CITATION ANALYSIS OF THESIS IN THE DEPARTMENT OF ECONOMICS OF BANGALORE UNIVERSITY

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Abstract: This paper delineates about the Citation analysis of thesis in the department of economics. Citation analysis is one of the most widely methods of bibliometric. The major area bibliometric research. Citation is an analytical tool for examining reference is also a branch of information science to look at subject focus of post graduate students and determining their journal needs. It is covered the eight grouped journal, books conference papers thesis and dissertations, Government documents technical reports and standards we.

Keywords: Economics, methodology, Analysis and Interpretation, Findings.

1.0 Introduction

Citation analysis is one of the most widely used methods of bibliometric. The major area Bibliometric research. Citation is an analytical tool for examining reference is also a branch of information science to look at subject focus of post graduate students and determining their journal needs. It is covered the eight grouped Journals ,Books, Conference papers, Thesis and Dissertations ,Government Document, Technical reports and Standards Web Resources.

1.1 Definitions: "The analysis of the citation or references or both which from part of the scholarly apparatus of primary communications. The technique is largely used for putting items of references in some kind of rank or order whether they are journals or authors cited". "It is systematic enquiry into the structural properties of the literature of a subject".

1.2 History of Citation Analysis: Science in the 18th century was largely based on personal communication. Further institutionalization and growth of   science during the 19th century made it increasingly possible to communicate Also in this context with text that indicated by personal names yet without primary reference to specific individuals.1910 the number of reference per article has decreased   dramatically to only 1.5 % .After 1910 the number of references per article increased rapidly and the modern citations became a specific layer of communication in and among scientific text " The citation from then on wards can be Considered as a concept symbol". From the 1920's and 1960's library literature as a recorded a number of citation studies but the term "Citation Analysis" never appeared till 1956.Many of them attempted to rank the importance of journals of basis of an average number of references to journals cited in research papers. The first user study of any significant based on more systematic citation count by **Gross and Gross in 1927**. It just attempted to rank in the Chemistry

2.0 Review of Literature:

A literature review is a search and evaluation of the available literature in your given subject or chosen topic area. It documents the state of the art with respect to the subject or topic you are writing about. The research made an attempt to collect the journal article, reports, and books. The researcher studied research article thoroughly which are related to the present topic before starting the survey these references are listed and applied American psychological association method of Bibliography.

Hatrdt, Lukasz (2014)writes about demonstration of the importance of metaphors in economics; and the claim that metaphors are not only used for rhetorical purposes but also serve as research tools indispensable in explaining economic phenomena. They are also essential in economic modelling.

Wang, Yenning &Browsers, J Alex (2016) described the results of journal prominence, interdisciplinary, and eight journal clusters in the citation network indicate that educational administration, as a porous field, intimately interacts with the sub-fields of education other   disciplines (e.g., economics, human resources, sociology, and psychology), and the research internationally).

Abeyrathne, KanishkaDilani (2015) cover study which aims to make recommendations for library collection development because undergraduates expect to satisfy their information need for research activities through

library collection. Core journals were accessible via number of ways. Some journals are subscribed by the Agriculture or via databases through UGC consortia or open access journals.

Peronal, Silvio et.al (2015) suggested that the Citation data needs to be recognized as a part of the Commons – those works that are freely and legally available for sharing – and placed in an open repository. The paper aims to discuss this issue. The Open Citation Corpus presently provides open access (OA) to reference lists from 204,637 articles from the OA Subset of PubMed Central, containing 6,325,178 individual references to 3,373,961 Scholars, publishers and institutions may freely build upon, enhance and reuse the open citation data for any purpose, without restriction under copyright or database law. Unique papers.

3.0 Objectives of the Study
- Identify the types of this study materials cited by master's and Doctoral Student in the department of economics.
- Determine the distribution of citations of master's and Doctoral Student by in the department of Economics.
- Determine the most Rank list of frequently journals in Economics Thesis.
- To understand the Authorship pattern of Journal citation and book Citations.
- Whether Bradford Law Scattering applies to the journal   use pattern of the researcher in the field of Economics.
- To understand the chronological distribution to check of ranked Journal Citation.
- Examine the types of authorship cited by Master's & Dissertation's Students.

4.0 Need for the Study:

The subject of Economics is a larger subject in Social Science faculty. After the Globalization the research domain increased tremendously. Innumerable Journals, Text books, Reports, Conference proceeding, etc. Are publishing extensively on the subject. Therefore the present study was undertaken to find productive list of core journals in Economics.

5.0 Scope of the Study:

The present study is Analysis of Citations which are appended to Doctoral Thesis in Economics during the year 2009-2013.There are 29thesis selected for the study

6.0 Methodology of Research:

The citations of the 29 doctoral theses in the field of Economics were recorded. These citations later grouped according to Journals, Text books, Thesis etc. The present study is focused on references give in 29 thesis by the authors. There were 3042 citations identified in the study out of which 1392 were periodical articles&1564 Text books referred by researchers. The application of Bradford's Law scattering is testified in the study.

7.0 Analysis And Interpretations Of Data
After studying the methodology and scope etc., there are 29 Doctoral Thesis consulted for data collection. There are 3042 citations found out of Secondary Sources (51.41%) consulted researcher. To these citations/articles were analysed according to following the table headings.

Table -1: Year and Thesis distribution of citations

Year	Number of Thesis	Number of Citations	%age	Cumulative citation	Cumulative percentage
2009	10	877	28.82 %	877	28.82 %
2010	7	750	24.65 %	1627	53.47 %
2011	1	113	3.71 %	1740	57.18 %
2012	9	1009	33.16 %	2749	90.34%
2013	2	293	9.63 %	3042	100 %
Total	**29**	**3042**	**100%**		

Table-1 identified as the Thesis wise distribution of Thesis In the 2009distribution are number of thesis of10 number of citation 877 (28.8.2%), 2010 number of Thesis 7 number of citation 750(24.65%), 2011 number of Thesis 1 number of citation 113(3.71%), 2012 number of Thesis 9 number of citation 1009(33.16%), 2013 number of Thesis 2 number of citation 293(9.63).
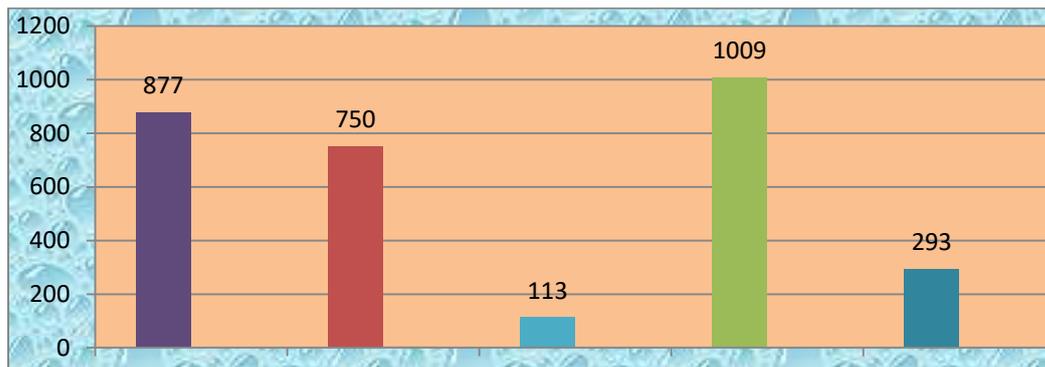
Figure-1 Year and Thesis distribution of citations

Table-2: Form wise distribution of citations

Source	Number of Citations	Percentage
Primary Sources [Periodicals, Conference/Seminar, Workshops, Thesis and Dissertations,Patents,Newsletters]	1392	45.75 %
Secondary Sources [Text books ,Hand books, Reports, Monographs, Encyclopedia, & Dictionary]	1564	51.41 %
Tertiary Sources [Year –books]	2	0.06 %
Others	84	2.76 %
Total	**3042**	**100 %**

Table-2 shows 45.75% of Citations represents Primary Sources of Information cited by the researchers. This is followed by 51.41% of Secondary Sources and 0.06% Tertiary Sources, Website are 2.76% of information referred by the researcher.

From this table it is observed that, the researcher concentrate more on secondary information source.
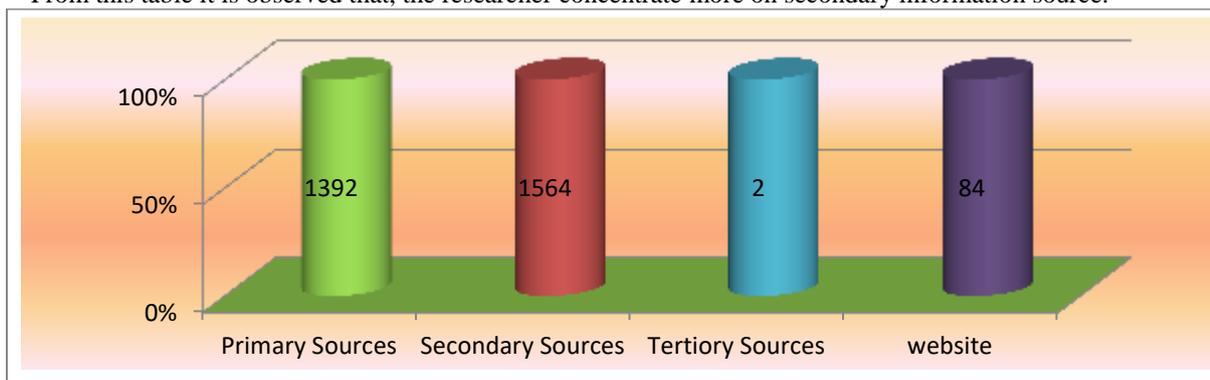

Figure-2 Form wise distributions of Citation

Table-3: Ranking of Information Source

Source material	Rank No.	No. Of citation	Percentage	Cumulative Citation	Cumulative %age
Text books	1	1240	40.76 %	1240	40.76 %
Periodicals	2	1061	34.87 %	2301	75.64 %
Reports	3	319	10.48 %	2620	86.11 %
Working papers	4	172	5.65 %	2792	91.76 %
Website	5	84	2.76 %	2876	94.52 %
Newspapers	6	55	1.80 %	2931	96.32 %
Research paper	7	48	1.57 %	2979	97.89 %
Thesis	8	43	1.47 %	3022	99.36 %
Magazines	9	6	0.19 %	3028	99.55 %
Seminar	10	5	0.16 %	3033	99.71 %
Govt. order	11	2	0.06 %	3035	99.77 %

Conference	12	2	0.06 %	3037	99.83 %
Encyclopedia	13	1	0.03 %	3038	99.86 %
Gazetteer	14	1	0.03 %	3039	99.89 %
Year books	15	1	0.03 %	3040	99.92 %
Hand books	16	1	0.03 %	3041	99.95
Dictionaries	17	1	0.03%	3042	100 &
Total		**3042**	**100 %**		

Table-3 shows the analysis of citation based on the information source. It shows that highest citations 1240 (40.76%) are from Text books , followed by this Periodicals 1061(34.87%),Reports 319 (10.48%), Working paper172 (5.65%),Website 84 (2.76%), Newspapers 55 (1.80%),Research paper 48 (1.57%),Thesis 43 (1.47%),Magazines 6 (0.19%),Seminar 5 (0.16%),Govt. order 2 (0.06%), Conference 2(0.06%),Encyclopaedia 1 (0.03), Gazetteer 1 (0.03) Yearbook1 (0.03), Hand book 1 (0.03%),Dictionaries 1 (0.03%) are referred by researchers.
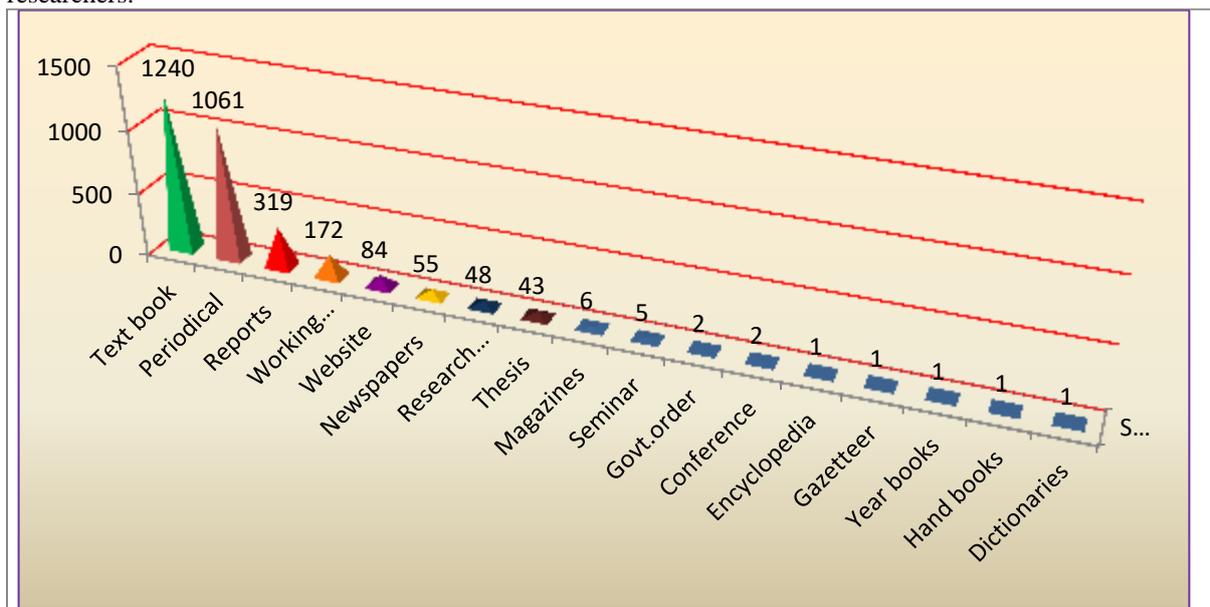

Figure-3Information Sources wise distributions of Citations

Table -4: Rank List of Journal

Sl. No	Rank	Title of the Journals	No. of Citations	Percentage of Citations	Cumulative Citation	Percentage of Cumulative Citations	Country of publications
1	1	Economic & Political weekly	150	14.13%	150	14.13%	USA
2	2	YOJANA	60	5.65%	210	19.78%	India
3	3	Quarterly Journal of Economics	45	4.24%	255	24.02%	USA
4	4	Journal of Political Economy	40	3.77%	295	27.79%	USA
5	5	Journal of International trade & economic development	35	3.29%	330	31.08%	USA

6	6	World Development	30	2.82%	360	33.90%	USA
7	7	Public Finance Review	29	2.73%	389	36.63%	USA
8	8	Journal of Social & Economic Development	27	2.54%	416	39.17%	England
9	9	Indian Journal of Public Administration	25	2.35%	441	41.52%	India
10	10	The Asian Economic Review	24	2.26%	465	43.78%	India
11	10	American Economic Review	24	2.26%	489	46.04%	USA
12	11	Journal of rural development	23	2.16%	512	48.20%	Bangladesh
13	12	Comparative Political study	22	2.07%	534	50.27%	England
14	12	Kurukshethra	22	2.07%	556	52.34%	India
15	13	Public Administration & Development	21	1.97%	577	54.31%	England
16	14	Indian Journal of Agricultural Economics	20	1.88%	597	56.19%	India
17	14	Sociological Review	20	1.88%	617	58.07%	USA
18	15	The World Bank Research Observe	19	1.79%	636	59.86%	USA
19	15	Regional Development	19	1.79%	655	61.65%	Japan
20	15	Development & Change	19	1.79%	674	63.44%	USA
21	15	International Review of Administrative Study	19	1.79%	693	65.23%	USA
22	15	Review of Economics & statistics	19	1.79%	712	67.02%	USA
23	16	Indian Social Science Review	18	1.69%	730	68.71%	India

24	17	The Journal of Development Studies	16	1.50%	746	70.21%	Bangladesh
26	18	Public Choice	15	1.41%	761	71.62%	USA
27	18	Reserve Bank of India Occasional Papers	15	1.41%	776	73.03%	USA
28	18	Urban Studies	15	1.41%	791	74.44%	England
29	18	Journal of Research in Urban & regional Studies	15	1.41%	806	75.85%	England
30	18	Southern Economist	15	1.41%	821	77.26%	England
31	19	Journal of Land Economics	13	1.22%	834	78.48%	USA
32	19	Urban Anthropology	13	1.22%	847	79.70%	USA
33	19	Urban Sociology	13	1.22%	860	80.92%	USA
34	20	Studies In Development Geography	11	1.03%	871	81.95%	Bangladesh
35	21	Urban Revolution	10	0.94%	881	82.89%	USA
36	21	Urban Environment in India Problem & Prospects	10	0.94%	891	83.83%	USA
37	21	Process or Urbanization	10	0.94%	901	84.77%	USA
38	21	India's Population Problems	10	0.94%	911	85.71%	India
39	21	Workshops	10	0.94%	921	86.65%	USA
40	22	Journal of Urban Economics	9	0.84%	930	87.49%	USA
41	23	Journal of Labour Economics	8	0.75%	938	88.24%	Switzerland
42	24	Economic Reform& Employment	7	0.65%	945	88.89%	USA

43	25	Oxford Development study	4	0.37%	949	89.26%	Bangladesh
44	25	Bulletin for International Bureau fiscal Documentation	4	0.37%	953	89.63%	France
45	25	Journal of Transport Management	4	0.37%	957	90%	USA
		Remaining 58 titles cited less than 4 times	103	0.56%	1061	100 s%	

Table-4 gives the rank list of Journals cited by researchers. Of   the 103 journals, 45 journals have been at least 4times. These 45 journals accounts for 957 (90 %) out of 1061 citations. Analysing the ranking of journals, Economic & Political weekly for 14.13% citations and is followed by YOJANA with a share slightly more than 5.65 % of the citations. Quarterly Journal of Economics 4.24 % occupies the third place with 4.24 %

5.0 Application of Bradford's Distribuition:

Samuel element Brad ford, is a pioneer of Bibliometric, should be considered for his Classic Paper "Sources of information on specific subjects", which is first paper published on observation on scattering. Brad ford in1934 described a scattering of journals in the area of Applied Geo. Physics and Lubrication and he prepared lists of journals arranged by decreasing order of sources items contributed by the journals to the Bibliographies. He noticed that in each subject there were a few very productive sources, large number of sources which were moderately productive and still a large number of sources constantly distinguishing productivity. In list Periodicals ranked by the distinguishing productivity. Identified three groups of periodicals that produced approximately the same number of the articles on the subject, but number periodicals in these three equal productive zones increased by a constant factor.

Brad ford States his follows "If scientific journals are arranged in order of decreasing productivity of articles on given subjects, they may be divided into nucleus of periodicals more particularly devoted to subject nucleus, when the zones will be".
1: n: n2
Brad ford plotted the partial sums of reference against the natural logarithm of the partial sum of numbers of journals, and he noticed that the resulting graph is a straight line. On the basis, he gave the following linear relation to describe a scattering phenomenon.
$F(x) = a + b\log x$.
F(x) is the cumulative number of reference contained in the first x most productive Journal; a and b are constants.
In the present study the journals and ranked were 103 number, which have total 1061 citations. These 103 journals were demarked into 3 zones such that produced one- third after total of relevant papers / articles.

Table-5: Bradford's Law scattering in 3 Zones

Zone	Categories	Citations	Percentage
1st	6	360	33.93 %
2nd	22	352	33.17 %
3rd	75	349	32.89 %
Total	103	1061	100 %

The above table No. 5 indicates that, the first zone contained a small number of productive journals, which are 6 in number contributing 360 citations. The second zone contained a large number of moderately productive journals which are 22 in number contributing 352 citations. The third zone contains a still large number of

journals of low productivity which are totally 75 contributing 349 citations. This is almost follows the ratio of 6: 22: 75 which is an agreement with Bradford's law scattering.

It can be started that nuclear zone contains a small number of highly productive journals. The second zone contains a larger number of moderately productive journals and the third zone (outer zone) contains a much larger number of journals of low productivity.

Table- 6: Authorship pattern of journal citations

Type of Authors	Number of Citation	Percentage
Single Author	368	34.68 %
Double Authors	485	45.71 %
Three Authors	169	15.92 %
Four and above	39	3.67 %
Total	**1061**	**100 %**

Table-6shows the authorship pattern as reflected in Journal article Double 485 (45.71%), followed by Single authors contributions with total of 368 (34.68) ,Three authors 169 (15.92%),Four and above authors 39 (3.67%).
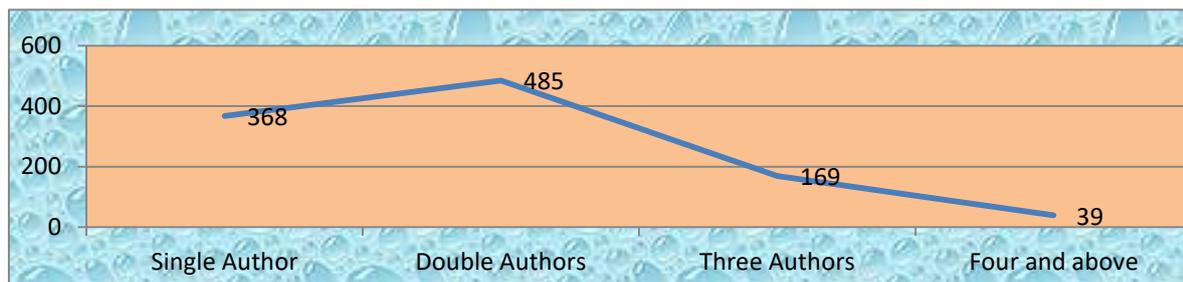

Figure-4 Author wise Distributions of Journal Citations

Table-7: Geographical distribution of ranked journals

Country	No. of Journals	Percentage	No. of Citations	Percentage
USA	55	53.39 %	550	51.83 %
India	17	16.50 %	274	25.82 %
England	11	9.70 %	120	11.31 %
Bangladesh	4	3.88 %	54	5.08 %
Japan	4	3.88%	23	2.16 %
Netherland	4	3.88 %	15	1.41 %
Switzerland	2	1.94 %	11	1.03 %
France	1	0.97 %	4	0.37 %
Germany	1	0.97 %	2	0.18 %
Pakistan	1	0.97 %	2	0.18 %
China	1	0.97 %	2	0.18 %
Korea	1	0.97 %	2	0.18 %
Canada	1	0.97 %	2	0.18 %
Total	**103**	**100%**	**1061**	**100%**

Table-7 shows country wise distribution of 103 ranked journals covering 1061 citations. It is observed that (53.39%) of the cited journals are from USA covering 550 (51.83%). India ranks second place with (16.50%) of the citations journal with 274 (25.82%), followed by England with (9.70%) in the citations 120(11.31%). The remaining of citations are from countries like Bangladesh, Netherland, Japan, and Switzerland etc.
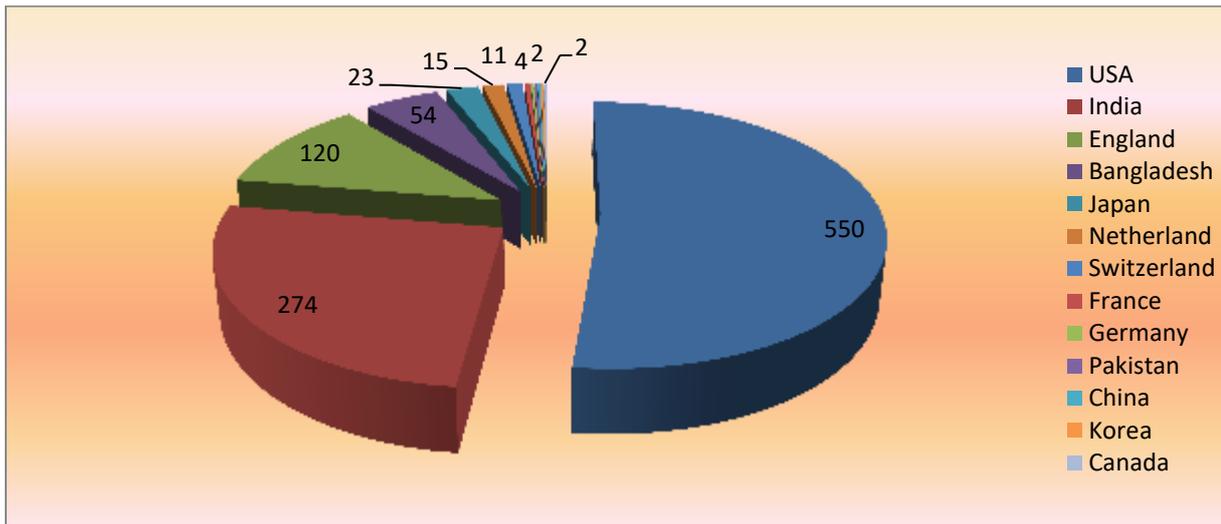
Figure-5 Geographical   distribution of ranked Journals

Table-8: Chronological distributions of journal citations

Year	No. of Citations	Percentage	umulative Citations	Cumulative Percentage
2009	304	28.65 %	304	28.65 %
2010	302	28.46 %	606	57.11 %
2011	58	5.46 %	664	62.57 %
2012	316	29.78 %	980	92.35 %
2013	81	7.63 %	1061	100%
Total	**1061**	**100%**		

Table-8 Sketch out the Chronological distributions of Journal Citations. Divided into 5 parts having periodicity of 5 years.

Chronological distributions of Journal Citations indicates that most of the citations of the period 2012(29.78%), 2009 (28.65%), 2010 (28.46%), 2013 (7.63%), 2011 (5.46%).
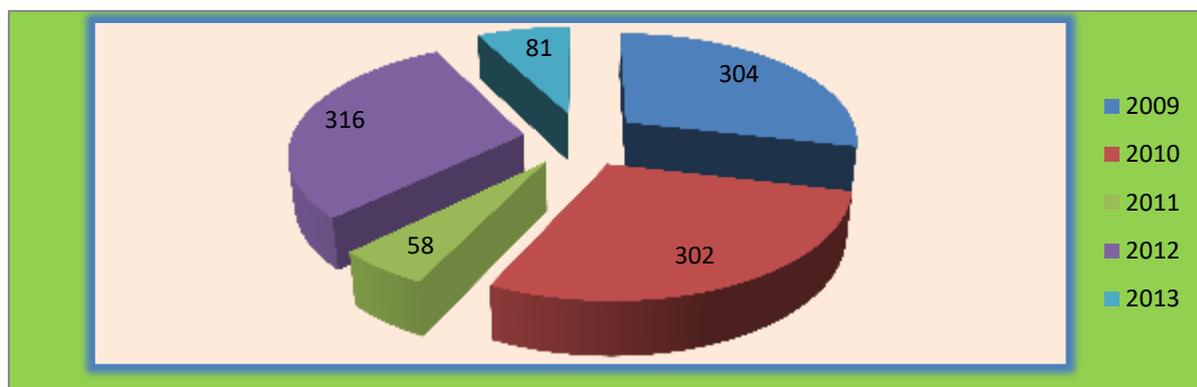

Figure-6 Chronological distributions of journal Citation

6.0 Findings

The following are some of the major conclusions that were identified from the Study.

6.1 Year and Thesis Distribution of Citation :

It is observed from Table 1 that the highest numbers 1009 (33.16%) of2012 (9) thesis were found in Citations.

6.2 Form wise Distributions of Citations

The analysis of Doctoral Dissertation in the field of Economics shows that the researcher mainly depend on Secondary source 1564 (51.41%) &Primary sources 1392 (45.41%) for their Information use.

6.3 Ranking of information Source

It is evident from the study that the researchers used have been book citation have been quoted 1240(40.76%) which shows secondary in fact, Journal citation have been quoted 1061(34.87%). The best Medias for communication followed by Reports, Conference/seminar and so on.

6.4   Rank list of journal

In the observed in table -4 that the Economic & Political weekly 150 (14.13%), YOJANA 60(5.65%), Quarterly Journal of Economics45 (4.24%) as the rare the top three journals used by the researcher among the rank list of journals.

6.5   Brad Fords Distributions

The study confirms that see journal use pattern in the field of Economic researchers fits well with Bradford's law of scattering.

6.6 Authorship Pattern of Journal Citations

Authorship pattern shows in the table 6 indicate Double 485 (45.71%), followed by Single authors contributions with total of 368 (34.68%), Three authors 169 (15.92%), Four and above authors 39 (3.67%).

6.7 Authorship Pattern of Text Books Citations

Authorship pattern study shows that more than 63% among Book Citations referred by single author publication

6.8 Geographical Distributions of Ranked Journal

Table-7 indicates that among country wise Contribution 55(53.39%), Journals of USA was mostly preferred by the researcher than 17(16.50%) Journals of India which is followed by11 (9.70%) journals of England etc.

6.9 Chronological Distributions of Journal Citations

Chronological distribution of journal citation in table 9 indicates that during text books shows that more than (29.78%) citations are of the period 2012 citations are of the period 2009 (28.65%), citations are of the period 2010 (28.46%), citations are of the period 2013 (7.63%), 2011 citations are of the period 2011 (5.46%). This shows that researchers referred to more current or latest information for their research work.

6.10 Chronological Distribution Of Text Books Citations

The table 8 revels that chronological distribution of books shows that more than 570 (45.96 %) citation are of the period.

7.0 Conclusion

The citation analysis to identify clearly the information materials consulted by Doctoral students of the department of Economics. The findings from this study also show several important areas of reference materials as vital information sources in research for postgraduate students.

After the through study and analysis, the student found that, almost majority of doctoral students have consulted the secondary sources for their study. This is may be due to the unavailability of highly cited journals in both University Library and department. It is recommended to the research scholars and library staff of Bangalore University to make use of the attraction Analysis to select highly cited journals and other secondary sources for their research.

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