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Information Research: An International Electronic Journal: A Bibliometric Study (2007-2011)

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Abstract

This study aims to present a bibliometric study of the Information Research: An International Electronic Journal, the aim being to offer a summary of research activity in library and information science and characterize its most important aspects. The paper analyzes a bibliometric study of 153 articles were published during the period October 4, 2007 to December 3, 2011 in the Information Research : An International Electronic Journal. The paper covers the bibliometric analyses of year-wise distribution of articles, category-wise classification of papers, subject-wise distribution of articles, authorship patterns, and institutions-wise distribution of contributions.

Keywords: Electronic Library; Bibliometrics; Content analysis; Electronic Journal

Introduction

In view of the enormous size of literature in various physical forms the present day working librarians face serious managerial problems in the development of collection particularly because of shrinking hid gets escalating prices and worldwide inflation. The present and future information needs of the users are to be met. In addition today's decision making environment is expending to include the involvement of people outside the library faculty, students, administrators, policy makers and others bring in different and sometimes conflicting needs, demands, pressures and beliefs which must be responded to or resolved in some manner in the process of building up collection. It is not possible for any library, nor is it necessary to do so, to acquire all the published documents. Therefore they need to apply a systematic means of

objectivity in selecting what is desired in the collection development program of the library for a need based and balanced collection development programs. It becomes imperative on the part of the librarians to make a survey of the exact requirements of this user either through direct or indirect methods. The librarians requires to contact the users or they be asked to submit the requirements in writing which can also be determined through a structured questionnaire. These methods, howsoever careful do not reflect the actual use of the documents. In many cases, the users are not very sure about the usefulness of their required document before they go through them. The requirements of the users can also be measured in an indirect way from different library records like refreshing data circulation, inter library loan, requests data. Here again these methods do not reflect the actual use of the documents by the users. A document taken from the shelf by the user does not necessarily mean that it is used. There may be the situation when the user gets the document issued in the name for its use at home. But remain unused. The utility of a documents by a user is confirmed only when he makes a reference to that document in his own writing, when he cites it.

Further, each subject field has its own literature and a systematic enquiry into the structure of the corpus of the literature can vividly indicate the bibliographic sources of information that are offerings significance to that subject field. The librarian must enquire into the basic literature situation in the particular subject field in order to make intelligent decisions in the selection of documents. This is more essential in the research establishments and institutions where the users demand are easily defined and very closely identifiable. The librarian is expected to exhibit intellectual responsibility in the filtering process, which should ensure that only the relevant materials are selected and acquired. These acquired materials represent what will be used or has use potential. This is essential for many developing countries especially India, where the task of acquiring materials for adequate collection development is becoming more problematic these days because of the limited space available, in adequate, feeding from their parent institutions and unhelpful import policy of the government and low budget.

Bibliometric studies have been used to study various characteristics of subject literature, both literature cited and literature provided by the researchers. Analysis of bibliographical data permit the description of the characteristics of the literature produced in the field while analysis of citation data enable one to describe the characteristics of the literature cited, and presumably used by researchers in the field. This study aims to present a Bibliometric Analysis of the Information Research: an International Electronic Journal of Library, the aim being to offer a summary of research activity in library and information science and characterize its most important aspects. The study analyzes a Bibliometric studies of 153 articles were published during the period October 4, 2007 to December 3, 2011 in the Electronic journal. The study covers the Bibliometric analyses of ranking of type of documents, authorship pattern in the references, ranking of authors, year-wise distribution of references and year-wise distribution of articles. Issues of the Information Research: International Electronic journals brought out during 2007-2011, have been analyzed.

Related Studies

Reviews a few studies conducted abroad as well as in India on Bibliometric study in chronological order

Thanuskodi (2010b) [1] 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)[2] 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)[3] 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)[4] 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)[5] 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)[6] 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)[7] has done ten year Bibliometric study Ethno-botany 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.

Hypothesis

The hypotheses of present study are as follows

- The present study of Information Research: an International Electronic Journal will be very helpful to increase the qualitative and quantitative collection of the libraries and information centers".
- The present study will be important to the researchers of library and information science for doing their research work.

- The present study will be also helpful to provide the guideline of Bibliometric study of E-Journals.

Need of Study

The basic need of the present study is to the information use pattern by the researchers in Electronic journal of library and information science and to improve collection development measures of the libraries, so that suitable measures can be initiated.

- Librarians are like managers in libraries and they need to objective data to take timely decisions for references statistics.
- Cost of library collections, utilities etc. needs to be continuously evaluation.
- Utility/Presence of documents and non-book materials available in the libraries need to be assessed.
- Library performances indicator to be discussed.
- Academic programmers in the case of university libraries and information centers need to regular assessment for better collection development policies.
- Distributions of publications of authors become basic Bibliometric data.

Objective of the Study

To fulfill the above need, the following are the objectives for the present study

- To know the various forms of information sources, used by research scholars in article.
- To know the authorship pattern in the references of articles.
- To know the ranking of cited authors.
- To study year-wise distribution of references.
- To study year-wise distribution of articles and papers.
- To know the ranking of cited journals.
- To know the ranking of cited publishers.
- To know the ranking of research contributors for Information Research: An International Electronic Journal.
- To study subject-wise distribution of the papers.

Methodology of the Present Study

The literature cited in the Information Research: An International Electronic Journal is the basic source of information to access the information used for the study. Accordingly the reference cited in the end of research papers of Information Research: An International Electronic Journal has been taken as the source data for this study. Reference matter is taken from research papers that published in the Information Research: an International Electronic Open Access Journal of Library and Information Science of last five years (2007-2011). The raw data have been entered in MS- Excel sheet and further indexed for analysis. The data are analyzed with the help of text, tables and graphs.

Scope of the study

The present study is covered the last five volumes of the Information Research: An International Electronic Journal from 2007 to 2011 only. In which, we are analyzed the references data exclusively found at the end of published research articles and papers in the Information Research: An International Electronic Journal only. The total numbers of references are 2684 in the total 163 articles or research papers.

Data Analysis and Interpretation

Current trends are major vehicle for reporting the significant research finding and for publishing papers on the theory and practice of knowledge. It is playing key role in research work because it contains the latest information about current developments in any field of knowledge. The rising cost of journals and also their proliferation have drawn the attention of library authorities to necessarily reducing the number of subscriptions and reviewing the future subscription policy. Application of Bibliometric technique selecting for the most important Journals in university libraries has become a must Bibliometric studies reveal the nature of the information used by researchers. This assessment will enable the librarian to plan for and better collection development and better information services. The references quoted at the end of Electronic Journal have been entered in excel and the data has been analyzed on the following aspects.

- Ranking of type of documents
- Authorship Pattern in the references used
- Raking of Authors
- Year- wise distribution of references
- Year-wise distribution of Articles
- Ranking of Journals
- Ranking of Publisher of Journal
- Analysis of article contributors
- Analysis of subject of main stream

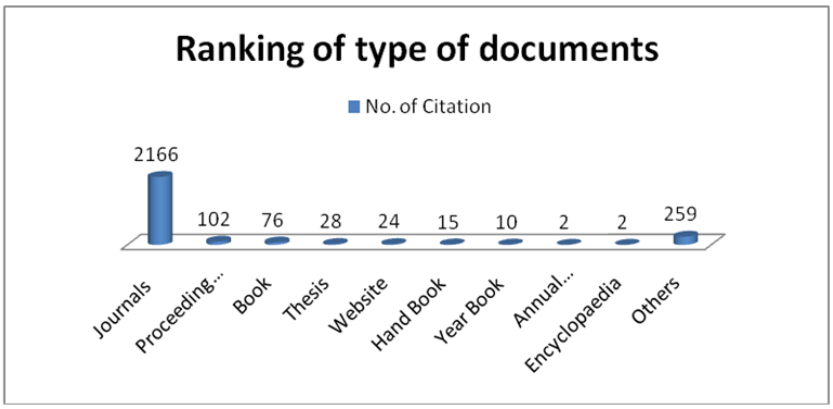
Ranking of type of Documents

Naturally, the researcher in the field of Electronic journal prefers more of journals in doing their research. However, they may refer to other kinds of documents as well in search for information. So an effort has been made to study the type of documents used. In the present study, journals, periodicals, books, thesis, website, hand book, year book, annual meeting, encyclopedia have been included.

Table 1: Type of Cited Documents

S. No.	Type of Documents	No. of Citations	Percentage	Rank
1	Journals	2166	80.70%	I
2	Conference Proceedings	102	3.80%	II

3	Books	76	2.83%	III
4	Thesis	28	1.04%	IV
5	Websites	24	0.89%	V
6	Hand Books	15	0.65%	VI
7	Year Books	10	0.37%	VII
8	Annual Meeting	2	0.04%	VIII
9	Encyclopedia	2	0.04%	VIII
10	Others	259	9.64%	IX
	Total	2684	100%	



Graph-1

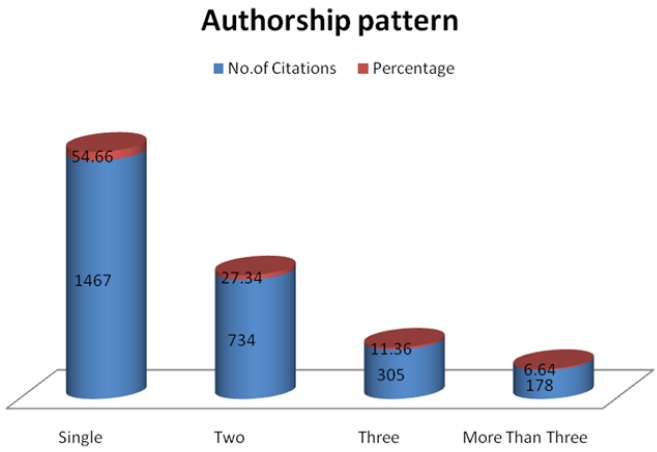
The above table explicates that in the ranking of document types cited by the contributors in Information Research: an International Electronic Journal. The journals is on the top most with 2166 (80.7%) citations followed by conference proceedings 102 (3.8%), books 76 (2.83%), thesis 28 (1.04%), websites 24 (0.89%), handbook 15 (0.65%) year book 10 (0.37%), Annual meetings 2 (0.04%), encyclopedia 2 (0.04%) and others documents 259 (9.64%).

Thus, the study clearly explains that the contributors of Information Research: an International Electronic Journal mostly referred the journals to improve their concept for qualitative research

Authorship Pattern in the References used

Table 2

S.No.	No. of Authors	No. of Citations	Percentage	Rank
1	Single	1467	54.66%	I
2	Two	734	27.34%	II
3	Three	305	11.36%	III
4	More Than Three	178	6.64%	IV
	Total	2684	100%	



Graph-2

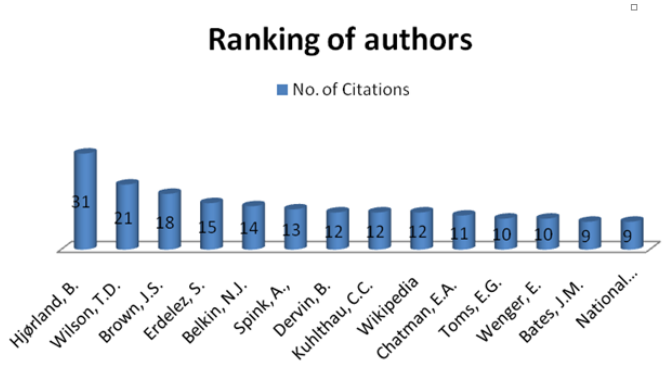
This table gives the brake up of all citation as per their author. It found that and double authorship pattern on the second rank with 734 (27.34%), triple authorship pattern on third rank with 305 (11.36%) while more than three authors are cited only 178 (6.64%) time by the contributors to complete their research papers and articles.

Thus, the mostly contributors of Information Research: an International Electronic Journal prefers the single authorship pattern to taking conceptual view for their research work.

Raking of Authors

Table 3

S. No.	No. of Authors	No. of Citations	Rank
1	B, Hjørland	31	I
2	T.D, Wilson	21	II
3	J.S. Brown	18	III
4	S. Erdelez	15	IV
5	N.J. Belkin	14	V
6	A., Spink	13	VI
7	B. Dervin,	12	VII
8	C.C. Kuhlthau	12	VII
9	Wikipedia	12	VII
10	E.A. Chatman,	11	VIII
11	E.G. Toms	10	IX
12	E. Wenger	10	IX
13	J.M. Bates	9	X
14	NSB of China	9	X
15	K.E. Fishe	8	XI



Graph-3

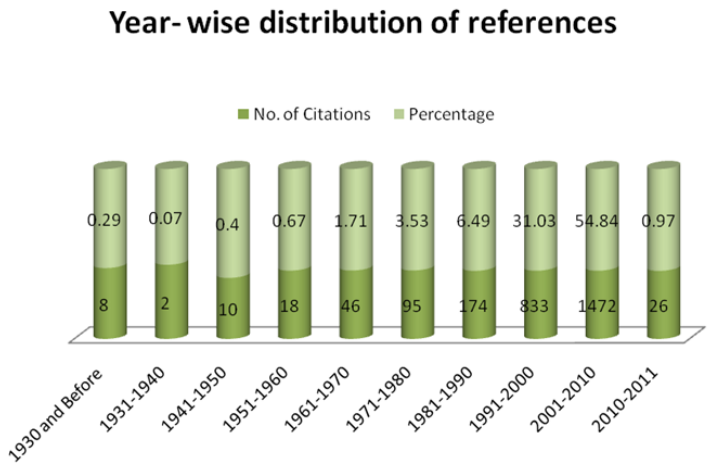
The table-3 explain the ranking of authors it found that in Information Research: an International Electronic Journal the B. Hjørland has been sited 31 times which is highest in the table and also found that T.D. Wilson also cited 21 times and other prominent authors were also cited in modest number.

Thus, it is comprehensible that Mr. B. Hjørland is mostly cited by the contributors of Information Research: an International Electronic Journal.

Year- wise Distribution of References

Table 4

S. No.	Year (In Ten Year)	No. of Citations	Percentage
1	1930 and Before	8	0.29%
2	1931-1940	2	0.07%
3	1941-1950	10	0.4%
4	1951-1960	18	0.67%
5	1961-1970	46	1.71%
6	1971-1980	95	3.53%
7	1981-1990	174	6.49%
8	1991-2000	833	31.03%
9	2001-2010	1471	54.84%
10	2010-2011	27	0.97%
	Total	2684	100%



Graph-4

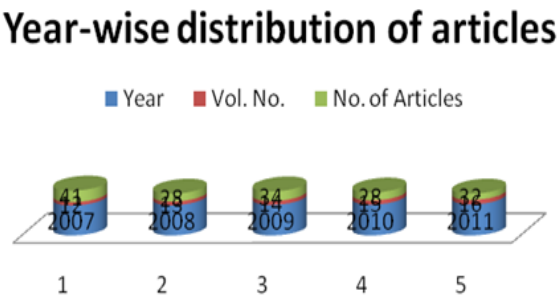
The analysis of year-wise distribution of citations were taken in consideration it found the citations of 2001-2010 at the first rank which were citied 1471 (54.84%) times, followed by before 1930 with 8 (0.29%) citations, 1931-1940 with 2 (0.07%) citations, 1941-1950 with 10 (0.4%) citations, 1951-1960 with 18 (0.67%) citations, 1961-1970 with 46 (1.71%) citations, 1971-1980 with 95 (3.53%) citations, 1981-1990 with 174 (6.49%) citations, 1991-2000 with 833 (31.03%) citations and 2010-2011 with 27 (0.97%) citations.

Thus, it is clear that all most contributors referred the current sources to complete their research works.

Year-wise Distribution of Articles

Table 5

		No. of Articles Issue-wise					
Year	Vol. No.	1	2	3	4	No. of Articles	Percentage
2007	12	14	12	6	9	41	25.15%
2008	13	7	7	7	7	28	17.18%
2009	14	8	9	7	10	34	20.86%
2010	15	5	5	5	13	28	17.18%
2011	16	5	8	9	10	32	19.63%
Total	5	39	41	34	49	163	100%



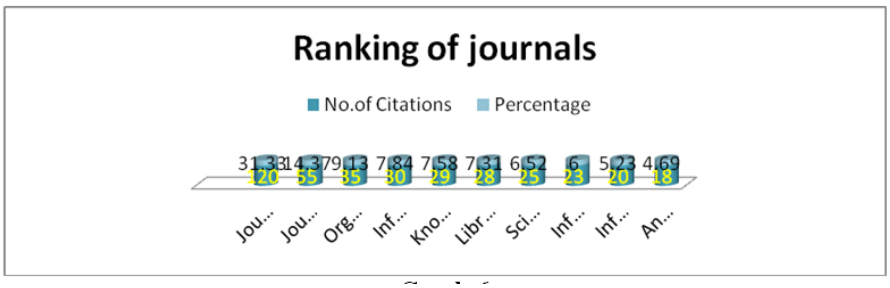
Graph-5

During the period October 4, 2007 to December 4, 2011 the total 163 articles have published in the Information Research: An International Electronic Journal. The table-5 proves that the numbers differs from year by year and there is also increase and decrease the number of articles from the 2007 to 2011. The maximum numbers of articles are 41 in the 2007 which is 25.15% of the total publications, followed by in 2008 total 28 (17.18%), in 2009 total 34 (20.86%), in 2010 total 28 (17.18%) and in 2011 total 32 (19.63%).Thus, it is clear that the maximum numbers of articles have published in the 2007.

Ranking of Journals

Table 6

S. No.	Name of Publisher	No. of Citations	Percentage	Rank
1	Journal of the American Society for Information Science & Technology	120	31.33%	I
2	Journal of Documentation	55	14.37%	II
3	Organization Science	35	9.13%	III
4	Information Processing & Management	30	7.84%	IV
5	Knowledge and Process Management	29	7.58%	V
6	Library & Information Science Research	28	7.31%	VI
7	Scientometric	25	6.52%	VII
8	Information Science and Technology	23	6%	VIII
9	Information Research	20	5.23%	IX
10	Annals of the American Academy of Political and Social Science	18	4.69%	X
	Total	383	100%	



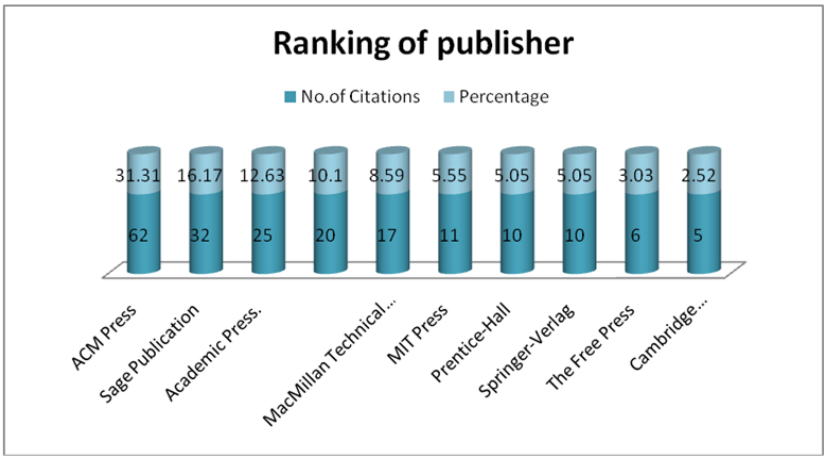
Graph 6

Table-6 demonstrates the list of journal most cited in the field is given in table and show the list of significant journal which are regularly cited in the end of research articles and papers published in the Information Research: An International Electronic Journal. The study covered only the journals preferred by the researcher. Journal of the American Society for Information Science & Technology has highest ranked the with 120 (31.33%) citations and Annals of the American Academy of Political and Social Science has ranked the lowest ranked with 18 (4.69%) citations.

Ranking of Publisher

Table 7

S. No.	Name of Publisher	No. of Citations	Percentage	Rank
1	ACM Press	62	31.31%	I
2	Sage Publication	32	16.17%	II
3	Academic Press.	25	12.63%	III
4	Oxford University Press.	20	10.10%	IV
5	MacMillan Technical Publishing	17	8.59%	V
6	MIT Press	11	5.55%	VI
7	Prentice-Hall	10	5.05%	VII
8	Springer-Verlag	10	5.05%	VII
9	The Free Press	6	3.03%	VIII
10	Cambridge University Press.	5	2.52%	IX
	Total	198	100%	



Graph 7

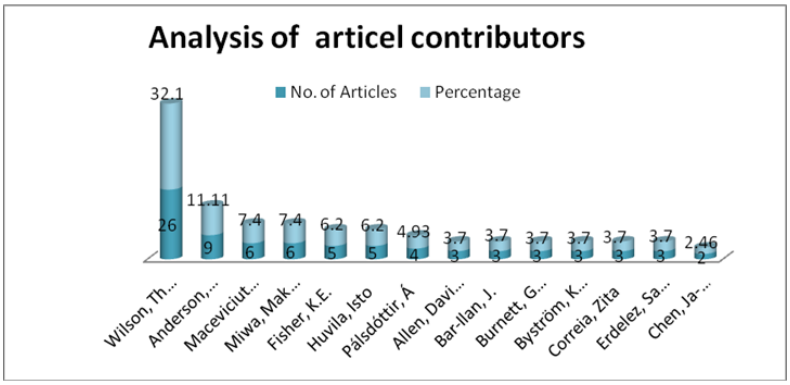
The above table shows the ranking of publishers cited in the Information Research: An International Electronic Journal. In which the highest number of citations 62 (31.31%) for ACM press and lowest number of citations 5 (2.25%) for Cambridge University Press.

Thus, it is clear that mostly users prefer the reading material published from ACM press by contributors for their research works.

Analysis of Article Contributors

Table 8

S.No.	Contributor's Name	No. of Articles	Percentage	Rank
1	Wilson, Thomas D.	26	32.1%	I
2	Anderson, Theresa D.	9	11.11%	II
3	Maceviciute, Elena	6	7.4%	III
4	Miwa, Makiko	6	7.4%	III
5	Fisher, K.E.	5	6.2%	IV
6	Huvila, Isto	5	6.2%	IV
7	Pálsdóttir, Á	4	4.93%	V
8	Allen, David K.	3	3.7%	VI
9	Bar-Ilan, J.	3	3.7%	VI
10	Burnett, Gary	3	3.7%	VI
11	Byström, Katriina	3	3.7%	VI
12	Correia, Zita	3	3.7%	VI
13	Erdelez, Sanda	3	3.7%	VI
14	Chen, Ja-Shen.	2	2.46%	VII
	Total	81	100%	



Graph 8

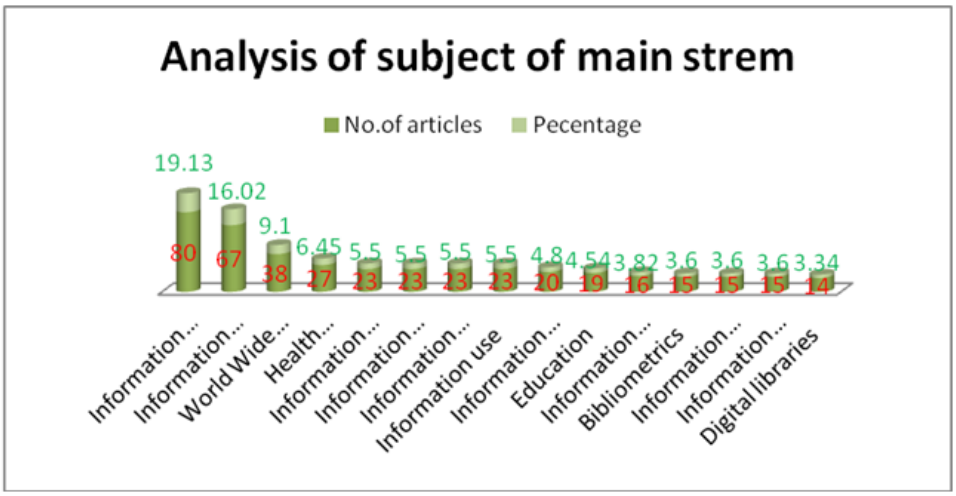
The table-8 illustrates that the analysis of contributors of Information Research: An International Electronic Journal. In which Mr. D. Wilson Thomas at the first position with 26 (32.1%) articles contributed in the last five year (2007-2011) and Mr. Chen, Ja-Shen at the lowest position among the top ten contributors with 2 (2.46%) articles.

Thus, it is clear that the Mr. D. Wilson has contributed highest number of articles to Information Research: An International Electronic Journal.

Analysis of Topics

Table No. 9

S.No.	Topics	No. of Articles	Percentage	Rank
1	Information seeking behavior	147	35.15%	I
2	World Wide Web	38	9.1%	II
3	Health information	27	6.45%	III
4	Information needs	23	5.5%	IV
5	Information skills	23	5.5%	IV
6	Information systems	23	5.5%	IV
7	Information use	23	5.5%	IV
8	Information science	20	4.8%	V
9	Education	19	4.54%	VI
10	Information management	16	3.82%	VII
11	Bibliometric	15	3.6%	VIII
12	Information retrieval	15	3.6%	IX
13	Information searching	15	3.6%	IX
14	Digital libraries	14	3.34%	X
	Total	418	100%	



Graph 9

The table-9 describes that which topic of library and information science is mostly preferred by the contributors for their research work to Information Research: an International Electronic journal. The study found that the research articles or papers are written on the information seeking behavior

Findings

Based on the discussions made in the previous chapters, it is concluded that

- The scope to this study is articles published in Information Research: an International Electronic journal
- Analyzed only these articles published in Information Research: an International Electronic Journal of library science the period October4, 2007 to December 4, 2011.So far we have attempted to find out the meaning of the term Bibliography from its semantic, encyclopedic and technical point of views. It seems that among all the meaning and definitions quoted according the analyze.
- Provides information about the documentary sources used by authors of articles published in the source journal. Citations in the present study comprised mostly the journals, proceeding conference, books, thesis, website, hand book, year book and encyclopedia. The reveals that 2166 (i.e. 80.7%) is out of 2684 citations were that of journal which is the highest, and annual meeting and encyclopedia 2(i.e.0.04%) citation is out of 2684 is lowest form. The study indicates that author of articles referred mostly the journal for support of their thought of research.
- Studying the authorship pattern the citations are arranged according to number of authors contributing paper. It is evident from that 1467 (i.e.54.66%) out 2684 citations are of single authored is the highest. More than three authored contributions accounts for178 (i.e. 6.64%) out of 2684 is the lowest. It cum be concluded that the single author are being preferred by the authors for using

citations.

- Ranking of authors defines it was interest to know. Who has been the famous author among the research article published in the Information Research: an International Electronic Journal. Taking into consideration of research article also only first fifteen ranks. It can be observed that 31 times cited B. Hjørland thought is the ranked first.
- The data shows decade wise distributions2001-2010 decade having 1471 (i.e. 54.84%) citations out of 2684 which is the highest and 1931-1940 decade having 2(i.e.0.07%) citations out of 2684 which is the lowest.
- The data shows the year wise distribution of article per issue. It has found that every year one issue has been published. Reveals that issue number 1-4 of volume number 12(2007) published 41 article (i.e.25.15%) out of 163 article which is highest and issue no 1-4 of volume number 13 &15 (2008 & 2010) published 28 articles (i.e.17.18%) which is lowest.
- A statement of the 10 best frequently cited periodical shown individually. Journal of the American Society for Information Science & Technology 120 time cited which is the ranked first and Annals of the American Academy of Political and Social Science 18 time cited which is the ranked last.
- The publisher wise data is arranged on the basis of the ranked publisher. A statement of the best 10 publisher ranking shows in the table. The ACM Press 52 times cited which is the first and were also catch in modes number. The revels citations
- A Statement of the 14 best frequently article contributors shown individually. First Wilson, Thomas D.26 time cited & last Chen, Ja-Shen 2 time cited. The revels Citations.
- Statement of the 15 Analysis of Subject of main stream shown individually. First subject Information seeking behavior 80 times cited & last Digital libraries 14 times cited,
- During the study it has been found that authors not using complots reference.
- It was also found that some of the citations are not correct or not followed the any the standers to cite the reference.

Suggestions

- The quality of such studies as this depends on the accuracy and correctness of citations give by the authors. In- accurate and in complete citations should be avoided.
- The standers for citing reference should be studies before citing reference.
- Author to be must use standard method (MLA, APA and Chicago) for citations.
- Priority need to be assigned to procure current literature in field of library and information science at national level.
- The author of article should be encouraged to cite latest reference.

References

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