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Research Productivity and Impact of Library and Information Science Teachers of Karnataka State, India

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Abstract

This study aims to investigate the research productivity and impact of LIS teachers in Karnataka state through the citation analysis using Google Scholar. This study also analyzes the research productivity of schools and teachers of LIS to rank them. The study confined its scope to the present working LIS teachers in LIS schools of Karnataka state. In this paper, research productivity and impact of LIS teachers is carried out with number of articles published, number of citations received, h-index and i10 index. The data was collected from the Google Scholar database because it is a known fact that google scholar is a comprehensiveness database of scholarly literature. The collected data have been analysed and results are reported with appropriate inferences. 1199 research papers published by LIS teachers of Karnataka state. There are 11 research articles which have been cited 50 or more times each. Mysore University, Karnatak University and Karnataka State Women University occupy top three positions in the number of articles published. The study also examines the h-index raking of LIS teachers, Sampath Kumar B T occupy first position. Biradar B S, Kumbar B D and Biswanath Dutta occupy second position. The highest number of publications from LIS teachers is during 2014-2019(till July) is 38.20% and least is 4.34% during 1994-1998.

Keywords: Research Productivity, Google Scholar, Research Impact, Citations, h-index, Library Science teachers

Introduction

Research productivity is one of the significant indications of subject growth. According to Sethi and Panda (2012), research productivity and impact are major developments in all scientific

fields, including library and information science (LIS). A remarkable number of publications have been produced by LIS teachers on different aspects of LIS. Research productivity and impact refers to article publications and citation analyses. The research productivity helps to sustain the development of new knowledge and ultimately contribute to the growth of LIS as a profession or discipline. Research productivity in LIS is to communicate and share new avenues of knowledge among LIS professionals. Publications are tangible outputs of research in the form of research reports, academic dissertations, theses, journal articles, conference papers, book chapters, monographs and books (Moracsik, 1985). The use of citation analysis for evaluating or ranking the research performance or productivity of LIS teachers is based on the assumption that citations are a form of giving credit to, or recognizing the value, quality, significance, or impact of, the authors' work. Research productivity is a research publications and impact is number of citations, h-index and i10 index of publications. For LIS, however, publication and citation are more visible and easily accessible than alternate measures and has remained a valid unit of measurement for teacher's productivity for a very long period of time. Research publication plays very important role in sharing of the research findings and serve as medium for exchange of ideas, experiences and dissemination of new knowledge among scholars (Mahapatra, 1994).

Google Scholar is a freely accessible web search engine that indexes the full text or metadata of scholarly literature across an array of publishing formats and disciplines. It is introduced in 2004 and the Google Scholar index includes most peer-reviewed online academic journals and books, conference papers, theses and dissertations, preprints, abstracts, technical reports, and other scholarly literature. A major enhancement was rolled out in 2012, with the possibility for individual scholars to create personal "Scholar Citations profiles", public author profiles that are editable by authors themselves. Individuals, logging on through a Google account with a bona fide address usually linked to an academic institution, can now create their own page giving their fields of interest and citations. Google Scholar automatically calculates and displays the individual's total citation count, h-index, and i10-index.

Review of Literature

The review of literature on research publications of LIS professionals in India has revealed that many studies have been conducted on LIS research and its growth in India. In recent decades,

there have been a number of studies conducted to evaluate research productivity in subject and faculty wise. Mahapatra (1994) analyzed 1,456 articles appearing in Indian Library and Information Science journals between 1975 and 1985. Chakravarty & Sharma (2016) analyzed research output in the discipline of LIS at Panjab University (PU), Chandigarh and Guru Nanak Dev University (GNDU). In this study authors have calculated document type, authorship pattern, degree of collaboration, relative growth rate and doubling time. Mitta (2011) attempts to trace the research trends in Indian LIS during the period 1990 to 2010. Chandrashekra and Ramasesh (2009) have examined the growth patterns of LIS research in terms of number of Ph.D theses awarded and subject area in which Ph.Ds have been conducted and the top university which has awarded highest number of theses in a given period of time.

Citation analysis of publications of LIS teachers in south India, the study was conducted by Harinarayana and Vasantha Raju (2012). The study analyzes the impact of research contributions of south Indian LIS teachers using citation analysis method. The study also analyzes the year-wise distribution of research publications, distribution of research publications by document type, research areas of south Indian LIS teachers. Jadhav (2014) has conducted study on role of LIS teachers in growth and development of LIS profession in 21st century, the study found that LIS teacher are playing very important role in design, development and delivery of LIS education to create appropriate human resources befitting to the changing scenario in the field of LIS profession. Erfanmanish, Didegah and Omidvar (2010) examined the scientific productivity of LIS researcher, their visibility and impact of their publication. This study was based on survey research method and Web of Science database was used to gather the information. 99789 records were found for this search during 1998-2007.

Overall, the review of literature on LIS productivity and impact shows that many of which have focused on a special aspect of LIS publications such as citation analysis, interdisciplinary situation, highly cited papers or the publications of a special country or geographic area. Meanwhile, no studies have been done on publications, number of citations, i10-index and h-index of present working LIS teachers in LIS schools of Karnataka state. Therefore, the present study aims to conduct such research and show the research productivity and impact of LIS teachers.

Objectives

The objectives of the study were to determine:

1. Research productivity of LIS teachers in Karnataka state.
2. Impact of research publications of LIS teachers.
3. Institution and year wise distribution of research productivity of LIS teachers.

Research Questions

The following research questions were answered in the of the study

1. What is the research productivity of LIS teachers in Karnataka state?
2. What is the impact of research publications of LIS teachers in terms of number of citations, h-index and i10 index?
3. What is the institution and year wise distribution of research productivity of LIS teachers?

Scope and Limitations of the study

One aspect of faculty effectiveness can be measured through their research productivity and citation rates. The study of research productivity of LIS teachers is an essential to know the effectiveness of faculties in their research activities. The research productivity in the context of this study is excluded works such as dissertations and theses. The present study will help to locate and identify the research productivity of LIS teachers in Karnataka state. The research productivity of LIS teachers is obtained from Google Scholar online database. To be considered research productivity, the publications from present working LIS teachers in universities of Karnataka state. The publications may be a journal articles, articles published in proceedings and papers presented at conferences.

Methodology

The study covers all LIS teachers who are presently working in Karnataka state. There are 37 LIS teachers in various designations like professors, associate professors and assistant professors from 9 LIS schools. The present study used Google scholar database for data gathering. In Google scholar database 34(92%) LIS teacher's profiles are available out of 37. The study covers

research productivity and impact of 34 LIS teachers. The collected data is analyzed and presented in a in the subsequent section of this paper.

Data Analysis and Interpretation

This section presents the results obtained from Google Scholar database. The data were tabulated and analyzed as follows: Designation and Gender wise distribution of LIS teachers, number of research publications and h-index of LIS teachers, number of citations received and i10-index of publications. Most research productive LIS schools in Karnataka state and articles which are received more citations. Year-wise distribution of research publications is analyzed.

Table 1: Designation wise distribution of LIS teachers

Sl. No.	Designation	Frequency	Percent	Cumulative Percent
1.	Professors	19	51.35	51.35
2.	Associate Professor	07	18.91	70.27
3.	Assistant Professor	11	29.72	100.0
Total		37	100.0	

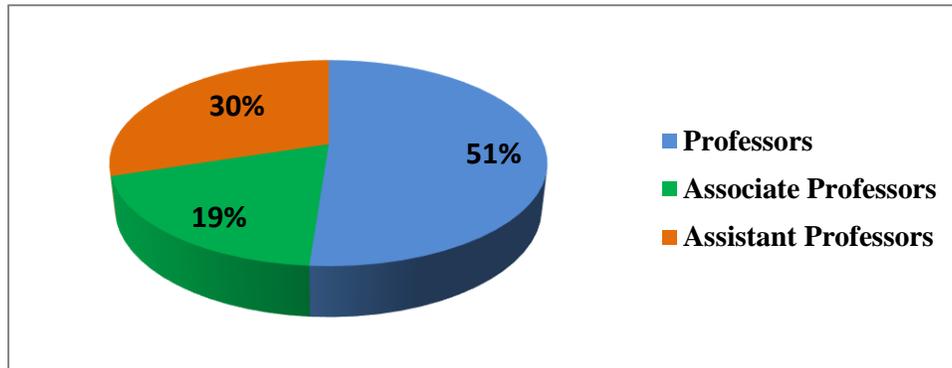


Table 1 illustrates the designation wise distribution of LIS teachers in Karnataka state. Out of 37 LIS teachers, there are 19(51%) professors, 07(19%) associate professors, and 11(30%) assistant professors. The majority LIS teachers are professors (51%) because many posts in assistant professors and associate professors are vacant due to no recruitment from last 8 years in majority LIS schools of Karnataka state.

Table 2: Gender wise distribution of LIS teachers

Sl. No.	Gender	Frequency	Percent	Cumulative Percent
1.	Male	30	81.08	81.08
2.	Female	07	18.91	100.0
Total		37	100.0	

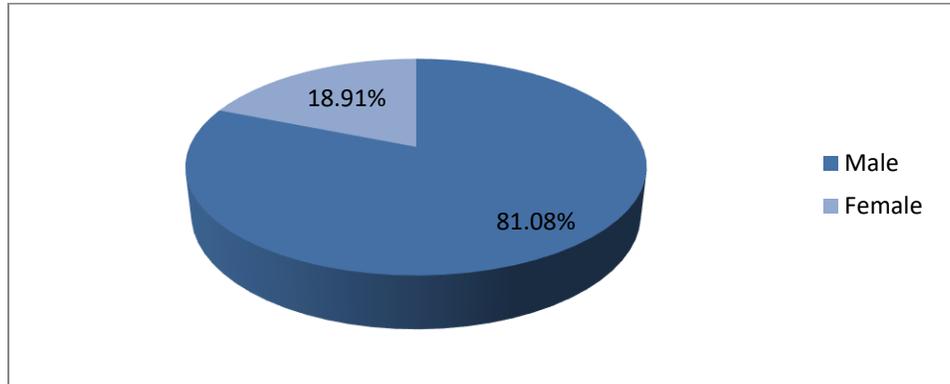


Table 2 clearly shows the gender wise distribution of LIS teachers in LIS schools of Karnataka state. Out of 37 LIS teachers, there are 30(81.08%) male teachers and 07(18.91%) female teachers. The majority LIS teachers are male.

Table 3: h-index of Karnataka state LIS teachers

Sl. No	Name	h-index	Total Publications	Total Citation Count	i10-index
1	Sampath Kumar B T	13	70	585	16
2	Biradar B.S.	11	98	469	15
3	Kumbar B. D	11	101	406	13
4	Biswanath Dutta	11	51	525	11
5	Mallinath Kumbar	10	79	374	13
6	Harinarayana N.S	9	74	411	7
7	Khaiser Jahan Begum	9	103	390	9
8	Chandrashekara M.	9	56	295	9
9	Shivalingaiah	9	31	336	9

10	Hadagali G. S	8	61	206	7
11	Tadasad P.G.	7	86	138	3
12	Parvathamm N.	7	29	127	3
13	Kemparaju T. D.	5	17	111	4
14	Patil D B	5	14	103	2
15	Gavisiddappa Anandhalli	5	47	60	2
16	Umesha Naik	5	76	122	3
17	Naik R. R.	4	28	29	0
18	H.Adithya Kumari	4	28	53	1
19	Dharani Kumar P	4	33	68	1
20	Ramesh Kuri	4	23	30	0
21	Krishnamurthy C	3	16	23	0
22	Veerabasavaiah M	2	27	15	0
23	Padmamma S.	2	20	8	0
24	Keshava	2	9	7	0
25	Rajendra Babu	2	6	43	1
26	Anil B. Talawar	2	4	6	0
27	Rupesh Kumar A	1	12	11	1

Table 3 illustrates the h-index obtained of LIS teachers in Google Scholar for Karnataka state. Sampath Kumar B T of Tumkur University, Tumkur, who has the h-index of 13, which is the highest h-value by Karnataka state LIS teachers. Biradar B.S. of Kuvempu University, Shimoga, Kumbar B. D, Karnatak University, Darwad and Biswanath Dutta, DRTC, Bangalore, who have got h-index of 11 each. Mallinath Kumbar, Mysore University, Mysore, has got h-index of 10. The top 5 LIS teachers whose h-index is equal and above 10, are working as LIS professors. It is clearly shows that the teaching experience also has an impact in increasing of h-index of LIS teachers.

Table 3 also shows the number of citations received for the research publications of LIS teachers of Karnataka state. The research publications of Sampath Kumar B T, Tumkur University, Tumkur, have been cited 585 times, which is highest number of citations received in Karnataka state LIS teachers. Followed by Biswanath Dutta, DRTC, Bangalore, who has received 525

citations for his research publication. The third highest citations received by Biradar B.S. of Kuvempu University, Shimoga, which is 469 citations. Table 5 also depicts the i10-index of research articles published by LIS teachers in Karnataka state. Out of 1199 research articles, 129 articles have i10-index. The research publication of Sampath Kumar B T has 16 i10-indexes. Followed by Biradar B.S has 15 i10-indexes. The third highest i10-index received by Kumbar B. D, which is 13.

Table 4: Highly Cited Articles of LIS teachers in Karnataka State

Sl. No	Title of the Article	Author (S)	Journal Title	Times Cited*	Publication Year
1.	Web 2.0 features in university library web sites	NS Harinarayana, N Vasantha Raju	The electronic library	214	2010
2.	Perception and usage of e-resources and the internet by Indian academics	BT Sampath Kumar, GT Kumar	The electronic library	99	2010
3.	GeoWordNet: a resource for geo-spatial applications	Fausto Giunchiglia, Vincenzo Maltese, Feroz Farazi, Biswanath Dutta	Extended Semantic Web Conference	83	2010
4.	Use of ICT in college libraries in Karnataka, India: a survey	BT Sampath Kumar, BS Biradar	Program: electronic library and information systems	80	2010
5.	Comparative study of web 1.0, web 2.0 and web 3.0	D Shivalingaiah, Umesha Naik	International CALIBER-2008	80	2008
6.	Use of ICT in college libraries in Karnataka, India: a survey	BT Sampath Kumar, BS Biradar	Program: electronic library and information systems	80	2010
7.	Use of e-journals and databases by the academic community of University of Mysore: A survey	Khaiser Nikam	Annals of Library and Information Studies	78	2007
8.	Faceted lightweight ontologies	Fausto Giunchiglia, Biswanath Dutta, Vincenzo Maltese	Conceptual modeling: foundations and applications	76	2009

9.	Growth and impact of research output of University of Mysore, 1996-2006: A case study	Mallinath Kumbar, BM Gupta, SM Dhawan	Annals of Library and Information Studies	73	2008
10.	Customer's perception of service quality in libraries	K Manjunatha, D Shivalingaiah	Annals of Library and Information Studies	63	2004
11.	Use of the internet by faculty and research scholars at Gulbarga University Library	S Parameshwar, DB Patil	Library Philosophy and Practice	50	2009

* Only those articles which have been cited 50 or more times have been listed in the table. The numbers have been drawn from the Google Scholar.

Table 4 depicts the highly cited articles of Karnataka state LIS Teachers. The data is obtained through the impact analysis results from Google Scholar. Results shows that the article authored by N S Harinarayana, N & Vasantha Raju titled “Web 2.0 features in university library web sites” which has received highest number of citations (214 citations) and published in 2010 in the journal called “The electronic library”. Followed by article titled “Perception and usage of e-resources and the internet by Indian academics” which is published in 2010 in the journal called “the electronic library” authored by B T Sampath Kumar & G T Kumar, this article received second highest number of citations (99 citations). The third highest number of citations (83) received articles is “GeoWordNet: a resource for geo-spatial applications” which is published by Fausto Giunchiglia, Vincenzo Maltese, Feroz Farazi and Biswanath Dutta, published in 2010. Followed by the article “Use of ICT in college libraries in Karnataka, India: a survey” which is published in 2010 in the journal called Program: electronic library and information systems by B T Sampath Kumar and B S Biradar. This article received forth highest number of citations(80). The top four articles which have been received more citations are published by joint authors in 2010.

Table 5: Most Productive University in LIS Research in Karnataka State

S.No	Ranking	Name of the University	Number of Articles	Percentage
1.	1	Mysore University	340	28.36%
2.	2	Karnatak University	210	17.51%
3.	3	Karnataka State Women University	156	13.01%

4.	4	Kuvempu University	151	12.59%
5.	5	Mangalore University	107	8.92%
6.	6	Tumkur University	97	8.09%
7.	7	Documentation Research and Training Centre (DRTC)	51	4.25%
8.	8	Bangalore University	44	3.67%
9.	9	Gulbarga University	43	3.59%
Total			1199	100.00%

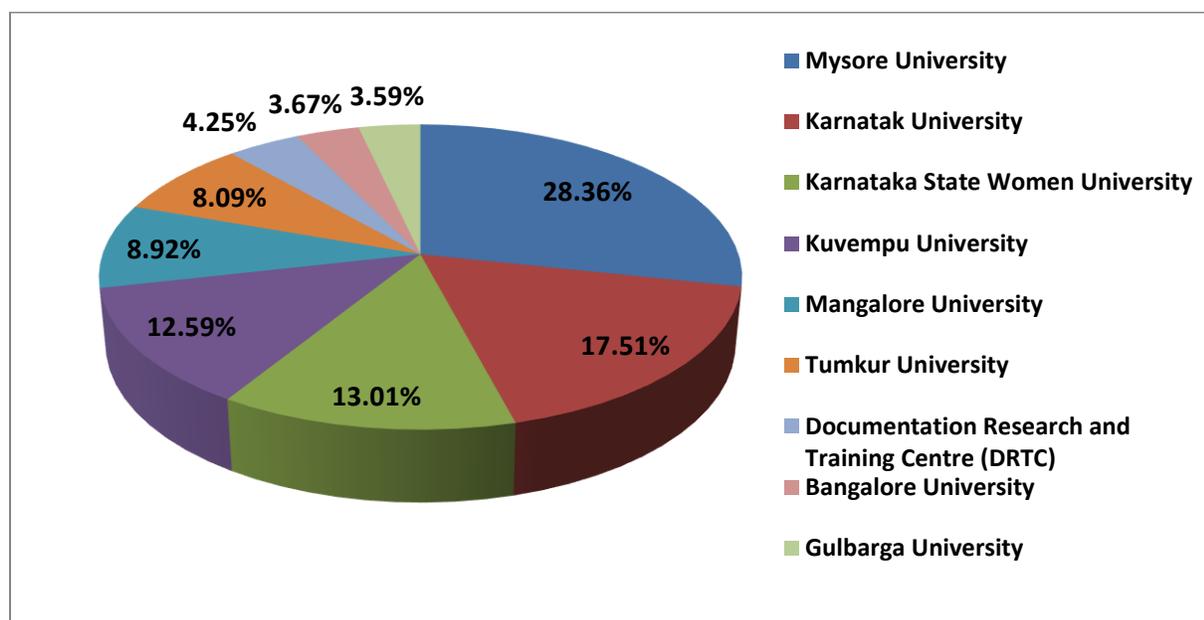


Table 5 shows the most research productive university/institute in LIS research of Karnataka state. First position stood by Mysore University, Mysore with 340(28.36%) research articles, followed by Karnatak University, Dharwad with 210 (17.51%) research publications. The third position received by Karnataka State Women University, Vijayapur with 156(13.01%) research publication, followed by Kuvempu University, Shimoga with 151(12.59%) research publications.

Table 6: Year-Wise Distribution of Research Publication

Year-wise Distribution of Articles	Number of Articles (n-1994)	Percentage	Cumulative Percent
1994-1998	52	4.34%	4.34%
1999-2003	107	8.92%	13.26%
2004-2008	208	17.35%	30.61%
2009-2013	374	31.19%	61.80%
2014-2019(till July)	458	38.20%	100.00%
Total	1199	100.00%	

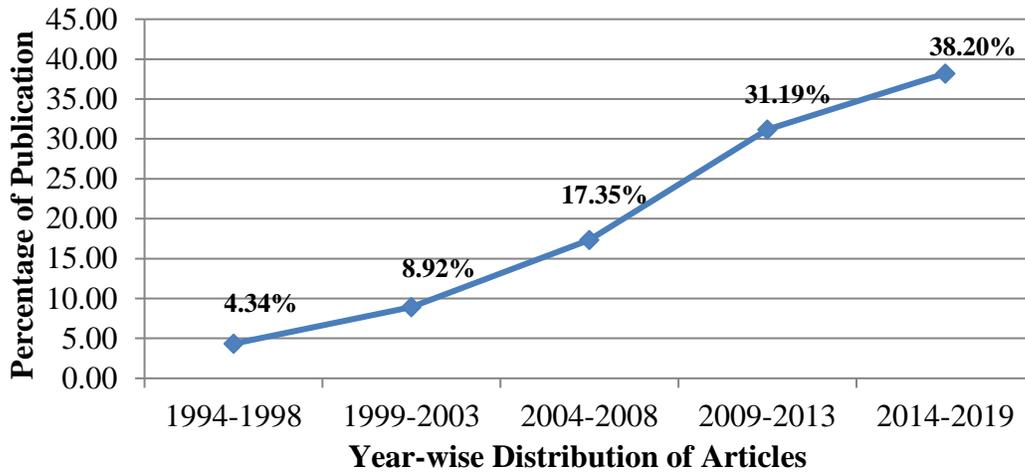


Table 6 shows the year-wise distribution of research articles which are published by Karnataka state LIS teachers since 1994. The study found the research publication of LIS teachers in Karnataka state from 1994 in google scholar database. In beginning, the percentage of research publication is very slow that is 4.34% during 1994-1998. Even during 1999-2003, the percentage of research publication is very slow that is 8.92%. Later the number of publications by LIS teachers is started increasing from the duration of 2004-2008. The highest number of publications from LIS teachers is during 2014-2019(till July) that is 38.20%.

Discussion and Conclusion

The study has described the research productivity and impact analysis of Karnataka state LIS teachers. Out of 37 LIS teachers, there are 19(51%) professors, 07(19%) associate professors,

and 11(30%) assistant professors. The majority LIS teachers are professors (51%) because many posts in assistant professors and associate professors are vacant due to no recruitment from last 8 years in majority LIS schools of Karnataka state. Out of 37 present working LIS teachers, majority of LIS teachers (81.08%) are male teachers and remaining are female teachers (18.91%). 1199 research articles published by LIS schools in Karnataka state. The first position stood by Mysore University, Mysore with 340(28.36%) research articles, followed by Karnatak University, Dharwad with 210 (17.51%) research publications. The third position received by Karnataka State Women University, Vijayapur with 156(13.01%) research publication, followed by Kuvempu University, Shimoga with 151(12.59%) research publications.

Year-wise distribution of research articles is analyzed since 1994 to 2019(till July), during this period 1199 research articles are published. In beginning, the percentage of research publication is very slow that is 4.34% during 1994-1998. Later the number of publications by LIS teachers is started increasing from the duration of 2004-2008. The highest number of publications from LIS teachers is during 2014-2019(till July) is 38.20%. Sampath Kumar B T from Tumkur University, who has the highest h-index of 13. Biradar B.S. from Kuvempu University, Shimoga, Kumbar B. D from Karnatak University, Dharwad and Biswanath Dutta from DRTC, Bangalore, who have got h-index of 11 each. Out of 1199 research articles 11 have been cited 50 or more. The research publications of Sampath Kumar B T have been cited 585 times, which is highest number of citations received by Karnataka state LIS teachers. Followed by Biswanath Dutta, DRTC, Bangalore, who has received 525 citations. The third highest citations received by Biradar B.S. which is 469 citations. Out of 1199 research articles, 129 articles have i10-indexes.

The results of this study have drawn a number of conclusions. Mainly, such as research productivity of LIS teachers in Karnataka state, institution/university wise research productivity, citations of research publications and h-index of LIS teachers. The study also investigated the i10-index of research publications of LIS teachers. Future study can compare Karnataka state LIS teacher's contribution with other states in India and can measure the overall research publications and impact of LIS research at the national level. Other studies can also be conducted like research out-put by LIS teachers in terms of Doctoral research and research projects.

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