

BIBLIOMETRIC STUDY OF PUBLICATIONS IN CONFERENCE PROCEEDINGS OF CALIBER CONVENTIONS DURING 2008-2015

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Abstract *The study analyzed papers published in CALIBER conventions held during 2008-2015. The study analyzed themes & sub-themes, authorship patterns, the Degree of Collaboration, state-wise geographical distribution, country-wise geographical distribution, references per article, forms of documents and top-cited journals. There are 319 papers analyzed and found that traditional and simple themes and sub-themes have more number of papers than others, prevalent multiple authorship patterns with the strong Degree of Collaboration, Karnataka as the top contributing State and India as the top contributing country, more than 11 references per article, Journal papers as the prevalent form of documents, and "Electronic Library" as the highly cited journal in the study.*

Keywords: *Bibliometric Study, Authorship Pattern, Degree of Collaboration, CALIBER Convention, Geographical Distribution, Forms of Documents*

INTRODUCTION

Scholarly communication mostly takes place in the form of journal articles as well as conference proceedings. These research articles bear original contribution to the field by the researchers. Most of the time, researchers have a joint contribution from various geographic locations in the same field. Numbers of conferences have been organized by various institutions/ universities/ organizations etc. every year on the individual subject field. In the field of Library & Information Science (LIS), there are tremendous researches contributed and published in the form of conference proceedings. These researches conducted specially on particular themes and sub-themes of the field. Various studies have been conducted to know the trends of the subject field from the published literature in the form of the journal but there is still lack of such kind of researches conducted on conference proceedings to know the trends and growth of the field. The study was required to know the contributions made by researchers/ library professionals in conference proceedings towards global perspectives and what are the trends in the scholarly communication of LIS researchers. The Degree of Collaboration among researchers and their geographical locations is required to know the correlation between them.

International CALIBER conventions are very famous and one of the prestigious conference series conducted once in a two-year period. Contributions are published in the form of conference proceedings. Only peer-reviewed papers are published in the proceedings. Research articles published in the form of the journal has gained momentum in terms of scholarly communication and bibliometric researches whereas research articles published in the form of conference proceedings still lagging behind. There are numbers of conference proceedings available but very less from LIS fields have been analyzed through bibliometric methods. Bibliometric analysis not only facilitates the scholar to have an in-depth study of the articles but also open avenues for other types of publications. The study will help to know the distribution of articles published in the form of conference proceedings and geographical distribution of articles around the world which has shown the acceptability of Indian LIS literature at world level. Further study will help to know the Degree of Collaboration among authors and prevalent authorship patterns found in conference proceedings. Moreover, the study will also help to predict the trends of cited documents in conference proceedings.

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REVIEW OF LITERATURE

The number of relevant literature has been reviewed on bibliometric studies which are mentioned below:

Chowdhury & Chowdhury (2016) found that any institute has a great potential to maximize the levels of its publication output. Gogoi & Barooah (2016) in their study revealed that journal articles are dominantly cited which confirms that scientific journals played an important role in scientific communication. Madhirasalam (2016) also found that authors preferred journal as a platform to publish their works. Biradar & Tadasad (2015) measures the authorship pattern of literature in the field of Economics and found that the majority of the papers were single authored. Dash et al. (2015) analyzed the papers published in the Library Assessment Conference proceedings (2006-2014) and study showed that the numbers of contributors are increasing over time and the contributors are handsomely restricted to the theme of LAC. Doraswamy (2013) analyzed 300 conference papers that were published in the National Convention on Knowledge Library and Information Networking (NACLIN) from 2001 to 2008. The study reveals that contribution is the highest in NACLIN 2007 and lowest in NACLIN 2008, and the average number of articles per conference volume is 37.5. The study also reveals that the highest number of papers was submitted from New Delhi followed by Maharashtra, Tamil Nadu, Andhra Pradesh, Karnataka, and Kerala. Panda et al. (2013) found that single-author papers are largely dominant (68.70%) followed by two author papers (17.55%) and three author papers, and the majority of the papers was submitted from the United Kingdom. Deshmukh (2011) studied the nature of information source cited by contributors of *Annals of Library and Information Studies*, and also tend to establish a rank list of core journals in the fields of Library and Information Science. The study found that journals are dominantly cited followed by books.

Sarkhel & RayChoudhury (2010) studied the work published by BCKV with an aim to identify the department-wise quantum of publications, identify the authorship pattern and locate the area wise distributions of research publications. The Department of Agronomy has the highest publications (436 papers) and the majority of the papers were published in the fields of Plant Production. Krishna Moorthy et al. (2009) analyzed the growth of literature in the fields of Diabetes in the MEDLINE database and identify the core journal in the fields of diabetes. It is found that a total of 97,454 pieces of literature have been published in the fields of diabetes from 1995-2004. The publication was highest in 2003 (13,244 pieces of literature) and lowest in 1995

(7,075 pieces of literature). This paper ranked the journal *Diabetes Care* (USA) at the number one place. Sharma (2009) studied the growth of Potato research during 1991-2007 by CPRI scientists and examine the authorship pattern as well as the proportion of single-authored papers as against multi-authored papers and found that a total of 2603 research papers were produced during 1991-2007 and papers with two authors are the greatest in number followed by three author papers. Kumar & Kumar (2008) analyzed 8093 citations given in the *Journal of Oilseeds Research* published during 1993-2004 and it shows that journals are dominantly cited. Gupta (2007) investigated the growth of literature in LIS marketing, its publishing pattern and the types of information sources in LIS marketing and found that literature on LIS marketing is growing and the most of the literature is in the form of journal articles.

Rajendiran & Parihar (2007) identified various bibliometric indicators of articles published by the Indian researchers in the field of LASER Science and study revealed the slow growth during 1995-2005. The Indian contribution to the world in the same literature has also witnessed a slow increase from 0.71 to 1.67%. Suryanarayana (2000) analyzed the type of contributions and their geographic distribution over the years 1987-97 in Tobacco Research and found that the journal receives most of its articles from CTRI and its research stations. All the issues under study consisted of 69% main articles and 31% short communications. The rate of main articles showed signs of decreased during the period of the study. The main articles have an average of 9.2 citations and in all the papers, 74.4% of the citations are from journals. Verma et al. (2007) analyzed 131 contributions from the journal '*Annals of Library and Information Studies*' from several attributes of bibliography such as year-wise, state-wise and institution-wise distributions, authorship pattern, and citation analysis, etc. It was found that majority of the contributions are two-authored and the majority of the contributions came from New Delhi. With regard to citations, 85 contributions have up to 10 citations.

SCOPE OF STUDY

The study was confined to assess the research contributions of LIS professionals published as full text in conference proceedings of CALIBER conventions organized by INFLIBNET Centre, Gandhinagar. The study has been conducted for last 5 CALIBER conventions held during years from 2008-2015. The number of CALIBER conventions covered under study is given below. There are 319 published papers belongs to last 5 CALIBER conventions.

Table 1: List of Published Papers in CALIBER Conventions

SN	CALIBER Convention Details	No. of Papers
1	6 th International CALIBER 2008, February 28 - March 1, 2008 held at Allahabad	76
2	7 th International CALIBER 2009, February 25-27, 2009 held at Puducherry	73
3	8 th International CALIBER 2011, March 2-4, 2011 held at Goa	62
4	9 th International CALIBER 2013, March 21-23, 2013 held at Gandhinagar, Gujarat	51
5	10 th International CALIBER 2015, March 12-14, 2015 held at Shimla	57
	Total	319

OBJECTIVES OF THE STUDY

The objectives of the study are to:

- Identify the themes and sub-themes which gain the attention of the contributors.
- Find the authorship pattern of contributors.
- Assess the Degree of Collaboration among authors.
- Find out geographical distribution of authors.
- Assess the number of references and the average number of reference per paper.
- Identify the bibliographic forms of document used as a reference in papers.

a) Prepare the list of top LIS journals referred by paper contributors.

RESEARCH METHODOLOGY

The study has been designed to investigate the research contributions in conference proceedings of CALIBER conventions through the bibliometric analysis. The last five (5) CALIBER conventions have been used for the study. The survey was conducted for retrieving 319 full-text papers

for the study from CALIBER convention's available under INFLIBNET Centre's website. The unavailable published articles were downloaded from the Institutional Repository of INFLIBNET Centre. The obtained data were tabulated, organized, and analyzed by using MS-Excel.

DATA ANALYSIS

a) Themes and Sub-themes of CALIBER conventions 2008 – 2015

Since 1994, the CALIBER convention was held annually until 2009 but from 2009 onwards the convention was organized once after every two years. The convention calls for paper with specified themes which are further divided into several sub-themes.

Main Themes of CALIBER convention 2008-2015

Like other conferences, CALIBER conventions also had main themes and sub-themes for the contribution of papers by the authors. Themes and sub-themes of the conference draw an outline of the conference. Table 2 displays the themes of CALIBER conventions and the total number of published papers during 2008-2015.

Table 2: Distribution of Papers for Main Themes of CALIBER Conventions

Year of CALIBER	Main Themes of CALIBER	No. of Papers	%
2008	From Automation to Transformation	76	24%
2009	E-Content Management: Challenge and Strategies	73	23%
2011	Towards Building a Knowledge Society: Library as Catalyst for Knowledge Discovery and Management	62	19%
2013	Library Vision 2020: Moving Towards the Future	51	16%
2015	Innovation Librarianship: Adapting to Digital Realities	57	18%
Total		319	

Source: CALIBER Convention Websites

Table 2 displays the number of articles in each CALIBER conventions held during 2008-2015. The CALIBER 2008 has the main theme "*From Automation to Transformation*" and received the highest number of articles i.e. 76 articles

(24%) followed by CALIBER 2009 (73 articles) with the main theme "*E-Content Management: Challenge and Strategies*", CALIBER 2011 (62 articles) with the main theme "*Towards Building a Knowledge Society: Library*

as *Catalyst for Knowledge Discovery and Management*". CALIBER 2015 has 57 articles whereas CALIBER 2013 has the least number of articles (51 articles) amongst all five conventions.

Sub-themes of CALIBER 2008

Table 3 shows the distribution of articles among the various sub-themes of CALIBER 2008. The analysis reveals that

the sub-theme, "*Impact of ICT in LIS: Major Shifts and Practices*" attracted the highest number of papers (23 papers, 30%) out of total 76 papers published in its proceedings. The sub-theme, "*Use of E-resource and UGC-Infonet Digital Library Consortium*" has attracted 28% papers (21 papers) whereas the sub-theme "*Evolving Technologies: RSS Feeds, Blogs, Web 2.0, Lib 2.0*" has attracted only 13% (10) papers. Other sub-themes have less number of papers comparatively.

Table 3: Distribution of Papers among the Sub-themes of CALIBER 2008

SN	Title of Sub-themes	No. of Papers	%
1	Impact of ICT in LIS: Major Shifts and Practices	23	30%
2	Use of E-resource and UGC-Infonet Digital Library Consortium	21	28%
3	Evolving Technologies: RSS Feeds, Blogs, Web 2.0, Lib 2.0	10	13%
4	Content Aggregation and Content Presentations	8	10.5%
5	Digital Libraries: Federated Search and Metadata Harvesting	8	10.5%
6	Standards and Protocols in LIS	6	8%
Total		76	

Source: CALIBER Convention Websites

Sub-themes of CALIBER 2009

Table 4: Distribution of Papers among the Sub-themes of CALIBER 2009

SN	Title of the Sub-themes	No. of Papers	%
1	E-Publishing	26	36%
2	Digital Preservation and Digital Persistence	16	22%
3	Web 2.0/Library 2.0	16	22%
4	Web-Content Management	15	20%
Total		73	

Source: CALIBER Convention Websites)

Table 4 highlighted the distribution of papers among the different sub-themes of CALIBER 2009. Among the four sub-themes, "*E-Publishing*" received the highest number of papers (26) i.e. 36% followed by "*Digital Preservation and Digital Persistence*" (22%), "*Web 2.0/ Library 2.0*" (22%), and "*Web-Content Management*" (20%). Except for "*E-Publishing*", other sub-themes have almost an equal number of articles.

Sub-themes of CALIBER 2011

Table 5: Distribution of Papers among the Sub-themes of CALIBER 2011

SN	Title of Sub-themes	No. of Papers	%
1	Knowledge Discovery and Techniques	12	19%

SN	Title of Sub-themes	No. of Papers	%
2	Web Resource Management and Semantic Web	22	35%
3	Information Literacy	13	21%
4	Measuring Research Productivity and ROI	15	24%
Total		62	

Source: CALIBER Convention Websites

Table 5 shows that sub-theme, "*Web Resource Management and Semantic Web*" has the highest number of papers (22 papers) i.e. 35% of total papers contributed for the convention. The sub-theme, "*Measuring Research Productivity and ROI*" has 24% papers (15) while sub-theme, "*Information Literacy*" and "*Knowledge Discovery and Techniques*" have 21% and 19% papers respectively.

Sub-themes of CALIBER 2013

Table 6: Distribution of Papers among the Sub-themes of CALIBER 2013

SN	Title of Sub-themes	No. of Papers	%
1	Migration towards Future	18	35%
2	Collaborative Library Services	17	33%
3	Open Access and Open Content	16	31%
Total		51	

Source: CALIBER Convention Websites

Table 6 shows the number of papers under each sub-themes of CALIBER 2013. The number of papers under the three sub-themes came in a sequence. The sub-theme, “*Migration towards Future*” has the highest number of papers (35%) followed by “*Collaborative Library Services*” (33%) and “*Open Access and Open Content*” have 31% papers. There is almost an equal balance of research papers have been observed for the sub-themes of CALIBER 2013.

Sub-themes of CALIBER 2015

Table 7: Distribution of Papers among the Sub-themes of CALIBER 2015

SN	Title of Sub-themes	No. of Papers	%
1	Scientometric, Bibliometrics, Webometrics, and Altmetrics	23	40%
2	Library 3.0	21	37%
3	e-Learning and Online Open Courses	13	23%
Total		57	

Source: CALIBER Convention Websites

Table 7 reveals the number of papers under the three sub-themes of CALIBER 2015. The sub-theme, “*Scientometric,*

Bibliometrics, Webometrics, and Altmetrics” has the highest number of papers (40%) followed by “*Library 3.0*” (37%) and “*e-Learning and Online Open Courses*” have 23% papers.

b) Authorship Patterns of CALIBER Conventions 2008-2015

Table 8 shows the authorship pattern of articles accepted for full-text publication in CALIBER conventions during 2008-2015. From the analysis, CALIBER 2008 is dominated by the Two Authorship Patterns which constitutes 48.68% followed by Single Authorship Patterns (31.57%), and Three Authorship Patterns (17.1%). In CALIBER 2009, Single Authorship Patterns is found to be most prevalent with 42.46% which is succeeded by Two Authorship Patterns (28.76%), Three Authorship Patterns (21.9%) and so on. In CALIBER 2011, the majority of the articles are co-authored and Two Authorship Patterns has a share of 52% followed by Three Authorship Patterns (26%), and Single Authorship Patterns (22%). CALIBER 2013 is dominated by Two Authorship Patterns (47%) followed by Single Authorship Patterns (27.45%), and Three Authorship Patterns (17.64%). The Two Authorship Patterns (35%) is found to be dominant in CALIBER 2015 followed by Three Authorship Patterns (33%), and Single Authorship Patterns (32%).

Table 8: Authorship Patterns in the CALIBER Conventions 2008-2015

Year of CALIBER	No. of Authors						Total No. of Authors	Total No. of Papers
	One	Two	Three	Four	Five	Six		
2008	24 (31.57%)	37 (48.68%)	13 (17.1%)	2 (2.63%)			145	76
2009	31 (42.46%)	21 (28.76)	16 (21.9%)	3 (4.1%)	1 (1.36%)	1 (1.36%)	144	73
2011	14 (22%)	32 (52%)	16 (26%)				126	62
2013	14 (27.45%)	24 (47%)	9 (17.64%)	3 (5.88%)	1 (1.96%)		106	51
2015	18 (32%)	20 (35%)	19 (33%)				115	57
Total	101	134	73	8	2	1	636	319

(Source: Primary Data)

c) Degree of Collaboration Among Authors

Table 9: Degree of Collaboration in CALIBER Conventions 2008-2015

Year of CALIBER	Single Author (Ns)	Multiple Authors (Nm)	Total (Ns+Nm)	Degree of Collaboration
2008	24	52	76	0.68
2009	31	42	73	0.57
2011	14	48	62	0.77
2013	14	37	51	0.72
2015	18	39	57	0.68
Total	101	218	319	0.68

Source: Primary Data

The Degree of Collaboration (C) of the contributors has been calculated using the Subramanyam (1983) formula.

$$\text{Degree of Collaboration (C)} = \frac{Nm}{Nm + Ns}$$

Where,

C = Degree of Collaboration

Nm = Number of Multiple authors

Ns = Number of Single authors

Table 9 shows the Degree of Collaboration among authors. The Degree of Collaboration for CALIBER 2008 is 0.68. For the CALIBER 2009, Degree of Collaboration is 0.57 which is the lowest amongst all CALIBER conventions during the study. CALIBER 2011 has Degree of Collaboration 0.77 which is the highest value amongst all CALIBER conventions during the study. CALIBER 2013 has 0.72 Degree of Collaboration whereas CALIBER 2015 has 0.68 Degree of Collaboration. On an average, the Degree of Collaboration was 0.68. The higher the Degree of Collaboration tends to the higher level of collaborative works and vice-versa.

d) Geographic Distribution of Authors

Table 10 shows the state-wise distribution of authors in CALIBER conventions 2008-2015. During CALIBER 2008, Uttar Pradesh has the highest number of contributors (20%), followed by Karnataka (15%), and West Bengal (9%). In CALIBER 2008, total contributions came from 18 different States and Union Territories of India. During CALIBER

2009, Karnataka has the highest number of contributors (28%) followed by Maharashtra (14.4%), and West Bengal (13.7%). In CALIBER 2009, 138 authors contributed papers belong to 19 States and Union Territories of India. Analysis reveals that 120 authors belong to 17 States and Union Territories of India contributed research papers for CALIBER 2011, and among them Karnataka has the highest number of contributors (18%) followed by Maharashtra (16%), Gujarat (12%), Andhra Pradesh (10%), and Kerala (9%). In CALIBER 2013, the paper contributions came from 16 States and Union Territories of India among which Gujarat, Maharashtra, and Kerala share the first place with 18% authors followed by Delhi (9%), and Karnataka (6%). CALIBER 2015 has a total of 102 authors belong to 19 States of India, and Gujarat has the highest number of contributors (12.74%) followed by Delhi (10.78%), and Uttar Pradesh (8.82%). Table 10 also displays the summary of the state-wise distribution of authors during 2008-2015. From the analysis of Table 10, it has been found that Karnataka has contributed the highest number of authors (95, 15.75%) followed by Maharashtra (77, 12.76%), Gujarat (55, 9.12%), Delhi (52, 8.62%), Kerala and West Bengal (45, 7.46% each) and Uttar Pradesh (43, 7.13%) etc. The study reveals that CALIBER convention cover 603 authors belong to 28 States and Union Territories of India. From the study, it has been observed that Arunachal Pradesh, Haryana, and Bihar have the least number of authors in CALIBER conventions. The number of authors continuously reduced from 2008 to 2015.

Table 10: State-wise Distribution of the Indian Authors in CALIBER Conventions

SN	Name of State	No. of Authors					Total	%
		2008	2009	2011	2013	2015		
1	Karnataka	21	39	21	6	8	95	15.75
2	Maharashtra	12	20	19	18	8	77	12.76
3	Gujarat	5	5	14	18	13	55	9.12

4	Delhi	12	12	8	9	11	52	8.62
5	West Bengal	13	19	5	3	5	45	7.46
6	Kerala	3	7	11	18	6	45	7.46
7	Uttar Pradesh	29	0	4	1	9	43	7.13
8	Tamil Nadu	3	10	5	3	4	25	4.14
9	Andhra Pradesh	0	7	12	3	3	25	4.14
10	Madhya Pradesh	7	2	4	4	4	21	3.48
11	Assam	9	2	5	3	0	19	3.15
12	Rajasthan	5	2	1	5	4	17	2.81
13	Odisha	4	2	0	1	5	12	1.99
14	Punjab	3	0	3	0	5	11	1.82
15	Jammu and Kashmir	3	0	0	3	4	10	1.65
16	Uttarakhand	3	1	0	2	4	10	1.65
17	Manipur	8	1	0	0	0	9	1.49
18	Chhattisgarh	1	0	1	4	0	6	0.99
19	Himachal Pradesh	0	3	0	0	3	6	0.99
20	Sikkim	0	2	0	0	3	5	0.82
21	Mizoram	1	0	2	0	0	3	0.49
22	Goa	0	0	3	0	0	3	0.49
23	Jharkhand	0	2	0	0	0	2	0.33
24	Telangana	0	0	2	0	0	2	0.33
25	Puducherry	0	0	0	0	2	2	0.33
26	Arunachal Pradesh	0	1	0	0	0	1	0.16
27	Haryana	0	1	0	0	0	1	0.16
28	Bihar	0	0	0	0	1	1	0.16
	Total	142	138	120	101	102	603	100

Source: Primary Data

Table 11: Country-wise Distribution of Authors in CALIBER Conventions

SN	Name of Country	No. of Authors					Total	Percentage
		2008	2009	2011	2013	2015		
1	India	142	138	120	101	102	603	94.81
2	Sri Lanka	0	0	1	2	3	6	0.94
3	UK	0	2	1	0	3	6	0.94
4	Bangladesh	3	0	0	0	0	3	0.47
5	Fiji	0	0	0	0	2	2	0.31
6	Scotland	0	0	1	0	1	2	0.31
7	Singapore	0	0	0	0	2	2	0.31
8	Tanzania	0	0	0	2	0	2	0.31
9	USA	0	1	0	1	0	2	0.31

SN	Name of Country	No. of Authors					Total	Percentage
		2008	2009	2011	2013	2015		
10	Canada	0	0	0	0	1	1	0.15
11	Iraq	0	1	0	0	0	1	0.15
12	Kenya	0	0	1	0	0	1	0.15
13	Saudi Arabia	0	0	1	0	0	1	0.15
14	South Korea	0	0	1	0	0	1	0.15
15	Spain	0	0	0	0	1	1	0.15
16	Taiwan	0	1	0	0	0	1	0.15
17	Wales	0	1	0	0	0	1	0.15
	Total	145	144	126	106	115	636	100

Source: Primary Data

Table 11 shows the country-wise distribution of authors in CALIBER convention 2008-2015. Except for India, only Bangladesh has contributed research papers to CALIBER 2008. During CALIBER 2009, total contributions came from 6 countries around the globe, and India has the highest number of contributors (96%) followed by United Kingdom (1.3%), Iraq, Taiwan, Wales, and the USA with 0.69% each. India being the host country has the highest number of contributors (95%) during CALIBER 2011 followed by Kenya, South Korea, Sri Lanka, Saudi Arabia, UK, and Scotland (with 0.79% contributors each). During CALIBER 2013, Out of the total number of authors, 95% authors were from India and the rests were from foreign countries like Tanzania, Sri Lanka, and the USA. During CALIBER 2015, total authors came from 8 different countries from around the globe. Among the foreign countries, Sri Lanka and the UK has the highest contributors (2.60% each) followed by Singapore and Fiji (1.73% each), Canada, Scotland, and Spain (0.86% each). From the analysis of Table 11, it has been found that India is the top contributor to CALIBER conventions and covered 94.81% authors whereas rests of authors (33) belong to 16 different foreign countries. Amongst the foreign contributors, Sri Lanka and the United Kingdom both have contributed highest (6 authors each) followed by Bangladesh (3) etc. CALIBER conventions are one of the best conventions in the field of LIS in India and have a reputation in the world but it faces the problem with regard to foreign authors and their contributions. The number of authors and their contributions towards CALIBER conventions is not up to the mark. There is a lack of regular authors from foreign countries for the CALIBER

conventions. The analysis reveals that no foreign country authors contributed in all five CALIBER conventions.

f) Reference Study of CALIBER conventions 2008-2015

Table 12: References per Paper in CALIBER Conventions 2008-2015

Year of CALIBER	Total No. of References	No. of Papers	References per Paper
2008	773	76	10.17
2009	780	73	10.68
2011	756	62	12.19
2013	666	51	13.05
2015	620	57	10.87
Total	3595	319	11.26

Source: Primary Data

Table 12 shows the number of references per paper in CALIBER conventions 2008-2015. The number of references per paper is the highest for CALIBER 2013 (13.05) followed by CALIBER 2011 (12.19), CALIBER 2015 (10.87), CALIBER 2009 (10.68), and CALIBER 2008 (10.17). There are total 3595 references for 319 published papers. On the observation of Table 12, it has been found that CALIBER 2009 has the highest number of references (780) followed by CALIBER 2008 (773), CALIBER 2011 (756), CALIBER 2013 (666), and CALIBER 2015 (620). From all the five CALIBER conventions, on an average 11.26 references per paper has been calculated.

f) Forms of Document Used as Reference in CALIBER Conventions 2008-2015

Table 13 reveals the number of references for a given form of documents in CALIBER 2008. In CALIBER 2008, there is a total of 773 references. Journal articles have been cited most frequently (29%) followed by Web Resources (24%), Books (17%), Conference Papers (10%), Miscellaneous (9%), News Items (8%), Theses and Dissertations (2%) and Reports (1%). In CALIBER 2009, among the various forms of document, Journal Articles (30%) are the most preferred source for references followed by Web Resources (27%), Conference Papers (12%), and Books (9%). In CALIBER 2011, the analysis shows that Journal Articles are highly cited (39.28%) by the authors followed by Web Resources (30.2%), Books (11.64%), and Conference Papers (10.58%). During CALIBER 2013, the highest number of references

have been recorded for Journal Articles (34%) followed by Web Resources (31%), Conference Papers (12%), and Books (11%). In CALIBER 2015, Journal articles have been extensively used as references (51.29%) followed by Web Resources (29.83%), and Books (10%). The study has been conducted to identify the prevailing forms of the document cited in the proceedings of CALIBER conventions 2008 – 2015 and a total of 3595 references observed from the 319 papers accepted for full-text publishing. Overall analysis shows that Journal Articles are most frequently cited (36%) by the authors for writing papers followed by Web Resources (28%), Books (12%), and Conference Proceedings/ Seminar Papers (10%). Rests of the forms of documents like Miscellaneous (6%), Reports (3%), Theses/Dissertations (2%), and New Items (2.5%) have been used very less as references.

Table 13: Forms of Document used as Reference in CALIBER Conventions

SN	Forms of Document	No. of References					Total	%
		2008	2009	2011	2013	2015		
1	Journal articles	221	235	297	234	318	1305	36.3
2	Web Resources	185	213	227	205	185	1015	28.23
3	Books	135	73	88	70	62	428	11.9
4	Conference Papers	78	91	80	81	22	352	9.79
5	Miscellaneous	70	71	26	47	11	225	6.25
6	Reports	11	55	19	16	10	111	3.08
7	News Items	60	13	5	5	8	91	2.53
8	Theses & Dissertations	13	29	14	8	4	68	1.89
	Total	773	780	756	666	620	3595	100

Source: Primary Data

g) List of Top LIS Journals cited in CALIBER Conventions 2008-2015

Table 14: List of Top LIS Journals Cited in CALIBER Conventions

SN	Name of the Journal	Frequency of Citations
1	Electronic Library	28
2	Library Hi Tech News	26
3	Annals of Library and Information Studies	22
4	SRELS Journal of Information Management	19
5	DESIDOC Bulletin of Information Technology	19
6	IASLIC Bulletin	17
7	University News	16
8	WSEAS Transaction on Advances in Engineering Education	14
9	World Libraries	14
10	D-Lib Magazine	14
11	Wilson Library Bulletin	13

SN	Name of the Journal	Frequency of Citations
12	Library Hi Tech	13
13	DESIDOC Journal of Library and Information Technology	12
14	Annals of Library Science and Documentation	12
15	Library Trends	10
16	Journal of the American Society for Information Science and Technology	10

(Source: Primary Data)

Table 14 shows the list of top LIS journals cited (at least 10 citations) by the authors in their papers published in CALIBER conventions 2008-2015. A total of 16 LIS journals have been mentioned which were cited more than 10 times. The journal '*Electronic Library*' has been cited the highest in CALIBER conventions held during 2008-2015 followed by '*Library Hi Tech News*', '*Annals of Library and Information Studies*', '*SRELS Journal of Information Management*', '*DESIDOC Bulletin of Information Technology*', and '*IASLIC Bulletin*' etc.

RESEARCH FINDINGS

The analysis of data collected through survey and observation have been critically analyzed that revealed several findings which are as follows:

- CALIBER 2008 has the highest number of papers (76) followed by CALIBER 2009 (73), and CALIBER 2011 (62).
- CALIBER 2008 theme has been divided into 6 sub-themes in which ICT and E-resources related concepts have the majority of contributions. The theme of CALIBER 2009 has been divided into 4 sub-themes in which electronic publishing related concepts has the highest number of contributions. CALIBER 2011 theme has been divided into 4 sub-themes and the web resources related concept has received the highest number of papers. CALIBER 2013 theme has been divided into 3 sub-themes in which an almost equal number of papers contribution has been observed. The theme of CALIBER 2015 has been divided into 3 sub-themes and scientometric related concepts have been received the highest number of papers.
- CALIBER conventions 2008-2015 have published 319 papers contributed by 636 authors. There are 101 papers contributed by 101 authors whereas 218 papers have been contributed by 535 authors. It shows that multiple authorships patterns are prevalent in CALIBER conventions. The two authorship patterns (134) has been found most prevalent followed by single authorship patterns (101), and three authorship patterns (73) etc.
- The Degree of Collaboration has been calculated for the published proceedings of CALIBER conventions held during 2008-2015. The range of Degree of Collaboration is 0.57 to 0.77 for CALIBER conventions. The average Degree of Collaboration is 0.68 for overall convention publications which reveal the existence of the high degree of collaborative research among authors.
- The geographic distribution of authors (State-wise) has been analyzed and found that 28 States and Union Territories of India have contributed papers for CALIBER conventions 2008-2015. Further, the majority of the authors belong to Karnataka (15.75%) followed by Maharashtra (12.76%), Gujarat (9.12%), Delhi (8.62%), Kerala (7.46%), West Bengal (7.46%), and Uttar Pradesh (7.13%) etc. The least number of contributors belong to Arunachal Pradesh, Bihar, and Haryana (0.16% each).
- The geographic distribution of authors (Country-wise) has been analyzed and found that 17 countries around the globe including India have contributed papers for CALIBER conventions 2008-2015. Further, the majority of the authors belong to India (94.81%). Amongst the foreign countries, 6 authors of Sri Lanka and the UK contributed the paper followed by Bangladesh (3), Fiji, Scotland, Singapore, Tanzania, and USA (2 each), and rests of 8 countries have only one author each. Out of 636 authors, only 33 authors belong to foreign countries which are very less in number.
- The number of references per paper is counted for each CALIBER convention separately and combined also. The highest number of references encountered for CALIBER 2009 (780) whereas the least number of references observed for CALIBER 2015 (620). There are total 3595 references for 319 papers which gives an average of 11.26 references per paper.
- The forms of documents have been analyzed from all the references used in CALIBER conventions 2008-2015. From the study, it has been found that Journal Articles are the preferred source of references for writing a research paper followed by Web Resources,

Books, and Conference papers. Theses/ Dissertations are the least used sources of information.

- The study has been conducted to found the list of core journals which were used in the references of CALIBER convention papers. On analysis, it has been found that 'Electronic Library', 'Library Hi Tech News', 'Annals of Library and Information Studies', 'SRELS Journal of Information Management', 'DESIDOC Bulletin of Information Technology', and 'IASLIC Bulletin' etc. are core journals of the field as cited many times in the references of CALIBER convention papers.

CONCLUSIONS

The bibliometric study measures the growth and recent trends of literature in the field of concern. Conference proceedings, by its publications, add recent concepts and research findings in the literature. There is a number of conference proceedings in the different field of study and they contribute an enormous amount of recent literature in the different field of study. CALIBER conventions are one of the prestigious conference event held in every alternate year by INFLIBNET Center, Gandhinagar, Gujarat. With regard to themes and sub-themes of the CALIBER conventions, it has been observed that distribution of papers is more for simpler as well as popular themes. The themes having the latest trends received less number of contributions. Similarly, sub-themes related to ICT, Web-based resources, Electronic documents; Electronic publishing, and bibliometrics, scientometrics have attracted the number of authors than difficult and recently originated concepts of sub-themes. The two authorship pattern was found most prevalent in CALIBER conventions except for CALIBER 2009. Overall collaborative papers were more due to multiple authorship patterns prevalent in CALIBER conventions. Further, strong Degree of Collaboration between authors has been observed during the study period. More the Degree of Collaboration tends toward more collaborative research work and vice-versa. Nowadays, team research or collaborative research is prevalent in the many fields and LIS is not far from that.

The purpose of geographical distribution of authors was to know the trends of publication in CALIBER conventions from all around the world. Since CALIBER conventions belong to Indian origin, so the highest number of contributions submitted and published by India only. There were few international contributions have been observed. Since India become the top contributors of papers to the CALIBER conventions, the study has been conducted to know the state-wise distribution of authors among Indian states. The CALIBER convention covers authors from 28 States and Union Territories of India. Further, the majority of the authors belong to Karnataka, Maharashtra, Gujarat,

Delhi, Kerala, West Bengal, and Uttar Pradesh. The number of references tends to the more scholarly article. References from CALIBER convention papers have been counted and analyzed which gives an impression that authors use 11 or more references for writing a conference paper. From the study, it is established that in the Indian scenario, more than 10 references are found sufficient to write an article. There is a number of forms of documents have been identified. CALIBER convention references have been categorized into eight different bibliographic forms and study found that "Journal Articles" are the most prevalent form of document used in references followed by "Web Resources". Web Resources are recent in origin and gained much popularity than Conference papers or Books. Surprisingly, Theses/ Dissertations are very specific to research but less used in writing the research papers might be due to restricted availability in the public domain. The Journal Articles have been found as the most prevalent form of document used in references of CALIBER conventions held during 2008-2015. The study found that 'Electronic Library', 'Library Hi Tech News', 'Annals of Library and Information Studies', 'SRELS Journal of Information Management', 'DESIDOC Bulletin of Information Technology', 'IASLIC Bulletin' etc. are the core journals of the field.

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