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Trend of Public library research in India: a bibliometric study

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Abstract

Objective - The aim of this paper is to reveal the trend of public library research in India. Public libraries are considered as an imperative institution to provide information and to spread knowledge within the rural and urban settings, therefore a closure examination on public libraries is necessary in order to know the researches going on in these libraries. This paper is thus intent to investigate the year wise researches on public library, core areas of public library in which researches are done, keyword analysis by using zipf's law, supervising pattern, university wise ranking in contribution of public library research and trend of public library research in the upcoming future.

Methodology - The data has been collected from Shodhganga: a reservoir of Indian theses hosted by INFLIBNET centre. Different key words like public library, public library services, community information service, information seeking behavior, public library collection etc. has been used to retrieve the data. In total 71 theses has been retrieved from the year 1977 to 2016. The data thus collected has been put into Ms-excel sheet and arranged according the requirement of the present study.

Findings - This study reveals that the highest number of contribution in public library research has been done in the year 2013 with 7 number of thesis. The keywords like library, public, study, development etc are mostly used in the title of the theses. From zipf's law, rank and frequency of words have been calculated. Tridib Tripathi from Burdwan University has guided the highest number of theses during the study period. Karnataka University ranked first by contributing highest number of theses on public library from 1977 to 2016 and solo guided researches are more predominant than jointly guided research.

Keywords: Public Library; Bibliometrics; India; Zipf's Law

1. Introduction

Public library is “the local gateway to knowledge and provides a basic condition for lifelong learning, independent decision-making and cultural development of the individual and social groups” (UNESCO, 2004). Among the different types of libraries, public libraries are unique in their objectives, patrons served, supremacy, collection development and range of services. These libraries are regarded as the storehouses of scholarly heredity of our ancestors. In other words, public libraries may be regarded as an institution of social life of the population towards productive usage of leisure time. The agenda of public libraries is to promote the general transmission of knowledge and information through fiction and nonfiction books which may lead to the universal expansion of culture (Padma, Ramaswamy, Chinna, 2004). In spite of the importance of public libraries in several developing countries, very less effort has been done to assess the effectiveness of these libraries (James H, A.Y.Asundi, 2000). The concept of bibliometrics was first defined by Alan Pritchard (1996) as “the application of mathematical and statistical methods to books and other media”. The bibliometric methods are also closely related to informetrics, scientometrics and webometrics (Hood and Wilson, 2001) which are used to investigate the wide range of topics, frequency distributions that characterize the use of words and phrases in text databases; the extent to which websites are linked together etc. Therefore, this study attempts to apply the bibliometric methods to depict the trend of public library research in India.

2. Literature Review

Sinha (2015) studied the information needs and information seeking pattern of public library users of Barak Valley, South Assam. He analyzed 127 respondents out of 215 and revealed that most of the users were in the age group 16-25, from low income family and (34.53%) visits public library once a week. Singh (2012) highlighted the status and challenges of public libraries' automation in Punjab. He found that out of 22 districts in Punjab, only 14 districts are having public library and there are only 5 libraries with librarians. The author concluded that most of the libraries are suffering from skilled professionals. Saxena, Jauhari & Gupta (2007) studied the properties of zipf's law from a random text from English with a new ranking method and compared the product of rank and frequency for three ranking procedures. They also analyzed the performance of data in the extreme regions of the Zipf's curve. They found that ranking procedure and type of text have definite bearings on the performance of Zipf's curve. Garg & Sharma (2017) studied the bibliometrics of Library and Information Science research in India during 2004-2015. They analyzed 2428 papers indexed by Indian citation Index. They concluded that the pattern of growth of Indian library and information science literature has been highly inconsistent with highest number of papers published in 2010 and the area of bibliometrics and scientometrics was the area of priority of LIS professionals in India.

3. Objectives

- ❖ To find the subject wise distribution of researches on public library.
- ❖ To evaluate the rank and frequency of occurrence of keywords by using Zipf's law.
- ❖ To depict the supervising pattern in the thesis on public library.
- ❖ To rank the university according to their contribution in public library research
- ❖ To depict the trend of public library research in the upcoming future.

4. Methodology and Scope

The data has been collected from Shodhganga: a reservoir of Indian theses hosted by INFLIBNET centre. Different key words like public library, public library services, community information service, information seeking behavior, public library collection, public library acquisition, public library & open access, Staff pattern-public library and user satisfaction-public library has been used to retrieve the data. In total 71 theses has been retrieved from the year 1977 to 2016. The data thus collected has been put into Ms-excel sheet and arranged according the requirement of the present study.

5. Analysis and Discussions

The analyzed data and graphical representations are given below.

5.1. Subject wise distribution of thesis

Table 5.1.1

Sl. No.	Subjects	No. of thesis	Percent
1	Library Development	19	26.76
2	Library services	17	23.94
3	Library Personnel management	8	11.26
4	Library system	6	8.45
5	Library history	5	7.04
6	Library legislation	3	4.22
7	Library finance	3	4.22
8	Library Evaluation	2	2.81
9	Information seeking behavior	2	2.81
10	Library Orientation	2	2.81
11	Information dissemination	1	1.4
12	Job satisfaction	1	1.4
13	Library network	1	1.4
14	Total Quality Management	1	1.4
Total		71	100

Table 5.1.1 shows all the contributions on public library research which have been categorized into 14 subject areas derived from Library of Congress Subject Heading (LCSH). In the subject 'Library Development' highest number of thesis (19) has been awarded during the study period. Next in the subject 'Library Services' (17 thesis), followed by the subject 'Library Personnel Management' (8 thesis), 'Library system' (6 thesis) 'Library history' (5 thesis) and so on.

5.2. Rank and frequency of occurrence of keywords

Table 5.2.1

Sl. No.	Key word	Rank	Frequency	Cumulative Frequency	% of frequency	Cumulative % of freq.
1.	Library	1	78	78	13.29	13.28
2.	Public	2	63	141	10.73	24.01
3.	Study	3	35	176	5.96	29.98
4.	Development	4	15	191	2.56	32.53
5.	District	4	15	206	2.56	35.09
6.	Services	4	15	221	2.56	37.64
7.	System	5	13	234	2.21	39.86
8.	Information	6	11	245	1.87	41.73
9.	Special	7	10	255	1.7	43.43
10.	Role	8	8	263	1.36	44.8
11.	Critical	9	7	270	1.19	45.99
12.	Evaluation	9	7	277	1.19	47.18
13.	Karnataka	9	7	284	1.19	48.37
14.	Resource	9	7	291	1.19	49.57
15.	Andhra Pradesh	10	6	297	1.02	50.59
16.	Communication	10	6	303	1.02	51.61
17.	Maharashtra	10	6	309	1.02	52.63
18.	Reference	10	6	315	1.02	53.65
19.	State	10	6	321	1.02	54.68
20.	Analysis	11	5	326	0.85	55.53
21.	Kerala	11	5	331	0.85	56.38
22.	Management	11	5	336	0.85	57.23
23.	Model	11	5	341	0.85	58.08
24.	Plan	11	5	346	0.85	58.94
25.	User	11	5	351	0.85	59.79
26.	Assessment	12	4	355	0.68	60.47
27.	Case	12	4	359	0.68	61.15
28.	Needs	12	4	363	0.68	61.83
29.	Organisation	12	4	367	0.68	62.51
30.	Professionals	12	4	371	0.68	63.19
31.	Region	12	4	375	0.68	63.88
32.	Rural	12	4	379	0.68	64.56
33.	Society	12	4	383	0.68	65.24
34.	West Bengal	12	4	387	0.68	65.92

35.	Act	13	3	390	0.51	66.43
36.	Behaviour	13	3	393	0.51	66.94
37.	Delhi	13	3	396	0.51	67.45
38.	Future	13	3	399	0.51	67.96
39.	Movement	13	3	402	0.51	68.48
40.	Network	13	3	405	0.51	68.99
41.	Satisfaction	13	3	408	0.51	69.5
42.	Seeking	13	3	411	0.51	70.01
43.	Status	13	3	414	0.51	70.52
44.	Words having frequency 2(33)	14	66	480	11.24	81.76
45.	Words having single frequency (107)	15	107	587	18.23	99.99

From the Table 5.2.1 it is observed that the terms like library (13.29%), public (10.73%), study (5.96%), development (2.56%), district (2.56%), services (2.56%) are the most frequently used keywords by the researchers of Library and Information Science while doing their research on public library.

5.3 Zipf's Law

In 1990s G.K Zipf started a work on the phenomena of word frequency. He studied the changes of phonetics in languages and tried to understand the frequency of use of words and their phonetically changes over a long time period. Zipf's law gives us a relationship of words frequency and its rank.

According to Zipf's law $rf=c$1

Where r=rank of words

F=frequency of occurrence of words.

C= constant

Zipf's law generally refers the above equation but according to Wyllys(1981) Zipf's law can also be written in graphic representation as $\log r f = \log c$

Or $\log r + \log f = \log c$2

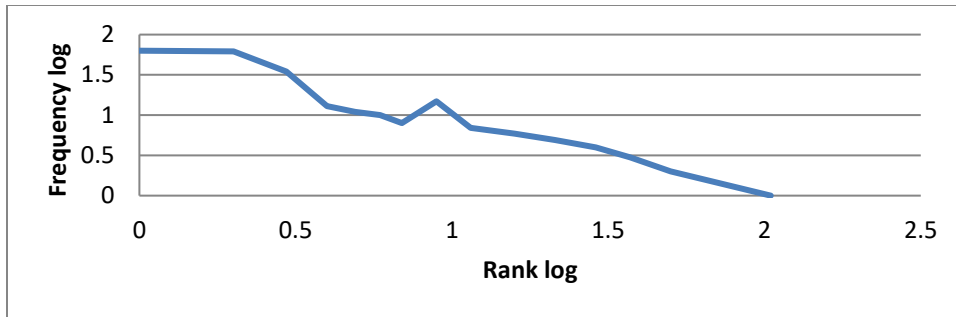


Fig. 1: Frequency and rank log

In the present study, rank, frequency and their log has been calculated in table 5.3.1. From the graph it is clear that log frequency and rank log is not fitted as recommended by Zipf. The range of frequency log to rank log is in between 1.8 to 2.02.

Table 5.3.1: Frequency log and rank log table

Frequency	keyword	Rank(r)	Log r	Log f	r*f=c	Log c
78	1	1	0	1.8	78	1.89
63	1	2	0.301	1.79	63	1.79
35	1	3	0.47	1.54	35	1.54
13	1	4	0.6	1.11	13	1.11
11	1	5	0.69	1.04	11	1.04
10	1	6	0.77	1	10	1
8	1	7	0.84	0.9	8	0.9
15	3	9	0.95	1.17	45	1.65
7	4	11.5	1.06	0.84	28	1.44
6	5	16	1.2	0.77	30	1.47
5	6	21.5	1.33	0.69	30	1.47
4	9	29	1.46	0.6	36	1.55
3	9	38	1.57	0.477	27	1.43
2	66	54	1.7	0.3	132	2.12
1	107	105.5	2.02	0	107	2.02

5.4. Supervising pattern

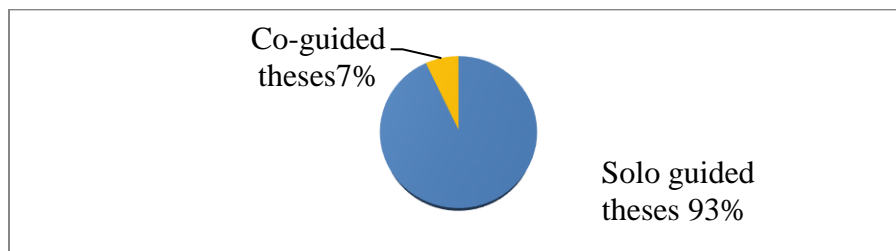


Fig 2: Supervising pattern

This pie chart shows the supervising pattern on the researches on public library. It shows that solo guided researches (i.e. 93%) are more predominant than co-guided research (i.e. 7%).

5.5. Ranking of the university

Table 5.5.1

Sl. No	Name of the university	State	No. of thesis	Percent	Rank
1	Karnatak University	Karnataka	6	8.45	1
2	Savitribai Phule Pune University	Maharashtra	5	7.04	2
3	Shri Jagdishprasad Jhabarmal Tibarewala University	Rajasthan	5	7.04	2
4	Sri Krishnadevaraya University	Andhra Pradesh	5	7.04	2
5	Guru Ghasidas University	Chattisgarh	4	5.63	3
6	Manonmaniam Sundaranar University	Tamil Nadu	4	5.63	3
7	The University of Burdwan	West Bengal	4	5.63	3
8	University of Calicut	Kerala	4	5.63	3
9	Guwahati University	Assam	3	4.23	4
10	Punjab University	Chandigarh	3	4.23	4
11	Bharathiar University	Tamil Nadu	3	4.23	4
12	Dr. Babasaheb Ambedkar Marathwada University	Maharashtra	2	2.82	5
13	Jadavpur University	West Bengal	2	2.82	5
14	Manipur University	Manipur	2	2.82	5
15	University of Calcutta	West Bengal	2	2.82	5
16	Bharati Vidyapeeth Deemed University	Maharashtra	1	1.41	6
17	Bundelkhand University	Uttar Pradesh	1	1.41	6
18	Gandhigram Rural Institute	Tamil Nadu	1	1.41	6
19	Gulbarga University	Karnataka	1	1.41	6
20	Hindustan University	Tamil Nadu	1	1.41	6
21	Jawaharlal Nehru University	Delhi	1	1.41	6
22	Kannur University	Kerala	1	1.41	6
23	Kurukshetra University	Haryana	1	1.41	6
24	Mangalore University	Karnataka	1	1.41	6
25	Mizoram University	Mizoram	1	1.41	6
26	Sambalpur University	Orissa	1	1.41	6
27	Sant Gadge Baba Amravati University	Maharashtra	1	1.41	6
28	Sri Krishnadevaraya University	Andhra Pradesh	1	1.41	6
29	University of Jammu	Jammu & Kashmir	1	1.41	6
30	University of Kashmir	Jammu & Kashmir	1	1.41	6

31	Utkal University	Orissa	1	1.41	6
32	Vasanthi Marybeth Christiana, E	Tamil Nadu	1	1.41	6

The Table 5.5.1 shows the ranking of the university according to the researches on public library. In all over 31 universities, researches on public library are done. It shows that Karnatak University in the state of Karnataka ranked first with highest number of thesis i.e. 6 (8.45%). Savitribai Phule Pune University in Maharashtra state, Shri Jagdishprasad Jhabarmal Tibarewala University in Rajasthan and Sri Krishnadevaraya University in Andhra Pradesh ranked 2nd with 5 number of thesis each (7.04%).

5.6. Trend of public library research in the upcoming future

Table 5.6.1

Sl. No.	Year	No. of thesis (Y)	X	X ²	XY
1	2013	7	0	0	0
2	2014	6	1	1	6
3	2012	6	2	4	12
4	2015	5	3	9	15
5	2007	5	4	16	20
6	2011	4	5	25	20
7	2005	4	6	36	24
8	2006	3	7	49	21
9	1995	3	8	64	24
10	2016	2	9	81	18
11	2009	2	10	100	20
12	2008	2	11	121	22
13	1998	2	12	144	24
14	1997	2	13	169	26
15	1993	2	14	196	28
16	1991	2	15	225	30
17	1990	2	16	256	32
18	1984	2	17	289	34
19	2004	1	18	324	18
20	2001	1	19	361	19
21	2000	1	20	400	20
22	1994	1	21	441	21
23	1992	1	22	484	22
24	1989	1	23	529	23
25	1988	1	24	576	24

26	1983	1	25	625	25
27	1979	1	26	676	26
28	1977	1	27	729	27
Total		71	406	6930	601

The above table 5.6.1 shows the research output in Public Library during the period 1977-2016. The trend of research can also be estimated by applying of a straight line formula as suggested by Sridhar (2010).

The formula is

$$Y=a+bx \dots\dots\dots 1$$

$$\sum Y=na+b\sum x \dots\dots\dots 2$$

$$\sum XY=a\sum x+b\sum x^2 \dots\dots\dots 3$$

After applying the value from the table $n=28$, $Y=71$, $\sum X=378$, $\sum X^2=6930$ and $\sum XY=601$ in the equation 2 and 3 it is observed that $a=0.029$ and $b=0.19$.

$$\text{Then } Y=0.029+0.19X \dots\dots\dots 4$$

The number of thesis in 2020 will be $X=2020-1977=43$ years

$$\begin{aligned} \text{Then } Y &= 0.029+0.19*43 \\ &=8.11 \end{aligned}$$

And in 2025 the estimated thesis will when $x=2025-1977=48$

$$\begin{aligned} \text{Then } y &= 0.029+0.19*48 \\ &=9.14 \end{aligned}$$

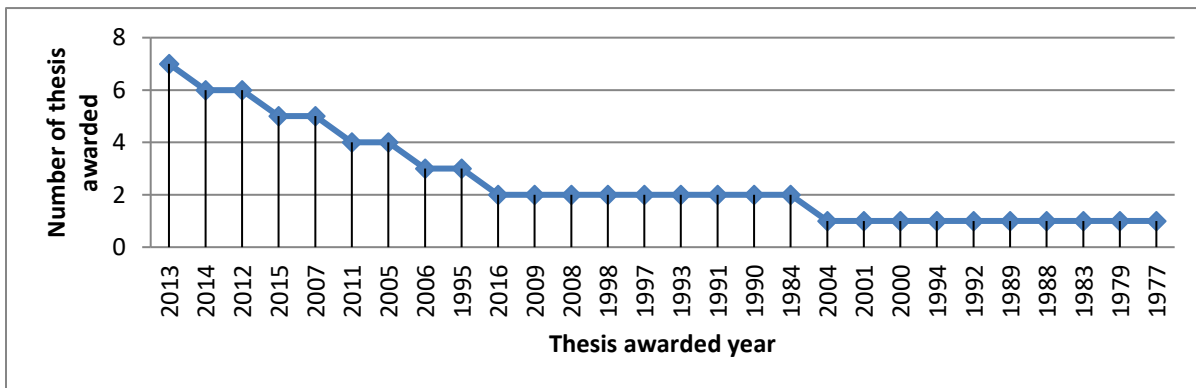


Fig. 3: Trend of public library research

From the above mentioned equation and the graph given above it is clear that the number of thesis awarded every year is very low and it will increase very slowly in the near future.

6. Conclusion and Suggestions

From the above study it is concluded that in the discipline of Library and Information Science, researches on public library are going on very slowly. More researches are needed in the subject area 'library service' especially on Community Information Service. From West Bengal only 4 thesis have been awarded in the field of public library during 1977 to 2016. Hence it can be suggested that the researchers of West Bengal should concentrate on public library research.

References

1. Garg, K.C & Sharma,C.(2017). Bibliometrics of Library and Information Science research in India during 2004-2015. *DESIDOC Journal of Library & Information Technology*,3 (3),221-227.
2. Heitzman, J & Asundi, A.Y. (2000). Evaluation of Public Libraries in India: the case of Karnataka. *Sage*, 16(3), 142-154.
3. Hood, W. W. & Wilson, C. S. (2001). The literature of bibliometrics, scientometrics, and informetrics. *Scientometrics*, 52 (2), 291-314.
4. Padma, P., Ramasamy, K. & Ayyar, C. (2014). Information Seeking Behavior of Users at Usilampatti Public Library, Tamilnadu, India: A Case Study. *Research Journal of Library Sciences*, 2(3), 1-5.
5. Retrieved from <http://www.unesco.org/webworld/libraries/manifestos/libraman.html#1>.(Visited on: March 01, 2018).
6. Ronald E. Wyllys. (1981). Empirical and Theoretical Bases of Zipf's Law. *Library Trends* 30(1).53-64.
7. Saxena, A, Jauhari, M & Gupta, B.M.(2007). Zipf's Law in a Random Text from English with a New Ranking Method. *DESIDOC Bulletin of Information Technology*, 27(4), 51-58
8. Singh, R. (2012). Status and Challenges of Public Libraries' automation in Punjab. *International Journal of Information Dissemination and Technology*, 2(2), 146-152.
9. Sinha, M. K. (2015). A Study on Information Needs and Information Seeking Pattern of Public Library Users of Barak Valley, South Assam. *IOSR Journal of Humanities and Social Science*, 20(8), 13-36.
10. Sridhar, D. (2010). Bibliometric Analysis of Research Literature Output in medicinal and aromatic plants from 1991 to 2006. (Doctoral disseratation, Bharathidasan University, Thiruchirapalli)