: the frequency distributions that characterize the use of words and phrases in text databases; the extent to which websites are linked together; longitudinal studies of the development of academic disciplines; and the extent to which individuals, research groups or institutions are published or cited in the literature (Bar-Ilan 2008; Borgman and Furner 2002; Cronin 1984; Garfield 1979; Thelwall, Vaughan and Björneborn 2005; Wilson 1999). This last application is of particular current importance as publication and citation measures are increasingly being used as performance indicators relating to the quality of the research of an individual or of an institution. There have been several previous bibliometric studies of information science. One of the very first such studies sought to identify the principal subject areas in the discipline (Salton and Bergmark 1979) while, more recently, Goodrum et al. (2001) and Katerattanakul, Han and Hong (2003) have reviewed the discipline’s literature. There have also been several bibliometric analyses of specific subject areas, such as XML (Zhao and Logan 2002), computer supported collaborative work (Holsapple and Luo 2003) and information science (Cai and Card 2008). The very basic attribute of bibliometrics governing the relationships between information items and activities has thus made librarians and statisticians to conduct the bibliometric studies. Hence, we are witnessing large number of bibliometric studies for over last two decades. The present study has been undertaken in order to know the nature and contents of articles in the Library Herald Journal.

REVIEW OF LITERATURE:

Kljakovic systematically reviewed cases in 9 general practice journals and 4 general medical journals and found that just over 7% of 10,607 publications involved single cases in both journal groups. Single cases were mainly published as reports or reviews in general practice journals and letters in general medical journals. Two percent of all single cases were published as original research papers in general medical journals, and none were published in general practice journals. Aoki retrieved 4,487 articles with the publication type “Practice Guideline” from MEDLINE and analyzed them. The results showed that 108 articles were published in 1991 and 436 in 1992 for a 4-fold increase. Additionally, 55.8% of articles were from the United States and 82% were in English. The most common topics included HIV infection, breast neoplasms, mass screening, asthma, and hypertension.

Pratt utilized MEDLINE to perform a bibliometric analysis of the literature of AIDS for the period of 1981 to 1990. That study reported growth statistics for AIDS literature, number of different languages, countries of publication, and number of periodical titles. The AIDS literature grew from fewer than 700 entries from 1981 to 1983 to a cumulative total of 29,077 entries by the end of 1990. The greatest relative expansion came in 1983 with a 24-fold increase compared to the previous year. Gillaspay and Huber also employed Bradford’s law to identify core journal publications for a collection focusing on AIDS in women. That study found that journal scatter for this subset of AIDS literature varied from the scatter in the general literature.

Hasbrouck et al. examined the scientific literature by analyzing citation patterns of specific journal articles to and by the *American Journal of Epidemiology (AJE)*: 178,396 journal citations to and 126,478 citations by *AJE* were made from 1983 through 1999. They sorted citations based on the subject category of the referencing or referenced journal. Clinical medical journals accounted for 50.6% of all citations combined (both referenced to and referenced by *AJE*). General and internal medicine (17.9%), cancer (10.4%), and cardiovascular (4.9%) journals had the highest number of citations. Not many citations to and by *AJE* were found in publications specializing in dermatology, gastroenterology, orthopedics, allergy, anesthesiology, surgery, rheumatology, and other areas.

Hazarika, Goswami, and Das (2003) opined that, “It is used to identify the pattern of publication, authorship citation and coverage of journal papers in terms of geographic, subject, organization and other related parameters. In their study of authorship patterns, Perianes-Rodriguez, Omelda-Gomez and Moya-Aregon (2010) opined that, “Detection and identification of communities with factor analysis is a useful tool for experts in bibliometric and scientometric studies. Likewise the networks obtained are a useful framework for decision making.” The result could help in library resource management and planning strategies for documentation service to the user community of that particular literary discipline.

Similarly, Glover and Bowen (2004) hold the view that, “There are many ways with which bibliometrics and citation tools can be used. Bibliometric analysis can be used to take macro-view of research output.” The

generality of the usage are centered towards multidirectional approaches and studies on documents and authors taking in to consideration the appropriate mathematical and statistical analysis to be applied. Lo (2010) in his study of genetic engineering research says that, "During the past several decades, plenty studies were done to show the productivities and research impact. There are quite an amount of studies which applied the methods adopted from bibliometrics while periodical articles were used for analyzing." The result of the analyses done usually exhibits a lot of useful information that could be used in the proper handling of information sources and resources in a given library, information centre, organization or institution.

Thanuskodi (2010) discussed the research output performance of social scientists on social science subjects. The analysis cover mainly the number of articles, authorship pattern, subject wise distribution of articles, average number of references per articles, forms of documents cited, year wise distribution of cited journals etc. Yeoh and Kaur (2008) analyses the publication output of Research in Higher Education for subject support in collection development in the light of growing interest in diversified domains of research in higher education. Consequently, analysis of 40 issues of publications revealed a diversified usage pattern of bibliographic reference sources by contributing researchers, with a cumulative total of citations being 8,374. A positive trend in research collaboration of contributing authors, and a steady growth in the use of reference sources, periodicals and web documents in the citations signify the trend of scholarly communication of research works in the electronic age. Similar to other disciplines of research findings, journals and books were the most cited source materials for researchers thrash out.

Verma, Tamrakar and Sharma (2007) revealed that majority of the articles in the journal are two-authored and majority of the contributions are from New Delhi. Singh, Mittal and Ahmad (2006) conducted a bibliometric study of literature on digital libraries. The important findings are that most articles (61 percent) are single-authored; author productivity is not in agreement with Lotka's Law, except in one case where the number of articles is three; the maximum number of articles were published in 2003 with English being the most productive language; maximum articles were published in the journal *D-lib Magazine*; distribution of articles nearly follows Bradford's Law; and USA ranked first for maximum number of journals. Tiew (2000) found that 53% of articles contained journal self-citations, and a tendency is noticed for authors affiliated to the institution publishing the journal to cite the journal. Patra, Bhattacharya and Verma (2006) analyzed the growth pattern, core journals and authors' distribution in the field of bibliometric using data from *Library and Information Science Abstract* (LISA) and found that the growth of literature does not show any definite pattern. Dhiman (2000) has done ten year bibliometric study *Ethnobotany Journal* published during 1989-1998. In this paper examines year-wise, institution-wise, country-wise, authorship pattern, range of references cited and length of the articles.

NEED FOR THE STUDY:

The periodicals are the indicators of literature growth in any field of knowledge. They emerge as the main channel for transmitting knowledge. Due to the escalating cost of the periodicals and lack of adequate library budgets the selection of any particular journal for a library should be done more carefully. Therefore, the library authorities are forced to reduce the number of journal subscriptions. Bibliometric analysis has many applications in the Library and Information science filed in identifying the research trends in the subject, core journals, etc. and thereby framing new subscription policy for tomorrow. These studies will be helpful for librarians to plan a better collection development.

LIBRARY HERALD JOURNAL:

The Library Herald (ISSN 0024-2292) is a quarterly organ of the Delhi Library Association which has recently completed 44 successful volumes. The Association places on record the honorary editorial service rendered by Prof. C. P. Vashishth, Dr Sunil Kumar and R.K. Sharma for Library Herald.

OBJECTIVES OF THIS STUDY:

The present study has been undertaken with the objective of analysing the following aspects:

ANALYSIS OF ARTICLES:

- To make an analysis of articles published in Library Herald Journal from 2006 to 2010.
- To identify the number of contributions published during the period of study
- To determine the year wise distribution of articles
- To study the authorship pattern

- To find out the ranking of leading contributors
- To identify geographical distribution of articles
- To study the length of articles
- To study the subject coverage of articles

ANALYSIS OF CITATIONS:

- to discover the number of cited documents and the average number of references per article.
- to identify the number and forms of documents cited.
- to identify the year-wise distribution of cited journals.
- to study the age of cited journals.

METHODOLOGY:

Methodology applied in the present study is bibliometric analysis which is used to study in detail the bibliographic features of the articles and citation analysis of reference appended at the end of each article, published in Library Herald Journal from 2006 to 2010. The data pertaining to Library Herald Journal regarding 138 articles made from volume 44 in 2006 to volume 48 in 2010. Then they are tabulated and analysed for making observations.

ANALYSIS:

The analysis was done in two parts: a) Analysis of articles b) Analysis of citations.

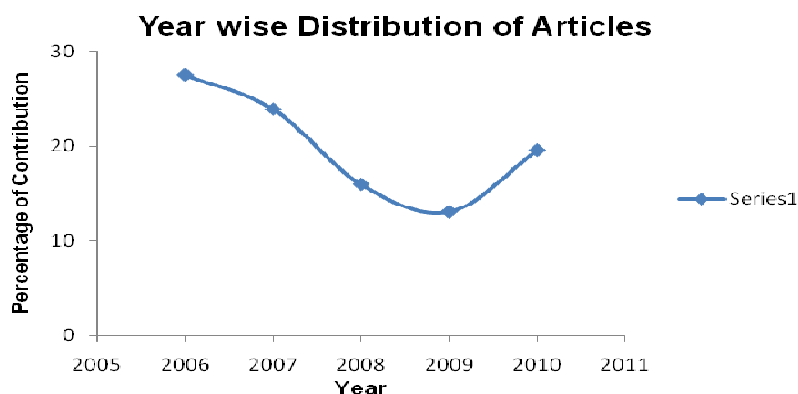
ANALYSIS OF ARTICLES:

All the details such as authors, title, year of publication, pagination, institutional affiliation etc of all articles published from 2006 to 2010 were recorded for the following analysis.

DISTRIBUTION OF CONTRIBUTION:

Table-1 Year Wise Distribution of Articles

Year	Vol. No.	No. of issues	No. of contribution	Percentage
2006	44	4	38	27.53
2007	45	4	33	23.91
2008	46	4	22	15.95
2009	47	4	18	13.04
2010	48	4	27	19.57
Total		20	138	100.00



The Library Herald Journal regularly publishes in international journals of repute. The journal published 138 research papers during the period of study i.e. from 2006 to 2010. The journal on an average has published 28 research papers per year. The above table showed that the maximum number of articles were published in the year 2006 and minimum in the year 2009 articles. The number of research publications of Library Herald Journal for the period 2006-2010 has been given year wise in table-1.

Table-2 Distribution of Articles (Issue-Wise)

Month	Volume Number					Total
	44	45	46	47	48	
March	13	9	5	6	7	40
June	9	11	8	6	7	41
September	7	6	4	6	5	28
December	9	7	5	-	8	29
Total	38	33	22	18	27	138

The table 2 reveals distribution of articles (Issue-wise). Volume No. 44 shows the highest number of total articles. The second highest position is occupied by Volume No. 45. It is followed by volume 48. The lowest number of total articles in volume 47. The contribution of articles in volume 44 and 45 were more in March and June respectively.

SUBJECT WISE DISTRIBUTION OF ARTICLES:

Table-3 Subject Wise Distribution of Articles

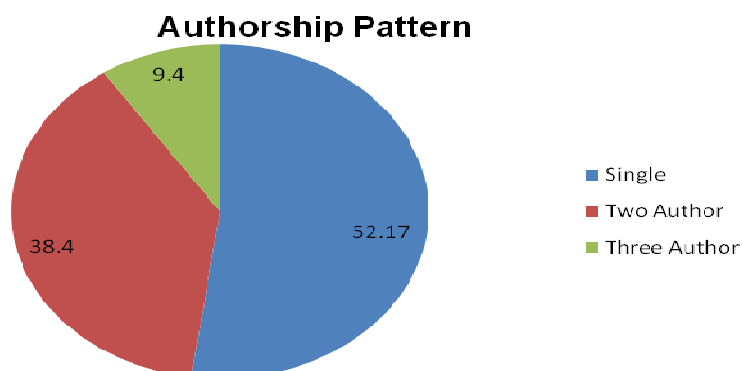
Subject	No. of Articles	Percentage
Library and Information Science & Information Literacy	21	15.22
Library Profession & Academic / Public / Special Libraries	14	10.15
Library Automation	31	22.46
Digital Library & Computer Application	27	19.56
Internet, Consortia & Web Technology	18	13.04
Bibliometric studies	17	12.32
User studies	10	7.25
Total	138	100.00

The table 3 above showed that majority of the contributions appeared under library automation 31 (22.46%) followed by digital library and computer application 27 (19.56 %), Library and Information Science and Information Literacy 21 (15.22%), Internet, consortia and web technology 18 (13.04%), Bibliometric studies 17 (12.32%), Library profession and academic, public, special libraries 14 (10.15%) and user studies 10 (7.25%).

AUTHORSHIP PATTERN:

Table-4: Authorship Pattern

Year	Number of Authors			Total
	1	2	3	
2006	22	15	1	38
2007	19	10	4	33
2008	9	11	2	22
2009	10	5	3	18
2010	12	12	3	27
Total	72	53	13	138
Percentage	52.17	38.40	9.43	100



Collaborative research is very much a feature of the library and information Science especially during the 21st century. It is a natural reflection of complexity, scale and costs of modern investigations in Library and Information Science. Multi authorship provides different measures of collaboration in the subject. Table 4 reveals the authorship pattern of the articles published during the period of study. Maximum number of articles were contributed by single author 72 (52.17%). This is followed by two authors with 53 (38.40%) articles, three authors were contributed 13 articles (9.43 %) of the total articles.

Table-5 Year-Wise Authorship Pattern

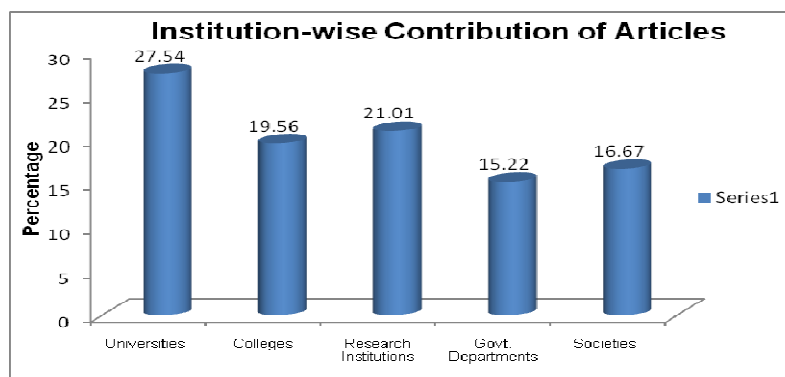
Authorship	Year					Total	Percentage
	2006	2007	2008	2009	2010		
Single	22	19	9	10	12	72	52.17
Joint	16	14	13	8	15	66	47.83
Total	38	33	22	18	27	138	100.00

The above table-5 showed that out of 138 articles single author contributed 72 (52.17%) articles while the rest 66 (47.83%) articles were contributed by joint authors.

INSTITUTION WISE CONTRIBUTION:

Table-6 Institution-Wise Contribution Of Articles

Name of the Institution	No. of Articles	Percentage
Universities	38	27.54
Colleges	27	19.56
Research Institutions	29	21.01
Govt. Departments	21	15.22
Societies	23	16.67
Total	138	100.00



The table 6 envisages the institution wise contributors. These sectors have been grouped into five distinct categories for the convenience of the study. The highest contributions were from universities with 38 (27.54%). This is followed by research institutions with 29 (21.01%), Colleges 27 (19.56%) and societies 23 (16.67%). The remaining 21 articles (15.22%) were contributed by government departments.

GEOGRAPHICAL DISTRIBUTION OF ARTICLES:

Table-7 Geographical Distribution of Articles

Name of the Institution	No. of Articles	Percentage
India	124	89.85
Foreign	014	10.15
Total	138	100

The table 7 showed that most of the contributions are from India with 89.85% and the rest 10.15% only from foreign sources.

LENGTH OF ARTICLES:

Table-8 Length of Articles

Pages	Year					Total	Percentage
	2006	2007	2008	2009	2010		
1-5	5	2	4	5	3	19	13.76
6-10	19	13	9	6	11	58	42.03
11-15	11	14	7	4	8	44	31.89
16 & more	3	4	2	3	5	17	12.32
Total	38	33	22	18	27	138	100.00

Table 8 reveals that the majority of articles 58 (42.03%) have the length of 6-10 pages followed by 44 (31.89 %) articles with 11-15 pages, 19 (13.76%) articles with 1-5 pages and the remaining 17 (12.32%) articles have the length of 16 and more pages.

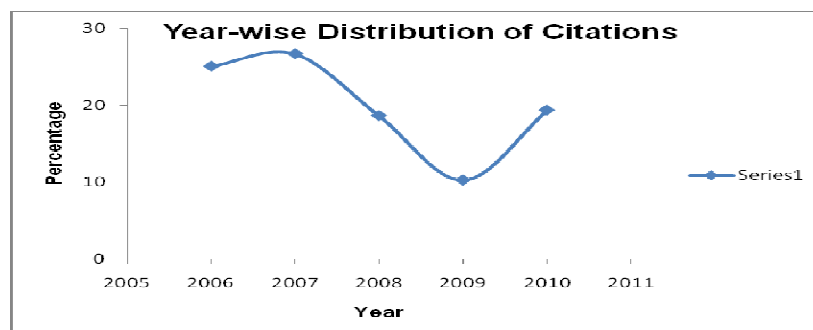
CITATION ANALYSIS:

The references provided by the authors at the end of their articles are the basis of citation analysis. Citation traces a connection between two documents, one which cites and the other which is cited. Citation analysis is one of the popular methods applied to derive the following benefits.

YEAR-WISE DISTRIBUTION OF CITATIONS:

Table-9 Year-Wise Distribution Of Citations

Year	No. of Citations	Percentage
2006	382	25.07
2007	407	26.70
2008	284	18.63
2009	156	10.24
2010	295	19.36
Total	1524	100.00



The above table 9 showed that maximum number of citations 407 (26.70%) produced in 2007 followed by 382 (25.07%) citations in 2006, 295 (19.36%) citations in 2010, 284 (18.63%) citations in 2008 and 156 (10.24%) in the year 2009.

FORMS OF DOCUMENTS CITED:

Table-10 Forms of Document Cited

Forms of Document	Total No. of Citation	Percentage
Journals	494	32.42
Seminar/Conference Proceedings	372	24.41
Books	174	11.42
Dissertations	132	8.67
Research Reports	106	6.96
Special Publications	75	4.92

Reference Books	63	4.13
Websites	40	2.62
Abstracts	34	2.23
Annual Reports	22	1.44
Newsletters	12	0.78
Total	1524	100.00

The table 10 above showed that majority of the contributors preferred journals as the source of information which occupied the top position with the highest number of citations 494 (32.42%) of the total 1524 citations followed by Seminar / Conference Proceedings with 372 (24.41%) citations, Books with 174 (11.42%) citations, research reports with 106 (6.96 %) citations, special publications with 75 (4.92%) citations, reference books with 63 (4.13%) citations, websites with 40 (2.62%) citations, abstracts with 34 (2.23%) citations, annual reports with 22 (1.44%) citations and newsletters with 12 (0.78%) citations. It is found that the researchers preferred journal articles more frequently for their research work, than any other types of communication channels.

Table-11 : Authorship Pattern Of Cited References

Authorship Pattern	Total No. of Citation	Percentage
Single	723	47.44
Two	447	29.33
Three	274	17.97
Four And More	80	5.26
Total	1524	100.00

On analysing the extent of collaborations, it was found that only 47.44% citations (723) involved single authors followed by 29.33% citations (447) involved two authors, 17.97% citations (274) involved three authors and 5.26% citations (80) involved four and more authors.

AGE OF JOURNALS CITED:

Table-12 Age of Journals Cited

Year	No. of Citations	Percentage
Before 1971	27	1.77
1971-1980	38	2.49
1981-1990	223	14.64
1991-2000	361	23.68
2001-2010	875	57.42
Total	1524	100.00

The above table 12 revealed that maximum number of citations accounted in the period 2001-2010, 875 (57.42%) followed by 23.68% in 1991-2000, 14.64% in the year 1981-1990.

CONCLUSIONS:

Bibliometric techniques are being used for a variety of purposes like determination of various scientific indicators, evaluation of scientific output, selection of journals for libraries and even forecasting the potential of a particular field. The popularity in the adaptation of bibliometric techniques in various disciplines stimulated stupendous growth of literature on bibliometrics and its related areas. The journal has published 138 articles during the period of study. The maximum number of contributions are single authors with 83 (52.17%). The present study reveals that the highest number of articles have appeared in the area of library automation in library and information science. Similarly most of the contributions are from India with 89.85 %, while foreign contribution is very less. The study revealed that the highest contributions were from universities with 38 (27.54%). Majority of the authors preferred journals as the source of information providing the highest number of citations (32.42%). The study revealed that maximum number of citations accounted in the period 2001-2010. Library Herald Journal is the highly preferred journal for communication by the library and information science professionals.

REFERENCES:

- [1] Aoki M. 2002. Analysis of the literature on practice guidelines: a bibliometric study. *J Jpn Med Libr Assoc.* 49(1):50–8.
- [2] Bar-Ilan, J. 2008. Informetrics at the beginning of the 21st century a review. *Journal of Informetrics*, Vo. 2, no. 1: 1-52.
- [3] Borgman, C. L. and Furner, J. 2002. Scholarly communication and bibliometrics. *Annual Review of Information Science and Technology*, Vol. 36, no. 1: 3-72.
- [4] Cai, K. Y. and Card, D. 2008. An analysis of research topics in software engineering–2006. *The Journal of Systems and Software*, Vol. 81, no. 6: 1051-1058.
- [5] Cronin, B. 1984. *The citation process. The role and significance of citation in scientific communication.* London: Graham & Trotman.
- [6] Dhiman, A.K. 2000. *Ethnobotany Journal: A ten years bibliometric study.* IASLIC Bulletin, 45(4), 177-182.
- [7] Garfield, E. 1979. *Citation indexing: its theory and application in science, technology, and humanities.* New York: Wiley
- [8] Gillaspay ML, Huber JT. 1996. The literature of women and the Acquired Immunodeficiency Syndrome (AIDS): implications for collection development and information retrieval. *Med Ref Ser Q.* 15(4):21–38.
- [9] Goodrum, A. A., McCain, K. W., Lawrence, S. and Giles, L.C. 2001. Scholarly publishing in
- [10] the Internet age: a citation analysis of computer science literature. *Information Processing and Management*, Vol. 37, no. 5: 661-675.
- [11] Hasbrouck LM, Taliano J, Hirshon JM, and Dannenberg AL. 2003. Use of epidemiology in clinical medical publications, 1983–1999: a citation analysis. *Am J Epidemiol*; 157(5):399–408.
- [12] Hazarika, T. Goswami, K and Das, P. 2003. Bibliometrics analysis of Indian forester: 1991-2000. *IASLIC Bulletin* 48, 4 213-223.
- [13] Holsapple, C. W. and Luo, W. 2003. A citation analysis of influences on collaborative computing research. *Computer Supported Cooperative Work*, Vol. 12, no. 3: 351-366.
- [14] Hood, W. W. and Wilson, C. S. 2001. The literature of bibliometrics, scientometrics, and informetrics. *Scientometrics*, Vol. 52, no. 2: 291-314.
- [15] Katerattanakul, P., Han, B. and Hong, S.S. 2003. Objective quality ranking of computing journals. *Communications of the Association for Computing Machinery*, Vol. 46, no. 10 : 111-114.
- [16] Lo, S.S. 2010. Scientific linkage of science research and technology development: a case of genetic engineering research. *Scientometrics*, 82: 109-120.
- [17] Lotka, A.J. 1926. The frequency distribution of scientific productivity. *Journal of Washington Academy of Sciences*, 16(12), 317-23.
- [18] Patra, S.K., Bhattacharya, P., & Verma, N. 2006. Bibliometric study of literature on bibliometrics. *DESIDOC Bulletin of Information Technology*, 26(1), 27-32.
- [19] Perianes-Rodriguez, A. Omelda-Gomez, C. and Moya-Anegon, F. 2010. Detecting, Identifying and visualizing research groups in co-authorship networks. *Scientometrics*, 82: 307-319.
- [20] Pratt GF. 1992. A decade of AIDS literature. *Bull Med Libr Assoc.* 80(4):380–1.
- [21] Pritchard, A. 1969. Statistical bibliography or bibliometrics? *Journal of Documentation*, Vol. 25, no. 4: 348-349.
- [22] Salton, G. and Bergmark, D. 1979. A citation study of the computer science literature. *IEEE Transactions on Professional Communication*, Vol. 22, no. 3: 146-158.
- [23] Singh, G., Mittal, R., & Ahmad, M. 2007. A bibliometric study of literature on digital libraries. *The Electronic Library*, 25(3), 342-348.
- [24] Thanuskodi, S. 2010. Journal of social sciences: A bibliometric study. *Journal of Social Science*, 24(2), 77-80.
- [25] Thelwall, M., Vaughan, L. and Björneborn, L. 2005. Webometrics. *Annual Review of Information Science and Technology*, Vol. 39, no. 1: 81-135.
- [26] Tiew, W.S. 2000. Characteristics of self-citations in *Journal of Natural Rubber Research* 1988- 1997: A ten-year bibliometric study. *Malaysian Journal of Library and Information Science*, 5(1), 95-104.
- [27] Verma, N., Tamrakar, R., & Sharma, P. 2007. Analysis of contributions in 'Annals of Library and Information Studies. *Annals of Library and Information Studies*, 54(2), 106-111.
- [28] Wilson, C. S. 1999. Informetrics. *Annual Review of Information Science and Technology*, Vol. 34, no. 1: 107-247.
- [29] Yeoh, K.H., & Kaur, K. 2008. Subject support in collection development: Using the bibliometric tool. *Collection Building*, 27(4), 157-166.
- [30] Zhao, D. and Logan, E. 2002. Citation analysis using scientific publications on the Web as data source: a case study in the XML research area. *Scientometrics*, Vol. 54, no: 3: 449-472.
