Scientific Research

BRIC's Research Output in Library & Information Science from 1996-2012 —A Quantitative Analysis

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Abstract

Research is essential for expansion and diversification of any subject field. The scope of any subject will be determined by the quality of research it produces. Not only this, research is also vital to be undertaken for survival and sustenance of the existing subject. Usually the research activities are undertaken for the welfare and betterment of living especially for humans. Library and Information research has always been the ultimate vision of academicians and intellectuals as it directly or indirectly influences research in other fields whether scientific, technical, social or otherwise. In the present study attempt has been made to have an analysis of Library and Information Science literature produced in four nations—Britain (United Kingdom), Russia (Russian Federation), India, China (BRIC). The current study is conceived to assess the quantitative aspect of research output scenario of BRIC nations for the period of last seventeen years *i.e.* 1996-2012 in the discipline of Library and Information Science (LIS). To undertake the study, data was retrieved from SJR—SCImago Journal & Country Rank on July 22, 2014, from http://www.scimagojr.com and the analysis is being undertaken on those documents/publications only identified on this particular databank. The study is undertaken with the view to evaluate and assess the general publication trend of Library Science in BRIC nations. Study of the related literature has also been undertaken briefly so as to develop better perception of the concept and thereby help in the furtherance of scope of the study.

Keywords

1. Introduction

Research in Library and Information Science (LIS) in India has been a sporadic activity for about three decades

increasing slowly until around 1986. Present growth in LIS research was fueled by parity in pay-scales and promotional avenues accorded by the University Grants Commission to library science professionals, bringing them in line with university teachers at time of the Fourth Pay-Commission. It has been further intensified with API (Annual Performance Indicators)-PABS (Performance Based Appraisal System) scoring system applicable to all university teachers and library professionals as per Regulation 2010 of UGC (University Grants Commission) in India. Developments in network technologies, scholarly communication, and Indian policy, National Knowledge Commission Report are challenging libraries and information science to find new ways to engage, interact with communities and enhance research output. Library and Information science faculty and librarians are responding with service innovations in areas such as bibliometrics and research data management. Surveys have investigated research productivity/output within India and other research services globally with small samples. Faculty members and librarians need a multifaceted understanding of the research environment. Research and development activities in science and technology and other fields of human endeavor have contributed significantly to a phenomenal growth in research themes. This has resulted in an information explosion and interdisciplinary approaches to research over the last seven decades. These developments have placed new demands on the services offered by libraries and information centers and conducting research having direct or indirect bearing on these services.

The rapid growth achieved by India in different spheres of national endeavor since independence, and the efforts being made to sustain this progress, have added new dimensions to the research prospects by libraries and information centers' professionals. To meet the emerging challenges, to find suitable solutions, and to explore new frontiers, research has emerged as a vital dimension of library and information science in India. It has been observed that research in the LIS discipline in India is characterized by a replication of the themes already researched in foreign universities, a lack of diversification in research themes, a dearth of research on themes dealing with conceptual and methodological issues, and a decline in the quality of research with an increase in quantity of research works. Sub-fields, such as library use studies and user studies, university libraries, public libraries, information storage and retrieval, personnel and bibliometrics were among the most popular research topics. The open access system, repository system and digital libraries were emerging themes; however, one school of thought considers the research to be conceptually and methodologically weak, requiring immediate attention.

The purpose of the library research has been traditionally presented as trivial as libraries generally perceived as service organisations supporting the curriculum and facilitating scholarship activities of their parent institutions. The mission of university libraries in the contemporary digital world continues to be characterized as supporting learning and research activities [1], and the dual functions contributing to instruction and contributing to research tend to feature equally prominent in the published mission statements of research libraries [2]. Research environment of library and information science has changed radically, as a result of developments in technology, automation of operations, diversification of media, reduced purchasing power, and evolving scholarly communication [3]. Library support for research has traditionally revolved around information discovery, collection development, and some elements of information management [4], but the shift from print to electronic materials has made the library and its services virtually invisible to many faculty and other researchers, so they are "perceived by users to be more geared to support teaching and learning activities" [5]. Information professionals have responded to the situation energetically by launching multiple efforts to prove their worth; evaluation of libraries and assessment of the impact of their research has become a growth industry in recent years [6]. The roles of libraries and librarians in producing research have received particular scrutiny with a notable focus on engagement with e-research developments [7]. The objectives of the current study includes: to sketch the year-wise allocation of the publications in LIS by BRIC; to find and understand the research productivity in LIS of BRIC nations; to find out major contributor to LIS Research among BRIC nations; to analyze frequency distribution of LIS Research among BRIC nations; to assess the overall distribution pattern and growth of Research Output in LIS periodicals published in BRIC nations; and to understand the distribution pattern of periodicals and rank nation on the basis of research output published during 1996-2012.

2. Literature Review

Joshua Lederberg [8] (the Nobel Prize recipient) in his speech entitled "Communication as the Root of Scientific Progress". A good number of studies have already been undertaken in the field of research evaluation, commonly known as bibilometric studies. Biblometrics studies have always been undertaken to assess the growth of research publications in a particular discipline by means of bibliometric indicator, a simple substitute of publica-

tion count [9]. Bibliometric studies undertaken have got greater bearing in ascertaining the overall research output or growth in the research activity undertaken at global or regional level. In order to study the subject areas minutely most of the time researchers undertake such studies at institutional level so as to assess the growth and trend of research output in that very particular institution. When taken together these small but crucial studies, helps one to draw the assessment and better understanding of research output in a particular discipline, both at national and global level.

In order to get better insight of research productivity in the field of library and information science, bibliometric or other sociometric studies have been undertaken from time to time all across the globe. The main focus of this study is to address quantitative issues related primarily to the social and socio-technical research literature especially journals that are widely used for formal system of scholarly communication. A number of journals are prevailing today in the discipline of library and information science. Academic promotion and tenure decisions take into consideration the significance of a candidate's publications. However, till today we do not have any fool-proof mechanism to measure quality of an article with others. One criterion may be the citation and impact. However, this has not always been the case for the Indian journals because of very little coverage for journals in international citation databases. Very little research has used quantitative methods to evaluate LIS journal quality. Examining the literature in scholarly communication, it has been found that LIS journals are evaluated by various quantitative and qualitative techniques other than the impact factor. [10] and later [11] used qualitative methods to ask subscribers and authors, plus some editors and editorial advisors, as to what they thought about the quality of a journal. In a study, Nisonger [12] provided a list of published studies of LIS journals as well as a list of the criteria used to compile the citation ranking of the journals in these studies. The 178 LIS journals studied by him were classified in terms of criteria used and fell predominantly into four categories of citation (94 studies), production (33 studies), subjective judgment (25), and reading (18 studies). The remaining 8 studies used miscellaneous criteria such as familiarity, readability/reading ease, currency of citation, etc. [13] summarised the 10 characteristics of a "quality" journal by reviewing [14]-[16].

Garg and Rag undertook the study spanning through the period of 1965-82 in the field of science where physics research was analyzed, published in both SCI and non SCI journals [17]. This study was equally a bibliometric study to assess the growth in research productivity in various areas of physics with the observation that manpower and research output are interdependent and interrelated to each other.

Koganuramath, *et al.*, in their study undertaken in the Tata Institute of Social Sciences analyzed 663 research publications, published during the period 1990-2000 [18]. The study was primarily aimed to give a grasping over the bibliometric growth of research publications where scientists were more conscious of publishing their research results in more reputed journals. The importance of the bibliomertic studies is also important from the view that it helps to sustain the research growth. What is more important about bibilomertic studies is they help as a benchmark already set with defined objectives to give more research produce this year from the corresponding year. Moed, *et al.* were of the view that these studies act as monitoring devices and as a result help in setting the objectives for institutions and in framing future policies of an institution [19].

Another study based on the extracts of Scopus undertaken by Vasishta for the period 1996 to 2009 analyzed 177 research publications for PEC University of Technology; Chandigarh observed that there is steady growth in the research output of the university from year after year [20]. In a similar study undertaken by Singh *et al*. evaluated the data of Science citation Index, wherein the study was undertaken on 901 research publication spread over the period 1993-2001 observed that most of research work was undertaken in the field of Mathematics, Biology, and Clinical Medicine [21].

The important aspect of the most of the research works undertaken in the field of sciences is the collaborative authorship what we commonly known as joint authorship, observed Sharma in his study while analyzing 2603 research publications, published between 1991-2007 of Central Potato Research Institute [22]. Scholars have assessed the research conducted in LIS in India; of these, the observations of [23] are particularly illustrative. While examining the research accomplished during 1957-1999, he states:

It is often said jocularly (but understood seriously) that the research degree is recommended more for the supervisor than for the candidate. The library profession has failed to lure the best brains and even more to retain them due to mediocrity thrives; hypocrisy reigns. Apart from not so relevant topics, theses have contributed little towards pushing the frontiers of knowledge; few are models of methodology. Indian library research seems to have no moorings in the prevailing realities. Topics are ideal, superficial and bookish. Even experienced librarians keen on earning the research degree rarely come with an important problem for research. Collecting data

and information is considered a satisfactory end to the job of the goal of the research exercise" (p. 240). His comments seem to be too critical of research in the LIS discipline. Perhaps, they are an expression of his anguish rather than a full and objective overview of existing realties. In another contribution, [24] traces the history of LIS research in India. Apart from listing the major centers of research and research output, he discusses the research work done in different sub-fields in library and classification. [25] analyzes doctoral theses in LIS in India during 1957e1995, focusing on areas of research, types of work, growth patterns, and productivity in Indian universities. He is critical of the research for a variety of reasons, including: poor theoretical base; inappropriate sampling-procedures and statistical techniques; questionnaires of dubious value; research in parallel; lack of proper super-vising capability; and the selection of irrelevant, unpro-ductive and sub-standard research themes, compounded by the duplication or triplication of research themes, with only slight modification under the same supervisor.

[26] presents a review of doctoral dissertations awarded during 1980-2007 in the LIS discipline by Indian universities. They reach the following conclusions: 1) the period from 1995 to 2003 was the most productive; 2) in terms of the number of research degrees awarded, universities in southern India were far ahead of those in the north; and 3) academic and public library themes received the most research focus; meanwhile, certain sub-fields, such as library services, library professionals, open source utilization, digitization technology, and exploring metadata, received less research attention.

[27] describes the year 1990 as a "water divide" in the history of research in LIS (p. 215), during which "real momentum in research" in the LIS discipline occurred. There has been a huge growth of teaching and research in LIS in India during the last five decades. A number of programmes and policies, including the advancement of information technology, have contributed to this. So far, only limited attempts have been made to present a comprehensive review or bibliographic study of research work done in the field of LIS in India despite the applied value of such work.

3. Research Methodology

The data has been mined from SJR—SCImago Journal & Country Rank on July 22, 2014, from http://www.scimagojr.com [28] and the data retrieved was totally unprocessed and formless, efforts were made to arrange the data in a way to smooth the progress of the accomplishment of the objectives of the study. Then, relevant information from the retrieved data was analyzed by using statistical. SJR indicators take into account not only the prestige of the citing journal but also its closeness to the cited journal using the cosine of the angle between the vectors of the two journals' co-citation profiles. To eliminate the size effect, the accumulated prestige is divided by the fraction of the journal's citable documents, thus eliminating the decreasing tendency and giving meaning to the scores. Furthermore, the SJR indicators were distributed more equalized by Social Sciences (Subject Area under study) and reflect better performance at Library & Information Science (the lower level of Specific Subject Areas under study). Besides, incorporation of the cosine increased the values of the flows of prestige between thematically close journals. Given this context, in a process of continuing improvement to find journal metrics that are more precise and more useful, the SJR indicators were designed to weight the citations according to the prestige of the citing journal, also taking into account the thematic closeness of the citing and the cited journals. The procedure does not depend on any arbitrary classification of scientific journals, but uses an objective informetric method based on cocitation. It also avoids the dependency on the size of the set of journals, and endows the score with a meaning that other indicators of prestige do not have. Not only this, SJR indicator best represents the overall structure of world science at a global scale as it uses Scopus as the data source. Scopus is the world's largest scientific database if one considers the period 2000-2012. It covers most of the journals included in the Thomson Reuters Web of Science (WoS) and more (Leydesdorff, Moya-Anegón, & Guerrero-Bote, 2010; Moya-Anegón *et al*., 2007). Also, despite its only relatively recent launch in 2004, there are already various studies of its structure and coverage in the literature (Bar-Ilan, 2008; Jacso, 2009; Laguardia, 2005). Author's choice of SJR website reflects consideration of four criteria that are of great importance in the computation of any bibliometric indicator. These are:

- Journal coverage.
- Relationship between primary (citable items) and total output per journal of the database.
- Assignment criteria for types of documents.
- Accuracy of the linkage between references and source records.

In SJR documents are classified by area and category. There are 313 Specific Subject Areas grouped into 27 Subject Areas. Furthermore, there is the General Subject Area containing multidisciplinary journals, such as Nature or Science.

4. Data Analysis and Discussion

The retrieved data was put in MS Excel for executing simple operations like addition, subtraction, drawing percentage, etc. From the scope point of view it is to maintain that study is confined to four nations—Britain (United Kingdom), Russia (Russian Federation), India, China under study, however the aim of the study is to show the overall bibliometrics trend of research publications in the field of Library and Information Science across the globe. Worth to mention that in this study the author has undertaken only those publications which could be retrieved from the SJR databank and this does not necessarily mean that this is the actual produce of publications in these nations during the period of study. There is every possibility that there may also be some additional publications in LIS discipline which may not have been covered in SJR's databank as because of stringent indices/parameter many LIS publications failed to be listed in SJR. While as to serve the purpose of the present study vis-à-vis to assess the overall trend of research growth in Library and Information Science, the data retrieved will surely serve the purpose. Whereas restricted coverage of research output can be regarded as one of the principal limitations of this study. The data retrieved from the databank of SJR—SCImago Journal & Country Rank on July 22, 2014, from http://www.scimagojr.com was put to excel format for improved analysis and considerate to achieve the objectives of the study.

Table 1 reveals the year-wise allocation of publications in Library and Information Science in Britain, Russia, India and China. It enables researcher to find that Britain is the major contributor to Library and Information Science research among BRIC nations. During the period under study Britain has published 4736 documents contributing 65.79% of the total 7199 publications published during 1996-2012. China stood second by publishing 21.79% publications whereas Indian contribution is merely 10.43% (751 documents). Russian contribution is 1.99% as it manages to publish meager 143 documents during the entire period of study *i.e.* 1996-2012. Maximum quantitative contribution from Britain came during 2006 (397 documents) whereas for Russia it is 17 documents during 2012, for India it is 100 documents during 2011 and for China it is 564 documents during 2012. It also depicts that from 2007 onwards there is continuous increase in the percentage of contribution as it rose from 7.15% to 13.97% during 2012. During 2011, highest 45% change is observed over the year 2010 as far as research productivity in LIS of BRIC nations is concerned. **Figure 1** reflects the year-wise trend analysis of research output in LIS among BRIC nations during the period 1996-2012.

Similarly, **Figure 2** gives us the glance of share of research output in percentage in Library and Information Science subject among BRIC nations during the period under study.

Table 2 explains number of citable documents published by a journal. Exclusively articles, reviews and conference papers are considered. During 2006, total citable documents were highest for Britain and Russia (also evenly poised for 2012) whereas for India highest numbers of citable documents were during 2011 (98). Chinese contribution was at peak during 2012 as 459 citable documents were appeared. Further, China's contribution was continuously increasing in terms of citable documents from 1998 (05) to (459) 2012. Total Citable documents among BRIC nations were also raising constantly from 2007 (491) to 2012 (867).

Table 3 depicts Number of citations received in the selected year by a journal to the documents published in the three previous years, *i.e.* citations received in year X to documents published in years X-1, X-2 and X-3. All types of documents are considered. At peak for Britain during 2007 (3212) and constantly declining then and finally stood at 103 in 2012. As far as Russia, India and China are concerned their highest total cites were observed during 1998 (116), 2008 (344) and 2009 (649) respectively. 3963 were highest total cites in aggregate for BRIC during 2007.

Table 4 shows Country self-citations. Number of self-citations of all dates received by the documents published during the source year, *i.e.* self-citations in years X, X + 1, X + 2, X + 3… to documents published during year X. When referred to the period 1996-2012, all published documents during this period are considered.

Highest self-cites for BRIC came during 2003, 2004 (equals 2010), 2005 and 2011 respectively. 981 were highest self cites in aggregate for BRIC during 2006.

Table 5 reveals average citations (of all times) per document published during the source year, *i.e.* citations in years X, X + 1, X + 2, X + 3… to documents published during year X. When referred to the period 1996-2012, all published documents during this period are considered. During 2002, highest Cites per document for Britain
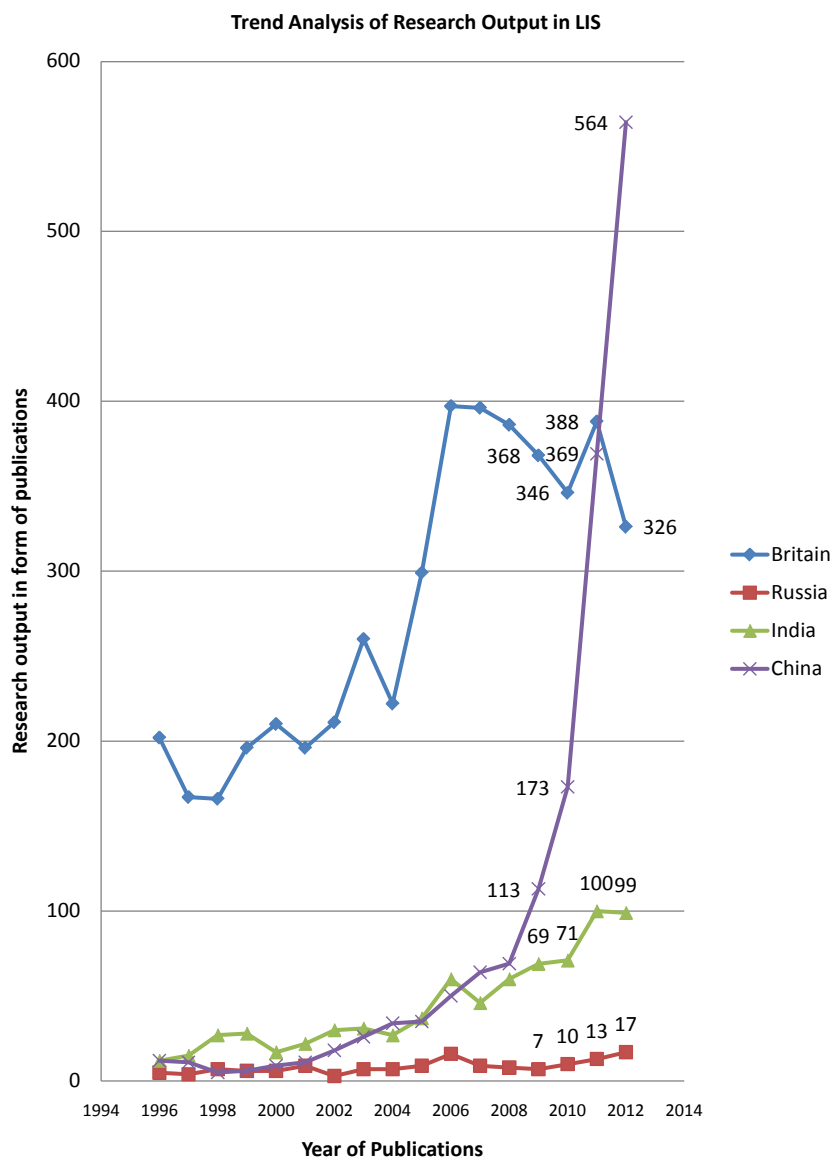
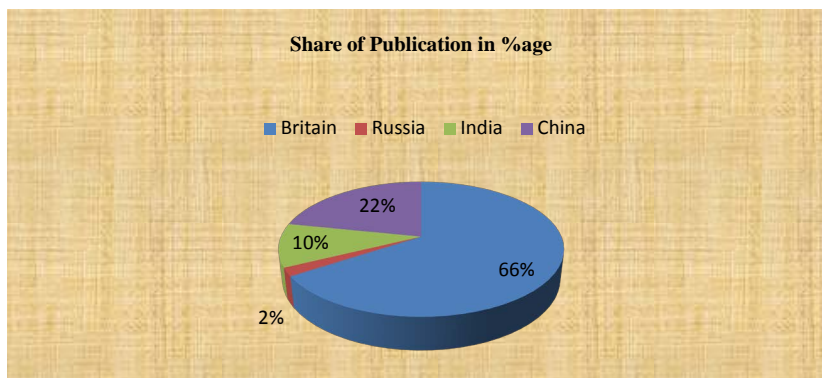**Figure 1.** Trend analysis of research output in Library and Information Science (year-wise).

Figure 2. Reflects the share of research output in % age in LIS among BRIC nations during the period 1996-2012 (SJR).

Table 1. Publications in LIS from BRIC during 1996-2012.

Year of Publication	Britain	Russia	India	China	Total [C]	Percentage	% Age change
1996	202	5	12	12	231	3.21%	0
1997	167	4	15	11	197	2.74%	−15
1998	166	7	27	5	205	2.85%	4
1999	196	6	28	6	236	3.28%	15
2000	210	6	17	9	242	3.36%	3
2001	196	9	22	11	238	3.31%	−2
2002	211	3	30	18	262	3.64%	10
2003	260	7	31	26	324	4.50%	24
2004	222	7	27	34	290	4.03%	−10
2005	299	9	37	35	380	5.28%	31
2006	397	16	60	50	523	7.26%	38
2007	396	9	46	64	515	7.15%	−2
2008	386	8	60	69	523	7.26%	2
2009	368	7	69	113	557	7.74%	7
2010	346	10	71	173	600	8.33%	8
2011	388	13	100	369	870	12.09%	45
2012	326	17	99	564	1006	13.97%	16
Total [R]	4736	143	751	1569	**7199**	100.00%	
	B	R	I	C			
%	65.79	1.99	10.43	21.79			

Table 2. Total citable documents in LIS from BRIC during 1996-2012.

Year of Publication	Britain	Russia	India	China	Total Citable Documents
1996	198	5	12	11	226
1997	165	4	15	11	195
1998	164	7	27	5	203
1999	192	6	28	6	232
2000	199	6	17	9	231
2001	165	9	22	11	207
2002	182	3	28	17	230
2003	238	7	30	24	299
2004	211	7	24	33	275
2005	293	9	37	35	374
2006	**381**	**16**	59	50	506
2007	377	9	45	60	491
2008	364	7	59	69	499
2009	352	6	67	112	537
2010	323	10	69	168	570
2011	377	13	**98**	347	835
2012	298	**16**	94	459	867
Total	4479	140	731	1427	6777

Table 3. Total cites in LIS from BRIC during 1996-2012.

Year of Publication	Britain	Russia	India	China	Total Cites
1996	1608	10	65	10	1693
1997	1565	13	238	23	1839
1998	1413	116	214	71	1814
1999	1328	16	157	40	1541
2000	2748	35	105	275	3163
2001	2115	7	138	160	2420
2002	2936	77	146	174	3333
2003	2399	38	122	135	2694
2004	1861	48	106	294	2309
2005	2667	12	274	447	3400
2006	2946	28	221	340	3535
2007	**3212**	3	236	512	**3963**
2008	2149	25	344	564	3082
2009	1656	17	234	649	2556
2010	955	50	162	597	1764
2011	479	17	91	519	1106
2012	103	1	12	117	233
Total	32,140	513	2865	4927	40,445

Table 4. Self cites in LIS from BRIC during 1996-2012.

Year of Publication	Britain	Russia	India	China	Self Cites
1996	541	2	29	3	575
1997	394	1	26	9	430
1998	471	7	32	13	523
1999	419	3	64	19	505
2000	679	1	25	126	831
2001	676	1	39	91	807
2002	747	5	29	76	857
2003	823	2	18	53	896
2004	535	9	26	129	699
2005	664	0	**88**	168	920
2006	774	5	74	128	**981**
2007	716	0	55	200	971
2008	549	1	70	246	866
2009	401	5	53	275	734
2010	238	9	43	327	617
2011	159	2	41	**332**	534
2012	31	1	6	86	124
Total	8817	54	718	2281	11,870

Table 5. Cites per document in LIS from BRIC during 1996-2012.

Year of Publication	Britain	Russia	India	China
1996	7.96	2	5.417	0.833
1997	9.371	3.25	**15.867**	2.091
1998	8.512	16.571	7.926	14.2
1999	6.776	2.667	5.607	6.667
2000	13.086	5.833	6.176	**30.556**
2001	10.791	0.778	6.273	14.545
2002	**13.915**	**25.667**	4.867	9.667
2003	9.227	5.429	3.935	5.192
2004	8.383	6.857	3.926	8.647
2005	8.92	1.333	7.405	12.771
2006	7.421	1.75	3.683	6.8
2007	8.111	0.333	5.13	8
2008	5.567	3.125	5.733	8.174
2009	4.5	2.429	3.391	5.743
2010	2.76	5	2.282	3.451
2011	1.235	1.308	0.91	1.407
2012	0.316	0.059	0.121	0.207

and Russia were observed as 13.915 and 25.667 respectively. Indian cites per document were at peak during 1997 as 15.867 whereas for China it was 30.556 during 2000. In respect of Britain cites per document were constantly decreasing from 2007 (8.111) to 2012 (0.316).

Table 6 reflects average country's self-citations (of all times) per document published during the source year, *i.e.* self-citations in years X, X + 1, X + 2, X + 3… to documents published during year X. For BRIC nations highest self cites per document were found during 2002 (10.374), 1998 (15.571), 1997 (14.133) and 2000 (16.556) respectively.

Figure 3 reveals h-index. The h index is a country's number of articles (h) that have received at least h citations. It quantifies both country scientific productivity and scientific impact and it is also applicable to scientists, journals, etc. H-index bar stood at 65, 10, 20 and 27 for BRIC nations respectively. The **h-index** is an index that attempts to measure both the productivity and impact of the published work of a scientist or scholar. The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications. The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country, as well as a scholarly journal. The index was suggested by Jorge E. Hirsch, a physicist at UCSD, as a tool for determining theoretical physicists' relative quality and is sometimes called the *Hirsch index* or *Hirsch number.*

Table 7 shows document ratio whose affiliation includes more than one country address. During 2012 it was highest for Britain at 33.129, 75 for Russia during 2008, 19.355 for India during 2003 and 54.545 for China in the year 2001. Inference drawn is that British and India always prefer International collaboration during 1996-2012 in LIS research where as no collaboration was found in Russian publications during 1998 and 1999. China has no international collaboration for research publications in Library and Information Science during the year 1996.

From the scope point of view it is to maintain that study is confined to four nations—Britain (United Kingdom), Russia (Russian Federation), India, China under study, however the aim of the study is to show the overall bibliometrics trend of research publications in the field of Library and Information Science across the globe. Worth to mention that in this study the author has undertaken only those publications which could be retrieved from the SJR databank and this does not necessarily mean that this is the actual produce of publications in these nations during the period of study. There is every possibility that there may also be some additional publications in LIS discipline which may not have been covered in SJR's databank as because of stringent indices/parameter

Table 6. Self cites per document in LIS from BRIC during 1996-2012.

Year of Publication	Britain	Russia	India	China
1996	5.282	1.6	3	0.583
1997	7.012	3	14.133	1.273
1998	5.675	15.571	6.741	11.6
1999	4.638	2.167	3.321	3.5
2000	9.852	5.667	4.706	16.556
2001	7.342	0.667	4.5	6.273
2002	10.374	24	3.9	5.444
2003	6.062	5.143	3.355	3.154
2004	5.973	5.571	2.963	4.853
2005	6.699	1.333	5.027	7.971
2006	5.471	1.438	2.45	4.24
2007	6.303	0.333	3.935	4.875
2008	4.145	3	4.567	4.609
2009	3.41	1.714	2.623	3.31
2010	2.072	4.1	1.676	1.561
2011	0.825	1.154	0.5	0.507
2012	0.221	0	0.061	0.055

Table 7. International collaborations in LIS from BRIC during 1996-2012.

| Year of Publication	Britain	Russia	India	China
1996	19.307	60	16.667	0
1997	9.581	25	6.667	9.091
1998	10.843	0	18.519	60
1999	10.204	0	10.714	16.667
2000	10.952	33.333	17.647	44.444
2001	11.735	11.111	18.182	54.545
2002	16.588	66.667	13.333	27.778
2003	16.923	14.286	19.355	30.769
2004	20.721	42.857	18.519	32.353
2005	17.391	44.444	13.514	45.714
2006	23.929	37.5	11.667	38
2007	23.737	22.222	8.696	42.188
2008	26.943	75	16.667	52.174
2009	22.011	42.857	15.942	48.673
2010	22.543	40	12.676	41.618
2011	29.124	46.154	7	24.661
2012	33.129	64.706	10.101	24.113
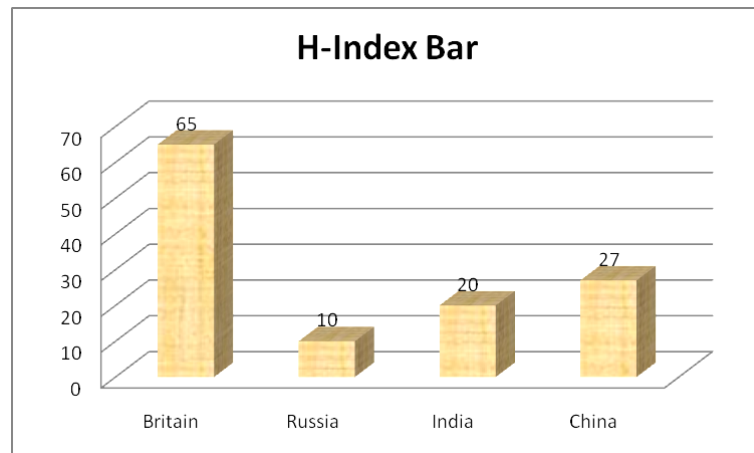
Figure 3. H-index bar in LIS among BRIC nations.

many LIS publications failed to be listed in SJR. While as to serve the purpose of the present study vis-à-vis to assess the overall trend of research growth in Library and Information Science, the data retrieved will surely serve the purpose. Whereas restricted coverage of research output can be regarded as one of the principal limitations of this study. The data retrieved from the databank of SJR—SCImago Journal & Country Rank on July 22, 2014, from http://www.scimagojr.com was put to excel format for improved analysis and considerate to achieve the objectives of the study.

5. Conclusions

Britain stood first among BRIC nations with maximum number of publications to its credit; consequently, the highest total citable documents, total cites, self cites and h-index. On the whole there has been steady increase in the research publications in library and information science from 2007. China and India are also seen as contributing significantly in LIS research output.

From the analyzed data we can see that there is not always positive growth in the amount of research publications when weighed with publications of the corresponding year. Even Britain showed mixed trend with slight increase and decrease in the research publications as we moved from year to year. Over all during different four years of 1997, 2001, 2004 and 2007, negative growth was recorded in the research publication among all BRIC nations when taken together, which was a slight worrisome factor for emerging LIS research trend. But in no terms can it be regarded as decline in the overall research pattern in LIS.

On the whole we can see the progressive side of the LIS research output, and hope this trend is similar to other nations across the globe. Though we have some limitations in analyzing the bibilomertic study to its perfection, still we definitely have been left with better and broader understanding about the trend in research productivity in LIS across the globe with special thrust to BRIC. We do leave here scope for other researchers whereby they can carry forward this study by taking similar analysis with the research publications of other nations/disciplines/streams across the globe.

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