Citation analysis of Doctoral thesis in plant pathology During the Period from 1996-1999.

Amaravathi V[1]

Department of Library and Information Science, Bangalore University, JB Campus, Bangalore -56.

Abstract

There are 1,660 References were identified in 11 doctoral thesis of plant pathology from the period of 1996-1999. Their average citations in each thesis is 150.90%. Followed by There were 985(59.34%) citations from "Journal Articles", 328(19.76%) were from "Books", 247(14.88%) were from "Conference Proceedings", 48(2.95%) were from "Thesis and Dissertations", 38(2.29%) were from " Annual Reports", 5(0.30%) were from "Electronic sources", 04(0.24%) were from "Incomplete References" and 04(0.24%) were from "Handbooks and Yearbooks". 67(6.80%) are published in "Phytopathology" journal from "United States", 55(5.58%) are published in "Russian journal of Nematology" journal from "Russia".

Key words : References, Doctoral thesis, Books, conference proceedings, Dissertations, incomplete, Handbooks, Yearbooks.

1. Introduction

The analysis of Citations study is the study of quantative data derived from the use of references. It is the examination of the frequency, patterns, and graphs of references in documents. It uses the links from one document to another document to reveal properties of the documents. A typical aim would be to identify the most important documents in a collection. A classic example is that of the references between academic articles and books. Documents can be associated with many other features in addition to references, such as authors, publishers, journals as well as their actual texts. The general analysis of collections of documents is known as bibliometrics/ Scientometrics and citation analysis is a key part of that field.Today, automated citation indexing has changed the nature of citation analysis research, allowing millions of citations to be analyzed for large-scale patterns and knowledge discovery.

Plant pathology / phytopathology is the scientific study of diseases in plants caused by pathogens infectious organisms and environmental conditions of physiological factors.

Organisms that cause infectious disease include fungi, oomycetes, bacteria, viruses, viroids, virus-like organisms, phytoplasmas, protozoa, nematodes and parasitic plants. Not included are oparasites like insects, mites, vertebrate, or other pests that affect plant health by eating plant tissues. Plant pathology also involves the study of pathogen identification, disease etiology, disease cycles, economic impact, plant disease epidemiology, plant disease resistance, how plant diseases affect humans and animals, pathosystem genetics, and management of plant diseases.

Krishikosh - is a digital repository of accumulated knowledge in agriculture and allied sciences, having collection of old and valuable books, old journals, thesis, research articles, popular articles, monographs, catalogues, conference proceedings, success stories, case studies, annual reports, newsletters, pamphlets.

2. literature Reviews

Onwubiko and Okeke (2023) their study revealed that 68.6% were theses and 93 representing 31.4% were dissertations. Of this, 58 or 28.57% of the theses which is the highest came from Nnamdi Azikiwe University while the least number of 45 theses or 22.17% came from Imo state university (IMSU). On the area of dissertations, University of Nigeria Nsukka (UNN) had the highest number of copies which is 36 or 37.8% with IMSU also having the least with 19 representing 19.36%. While the theses were submitted in fulfilment of the requirement for the award of the degree of master's in Library Science (MLS), that of dissertations were submitted in fulfilment of the requirement for the award of the degree of doctor of philosophy (PhD) in Library and Information Science of the studied universities. 12544.serials citations in the postgraduates' theses and dissertations 52% or 6477 Were obtained electronically or e-source while the remaining 48% representing 5978 serials citations were in print form.[5] **Prabhjot and Sehgal** (2021) they examine in their study that 63 Ph.D. theses submitted to Department of Library and Information Science, Panjab University, Chandigarh during 1976-2017. Followed by A total of 10961 citations, maximum documents 6040 (55.10%) cited are journal articles, followed by 2623 (23.93%) books and 5.60% web resources. The 548 (5%) cited documents are book chapters, followed by 457 (4.17%) conference/seminar proceedings, 1.77% theses/dissertations, 1.69% reports and 1.01% citations were from miscellaneous sources such as meetings, speeches, diaries etc.[6]

3. Scope , limitations and Methodology of the study

The present study limited to Citation analysis of Doctoral thesis in plant pathology During the Period from 1996-1999. The Citation study technique is used for present study there are 11 PhD theses and their 1,660 Citations were analyzed according to citation study. The data was entered in to MS Excel sheet according to $AACR_2$ Catalogue code. The Ranking of periodicals were checked the country of publications in SCIMAGO Website.

4. Objectives of the study

- To know Year wise Doctoral Thesis Submitted in plant pathology
- To know Average number of Citations in each thesis
- To find out Types of documents cited by researchers
- To know Authorship pattern of Citations and degree of collaboration
- To find out Ranking of Periodicals
- To know Geographical wise distribution of Periodicals
- To know Age wise distribution of Citations.

5. Data Analysis and Interpretation

Table 1 Year wise Doctoral Thesis Submitted in plant pathology

Sl. No	Year of Submission	No. of References	No. of Thesis Submission	%
1	1996	269	02	18.19
2	1997	230	01	9.09
3	1998	608	04	36.36
4	1999	553	04	36.36
Total		1,660	11	100

T1 Shows that Year wise Doctoral Thesis Submitted in plant pathology. A total of 1,660 References were identified. The highest 4(36.36%) number of thesis submitted in 1998. Followed by 4(36.36%) were Submitted in 1999 and 2(18.19%) were Submitted in 1996 and so on.

Table : 2 Average number of Citations in each thesis

Sl. No	No. of PhD Thesis	Total. No. of. Citations	Average Citations per volume
1	11	1,660	150.90

T2 represents that Average number of citations in each thesis. A total number of 11 thesis were called 1,660 citations. Their average citations in each thesis is 150.90%.

Table : 3 Form wise distribution of documents cited by researchers

Sl. No	Rank No	citation Form	No. of. Citations	%	Cumulative of citations	Cumulative of %
1	1	Journal articles	985	59.34	985	59.34
2	2	Books	328	19.76	1,313	79.1
3	3	Conference proceedings	247	14.88	1,560	93.98
4	4	Thesis and Dissertations	49	2.95	1,609	96.93
5	5	Annual Reports	38	2.29	1,647	99.22
6	6	Electronic sources	05	0.30	1,652	99.52
7	7	Incomplete References	04	0.24	1,656	99.76
8	7	Hand books and yearbooks	04	0.24	1,660	100
Total			**1,660**	**100**		

T3 Shows that Form wise distribution of documents cited by researchers. A total of 1,660 citations There were 985(59.34%) citations from “Journal Articles”, Followed by 328(19.76%) were from “Books”, 247(14.88%) were from “Conference Proceedings”, 48(2.95%) were from “Thesis and Dissertations”, 38(2.29%) were from “ Annual Reports”, 5(0.30%) were from “Electronic sources”, 04(0.24%) were from “Incomplete References” and 04(0.24%) were from “Handbooks and Yearbooks”.

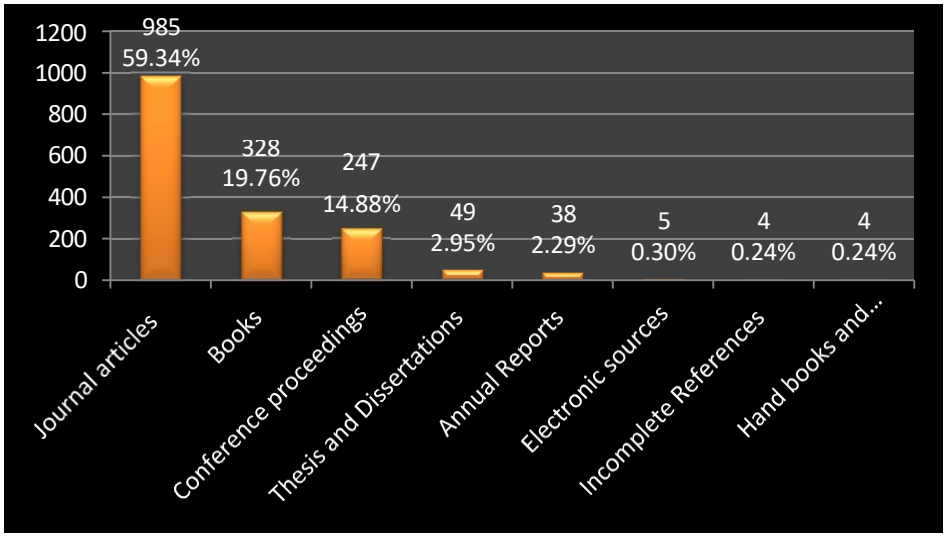


Fig.1 Form wise distribution of documents cited by researchers .

Table : 4 Authorship pattern of citations and degree of collaboration

Sl. No	No. of Authors	No. of Citations	%
1	Single Author	242	24.56
2	Multi Authors	743	75.44
Total		**985**	**100**

T4 Shows that Authorship pattern of citations out of 985 citations there were 242(24.56%) Were “Single Author” and 743(75.44%) Were “Multi Authors”.

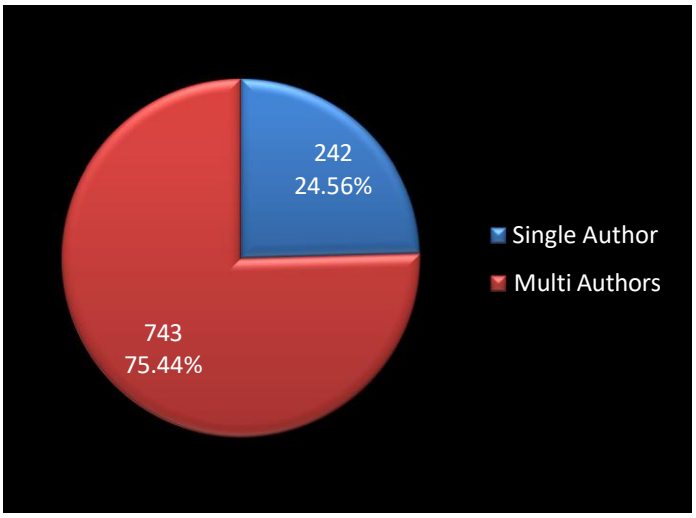


Fig.2 Authorship pattern of Citations.

It determining the degree of collaboration in quantitative term the formula given by K.Suramanyam (1982) was used .

Formula $\frac{NM}{NM+NS}$

Where C= Degree of Collaboration

NM = Number of Multi Authored papers

NS=Number of Single authored papers

In the present study

NM=743

NS= 242

Thus C=0.75

Table : 5 Ranking of Periodicals

Sl. No	Ranking. No	Journal Name	No. of Citations	%	Cumulative of Citations	%	Country
1	1	Phytopathology	67	6.80	067	6.80	United States
2	2	Russian Journal of Nematology	55	5.58	122	12.38	Russia
3	2	j.Gen virology	55	5.58	177	17.96	United kingdom
4	2	Fitopathologia Brastra	55	5.58	232	23.55	Brazil
5	3	Journal of Nematology	50	5.07	282	28.62	United states
6	4	Nature	49	4.97	331	33.60	United kingdom
7	5	Annals of appl.Biol	47	4.77	378	38.37	United kingdom
8	6	Indian j.virology	41	4.16	419	42.53	India
9	7	Acta phytopathatachica Sinca	39	3.95	458	46.49	China
10	8	Int.j.tropical Agric	30	3.04	488	49.54	India
11	9	Jawaharlal Nehru krishi viswa vidyalaya Research journal	27	2.74	515	52.28	India
12	10	Mycologia	25	2.54	540	54.82	United kingdom
13	10	j.Maharastra.Agric.uni	25	2.53	565	57.36	India

14	10	Indian phytopath	25	2.53	590	59.89	India
15	11	Indian j.Nematol	20	2.03	610	61.92	India
16	11	Summa Phytopathologica	20	2.03	630	63.95	Brazil
17	12	j.seric.Sci.japan	19	1.92	649	65.88	Japan
18	12	j.Soc.chem india	19	1.92	668	67.81	India
19	13	Indian j.Agric.Sci	17	1.72	685	69.54	India
20	13	Seed Sci.Technol	17	1.72	702	71.26	Switzerland
21	14	Journal of Biological chemistry	16	1.63	718	72.89	United States
22	14	Karnataka j.Agricultural Science	16	1.63	734	74.51	India
23	15	Can.j.microbiol	15	1.53	749	76.04	Canada
24	15	Journal of invertebrate pathology	15	1.53	764	77.56	United States
25	15	Agricultural and Food Science	15	1.53	779	79.08	Finland
26	16	Plant Disease	10	1.01	789	80.10	United States
27	16	Nematologica	10	1.01	799	81.11	Netherlands
28	17	Obstetrics and Gynecology	08	0.81	807	81.92	United States
29	17	American journal of potato Research	08	0.81	815	82.74	United States
30	17	Ecology	08	0.81	823	83.55	United States
31	18	Phytopathological society of japan	07	0.71	830	84.26	Japan
32	18	Crop Science	07	0.71	837	84.97	United States
33	18	Plant protection Bull	07	0.71	844	85.68	China
34	18	Indian j.Mycol.pl.path	07	0.71	851	86.39	India
35	19	Madras Agric.j	06	0.60	857	87.00	India
36	19	Bangladesh j.plantpath	06	0.60	863	87.61	India
37	19	j. Agric.Res	06	0.60	869	88.22	China
38	20	Current zoology	05	0.50	874	88.73	United kingdom
39	20	Mysore journal of Agricultural Science	05	0.50	879	89.23	India
40	21	Can.j.Bot	04	0.40	883	89.64	Canada
41	21	Biology and Fertility of Soils	04	0.40	887	90.05	Germany
42	21	Archives of Virology, Supplement	04	0.40	891	90.45	Germany
43	21	Arab.j.of plant.protection	04	0.40	895	90.86	Lebanon
44	21	Archives of virology	04	0.40	899	91.26	Austria
45	21	Applied Entomology and zoology	04	0.40	903	91.67	Japan
46	21	European Journal of Soil Biology	04	0.40	907	92.08	France
47	22	Sarhad journal of Agriculture	03	0.30	910	92.38	United kingdom
48	22	Indian journal of Horticulture	03	0.30	913	92.69	India

49	22	Environmental Entomology	03	0.30	916	92.99	United states
50	22	j.plantation crops	03	0.30	919	93.29	India
51	22	Agric Res.j. kerala	03	0.30	922	93.60	India
52	22	Andhra Agric.j	03	0.30	925	93.90	India
53	22	Soil Biology and Biochemistry	03	0.30	928	94.21	United kingdom
54	22	Ecosystem	03	0.30	931	94.51	United states
55	22	Aust.j.Agric.Res	03	0.30	934	94.82	Australia
56		10 articles Cited 2 times 10*2=20	20	2.03	954	96.85	
57		31 articles Cited 1 time 31*1=31	31	3.15	985	100	
Total			985	100			

T5 Highlights that Ranking of Periodicals, out of 985 References 67(6.80%) are published in "Phytopathology" journal from "United States", followed by 55(5.58%) are published in "Russian journal of Nematology" journal from "Russia", 55(5.58%) are published "j.Gen.virology" Journal from "United Kingdom", 55(5.58%) were published in "Fitopathologia Brastra" from "Brazil" and 50(5.07%) are published in "Journal of Nematology" from "United States" and so on.

Table : 6 Country wise distribution of journal articles

Sl. No	Ranking No	Country Name	No. of Citations	%
1	1	India	17	30.91
2	2	United States	11	20
3	3	United Kingdom	07	12.74
4	4	Japan	03	5.46
5	4	China	03	5.46
6	5	Brazil	02	3.65
7	5	Canada	02	3.65
8	5	Germany	02	3.65
9	6	Australia	01	1.81
10	6	Austria	01	1.81
11	6	Finland	01	1.81
12	6	France	01	1.81
13	6	Lebanon	01	1.81
14	6	Netherlands	01	1.81
15	6	Russia	01	1.81

16	6	Switzerland	01	1.81
Total			55	100

T6 shows that Country wise distribution of journal articles. A total of 985 Journal articles 17(30.91%) are from "India", followed by 11(20%) are from "United States", 7(12.74%) from "United Kingdom", 3(5.46%) are from "Japan", 3(5.46%) are from "China", 2(3.65%) are from "Canada", 2(3.65%) are from "Germany" and 1(1.81%) are from "Australia".

Table : 7 Age wise distribution of journal article Citations

Sl. No	Years	No. of years	No. of Citations	%
1	1998-1988	10	300	30.46
2	1987-1977	10	332	33.70
3	1976-1966	10	180	18.28
4	1965-1955	10	096	9.75
5	1954-1944	10	029	2.95
6	1943-1933	10	028	2.84
7	1932-1922	10	09	0.91
8	1921-1887	34	11	1.11
	Total		985	100

T7 highlights on Age wise distribution of journal article citations out of 985 citations 300(30.46%) are from the period of "1998-1988" followed by, 332(33.70%) are from the period of "1987-1977", 180(18.28%) are from the period of "1976-1966", 96(9.75%) are from the period of "1965-1955", 29(2.95%) are from the period of "1954-1944" and 28(2.84%) are from the period of"1943-1933" and so on.

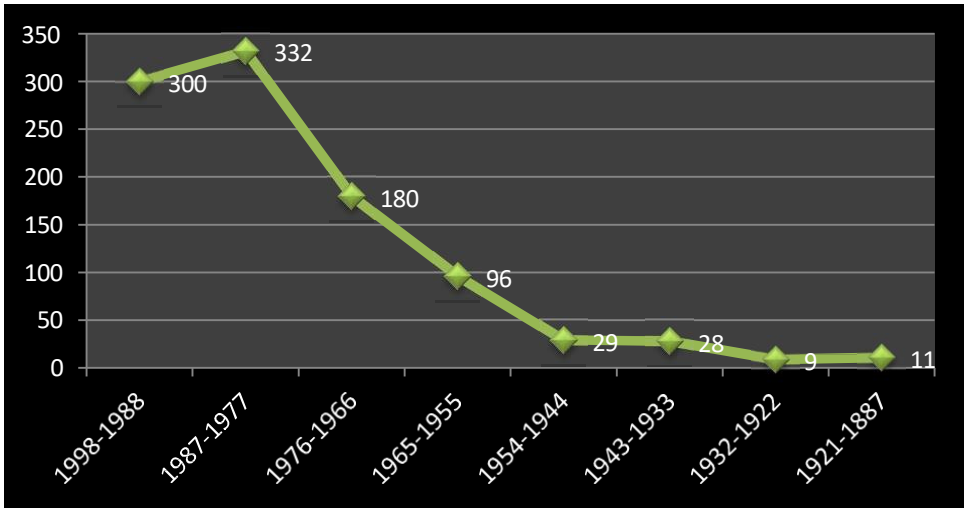


Fig.3 Age wise distribution of journal Citations.

6. Findings and conclusion of the study

- It is observed in T1 that The highest 4(36.36%) number of thesis submitted in 1998. Followed by 4(36.36%) were Submitted in 1999 and 2(18.19%) were Submitted in 1996 and so on.
- It is observed in T2 that A total number of 11 thesis were called 1,660 citations. Their average citations in each thesis is 150.90%.
- It is observed in T3 that A total of 1,660 citations There were 985(59.34%) citations from "Journal Articles", Followed by 328(19.76%) were from "Books", 247(14.88%) were from "Conference Proceedings", 48(2.95%) were from "Thesis and Dissertations", 38(2.29%) were from " Annual Reports", 5(0.30%) were from "Electronic sources", 04(0.24%) were from "Incomplete References" and 04(0.24%) were from "Handbooks and Yearbooks".
- It is observed in T4 that out of 985 citations there were 242(24.56%) Were "Single Author" and 743(75.44%) Were "Multi Authors".
- It is observe in T5 that out of 985 References 67(6.80%) are published in "Phytopathology" journal from "United States", followed by 55(5.58%) are published in "Russian journal of Nematology" journal from "Russia", 55(5.58%) are published "j.Gen.virology" Journal from "United Kingdom", 55(5.58%) were published in "Fitopathologia Brastra" from "Brazil" and 50(5.07%) are published in "Journal of Nematology" from "United States" and so on.
- It is observed in T6 that A total of 985 Journal articles 17(30.91%) are from "India", followed by 11(20%) are from "United States", 7(12.74%) from "United Kingdom", 3(5.46%) are from "Japan", 3(5.46%) are from "China", 2(3.65%) are from "Canada", 2(3.65%) are from "Germany" and 1(1.81%) are from "Australia".
- It is observed in T7 that out of 985 citations 300(30.46%) are from the period of "1998-1988" followed by, 332(33.70%) are from the period of "1987-1977", 180(18.28%) are from the period of "1976-1966", 96(9.75%) are from the period of "1965-1955", 29(2.95%) are from the period of "1954-1944" and 28(2.84%) are from the period of"1943-1933" and so on.

Reference

1. Anish Shukla And Bhatt R K(2022) Citation Analysis Of Doctoral Theses In The Field Of Commerce And Financial Studies Awarded By University Of Delhi: A Study, Library Herald, 60 (2).
2. Gohain, Anjan And Saikia, Mukesh, (2014) "Citation Analysis Of Ph.D Theses Submitted To The Department Of Chemical Sciences, Tezpur University, Assam". Library Philosophy And Practice (E-Journal). 1066.
3. Mahajan, Preeti And Kumar, Anil (2017) "Citation Analysis Of Doctoral Theses References As A Tool For Collection Management In History: A Study Of Panjab University, Chandigarh (India)" Library Philosophy And Practice (E-Journal). 1464.
4. Onwubiko, Emmanuel Chidiadi (2023) "Citation Analysis Of Serials In Postgraduate Theses And Dissertations Of Library And Information Science Of Public Universities In Southeast, Nigeria", Library Philosophy And Practice (E-Journal). 7656.
5. Onwubiko Emmanuel Chidiadi and Okeke Ifeka Ejikeme (2023) Citation Analysis of serials in Postgraduate Research Theses and Dissertations of Library and Information Science of Public universities in Southeast, Nigeria, International Journal of Library and Information Science Studies, 9 (4), 13-44.
6. Prabhjot Kaur and Sehgal PC(2021) Citation Analysis of PhD Theses in Library and Information Science: A Study of Panjab University, Chandigarh, Library Progress (International) 41 (1), 106-112
7. https://krishikosh.egranth.ac.in/Disclaimer.htmf.