

A Systematic Study of Research Productivity of the Disciplines in Social Sciences and Humanities: The Maharaja Sayajirao University of Baroda.

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Abstract

The purpose of this paper is to explore and provide an overview of the growth and development of research output pertaining to the disciplines covered in Humanities and Social Sciences (SSH), in terms of number of publications, total citations from the year 2001 up to 2020 of The Maharaja Sayajirao University of Baroda(MSU), Vadodara as reflected in Dimensions in various subject domains such as History and Archaeology, Historical Studies, Sociology, Psychology, Archeology, Education, etc. as shown in (Table-1). The main investigation is based on the primary literature, mostly scholarly articles from different subject fields. The authors attempt to employ the quantitative analysis of bibliometric indicators of the research publications which has been accessed from dimensions online indexing data. Dimensions were launched by Digital Science in January 2018, which covers humanities and social sciences. The Research output data of MSU are collected by using different searching facilities provided by Dimensions Database. The Dimensions online indexing data are also providing data of researchers, research categories, publication type, source title, journal list, open access journals along with publication year, which helps the authors to analyze the growth and development of research activity of the faculty members of MSU during the prescribed year. There were 6,354 research publications received with 73789 Citations, with an average citation per paper is 8.05. The data collected on 25th May 2021. The published materials such as articles, Book, Book chapters, review, letter, proceedings paper, biographical-item, book review, editorial material, meeting abstract, Erratum, Note, etc. are considered as research publications for this study. It suggests that Dimensions Database has been used as the data updating is the continuous process of development in humanities and social sciences. The scientific processes, as well as the methods for dissemination of information, are very similar within these fields. The database chosen is Dimensions, which has the oldest and most comprehensive records of citation indexes and includes a very authentic source in order to get an accurate and consolidated picture of the research output of the university. The findings

of the research will be a great concern for various policy-making bodies of The Maharaja Sayajirao University of Baroda, such as UGC, NAAC, Internal Quality Assurance Cell (IQAC), NIRF, Ministry of HRD, etc.

Keywords: *Bibliometrics, Dimension database, Humanities, Social Science, MSU.*

1. Introduction

The researchers of any academic institution have given priority to their research publications. Now, noteworthy importance is being given to the scholarly publications as many disciplines in Social Sciences and Humanities. These Publications provide fluency, clarity, lucidity, and confidence to the researchers in their topics, areas and also bestow with broader sense to analyze and observe any occurrence in their fields. It also increases university credibility, status, position among other organizations. The success or failure of any university is measured by the contributions in terms of their research productivity. The M S University and their various departments conduct research to find out the problems associated with their subject domains for the betterment of society. The research output of university departments comes in the form of research publications, which measured through various tools and techniques available in the academic and research field such as, H-index, i-10 index, G-index, M-index, citations, impact factors, etc. The present study has been tried to apply bibliometric analysis to measure the performance of research publications indexed by dimensions database.

The Maharaja Sayajirao University of Baroda (MSU) is one of the oldest centres of learning in western India. The origin of the University dates back to 1881 when ‘The Baroda Arts and Science College’ was established by His Highness Maharaja Sayajirao Gaekwad III and affiliated to the University of Bombay. It was the only institution imparting higher education in Baroda State for more than half a century. The Maharaja Sayajirao University of Baroda (MSU) established in April 1949, under the patronage of the visionary ruler of Baroda state after whom it is named and is recognized by UGC under the Indian Universities Act, 1958. It is the only English medium university in the state of Gujarat, with a unitary and residential status. Smt. Hansa Mehta was not only the first Vice-Chancellor of the University but also the first Women Vice-Chancellor of the Country and 2nd in the world at that time She played a pioneering role in laying a firm foundation for an educational institution with a glorious tradition.

From those early days, functions of the university are seen as imparting and disseminating knowledge, creation of knowledge and extension. In pursuance of these goals, from the existing Colleges and Institutions, Faculty of Arts, Faculty of Science, Faculty of Education and Psychology, Faculty of Medicine, faculty of technology and engineering, Faculty of Law, Faculty of fine arts, Faculty of family and community sciences, Faculty of social work, Faculty of performing arts, Faculty of management studies, Faculty of journalism & communication, Baroda Sanskrit Mahavidyalaya, Polytechnic, Oriental institute, MK Amin arts, science & commerce college, institute of fashion technology, Maharaja Ranjitsinh Gaekwad Institute of Design, Faculty of Pharmacy and Institute of leadership & governance were instituted. The University caters to the educational needs of about 1200

well-qualified faculty members and 1800 supporting staff to facilitate the learning of more than 47000 students through a variety of courses in different disciplines. Seven colleges and recognized institutions offer a very comprehensive range of academic programmes of undergraduate and post-graduate courses. The University has a total of 89 Departments out of which 50 Departments are in Sciences, Social Science and Humanities. The subjects such as Archaeology and Ancient History, History, Economics, Library and Information Science, Political Science, Sociology are fallen under Social Sciences whereas English, German, Hindi, Sanskrit, Pali&Prakriti, Sindhi, Persian, Arabic, Urdu, Linguistic, Marathi, Philosophy, Russian, Gujarati, French are considered in Humanities. (Msubaroda, 2021)

The Maharaja Sayajirao University of Baroda (MSU) is highly involved in research in a way of execution on of the mission statement “Research, Innovations and Extension for the benefit of society”. Numbers of minor and major research carried out by the university scholars, funded by diversified funding agencies i.e. UGC-SAP, CAS, DSA, DRS, CSIR, DST-FIST, DBT, ICMR, ICSSR etc. The MS University of Baroda has well-established research culture, which predates the formation of IQAC (Internal Quality Assurance Cell). The IQAC keeps track of research activities in the different faculties of the university and facilitates its implementation. IQAC cell is formed in individual faculty for promoting the research culture. University has collaborated with the different foreign universities for faculty and student exchange programs for research. In 2010, The Maharaja Sayajirao University of Baroda (MSU) acquired the ‘B’ grade within 2nd cycle of the National Assessment and Accreditation Council (NAAC) assessment previously MSU scored the ‘Star’ grade in 1st Cycle, 2000. The same survey for 2016 ranked ‘A’ grade in 3rd Cycle A side from teaching and research, faculty members are also involved in publishing, which is a major activity at MSU. Articles in journals, books, book chapters, monographs, newspaper articles, reviews, conference papers, working papers, and editorial volumes have all been published as a result of the research.

Dimensions is a data platform for connected research that intends to highlight links between research and its scholarly outcomes. Dimensions combine a large citation database with a research analytics package to measure the influence of research over its life cycle by partnering with many publications, providers, and organizations. Dimensions make it possible to find specific papers as well as related papers, researchers, and academic products in a given field of study. Research articles, books, chapters, awarded grants, patents, clinical trials, and policy documents are all available in the Dimensions academic database. The metadata for this database is harvested from sources such as CrossRef, PubMed, Directory of Open Access Journals, Open Citation Data, clinical trial registries, patent offices, and over 100 publishers (Hook, 2018) Interdisciplinary is quite an ancient question, which came to the front of the scene in early 1970 with the devoted OECD conference and gave rise to awe-inspiring literature and programs. The distinction between multi-, inter-, transdisciplinary formulates various degrees of integration. As Choi and Park, 2006 put it: “*Multidisciplinary draws on knowledge from different disciplines but stays within their boundaries. Interdisciplinary analyses synthesize and harmonize links between disciplines into a coordinated and coherent whole.*” (2012) et al. detail two interpretations of “transdisciplinary” in literature. Both make sense in a delineation context. One privileges the science-society relationship: integration between Social Sciences and Humanities (SSH) and natural sciences with the participation of extra-scientific actors, as a response to heavy and

controversial socio-scientific problems such as climatic change, genetically modified organisms, medical ethics, etc. The second interpretation considers that transdisciplinary simply pushes the logic of interdisciplinary towards integration. Many publications evoke the paradox of multidisciplinary, a source of radical discoveries, laboring however to convince evaluators in the science reward system.

The word “Bibliometrics” is coined by two words “(1) Biblio, and (ii) metrics The word Biblio is derived from the combination of a Latin and Greek word "biblion", meaning book, paper. On the other hand, the word metric indicates the science of "metre" i.e. measurement and is also derived either from the Latin or Greek word metrics or "metrikos", each meaning measurement. Accordingly, Pritchard" defined bibliometrics as "the application of mathematics and statistical methods to books and other media of communication” (Lal, 1997)

‘Bibliometrics’ is relatively a subject of contemporary origin. It is a quantitative study of various aspects of the literature on a theme and are used to categorize the pattern of publication, authorship, citations, and/or secondary journal coverage with the objective of getting an insight into the undercurrents of the progress of knowledge in the areas under deliberation. This all consequently leads to the better organization of information resources which is essential for its most effective and efficient use Bibliometrics today has attained sophistication and complexity having national, international, and interdisciplinary character. As Lawani', 1972 says, "Bibliometrics has clearly become established as a sub-discipline with application in the history and sociology of knowledge in communication and information science”.

The British Librarian, Alan Pritchard “, was credited with introducing the term “Bibliometrics” in 1969 to replace the term “Statistical bibliography He did not find the term “Statistical bibliography” at all satisfactory, as used by (Hulme, 1923) According to him “the term is clumsy, not very descriptive and can be confused with statistics itself or bibliographies on statistics." Thereafter, a lot of studies were made in this field by various scientists De Solla Price published some of the first observations of the exponential rate of growth in the number of scientific journals. More recently in 1971 Goffman' developed the Epidemic Theory for the growth rate of a specific scientific area of activity. Vickery', Clark and others have also illustrated a recent application of this type of analysis.

Bibliometric studies have enabled to develop a body of theoretical knowledge and a group of techniques and have facilitated its application for the further growth of knowledge-based on bibliographical data. The past work by Lotka, Bradford, and Zipf has been valuable in helping library professionals to assess the patterns of authorship, identifying the core collections and designing better retrieval systems.

Bradford’s law derived empirically by Bradford states that “If scientific journals are arranged in order of decreasing productivity of articles on a given subject, they may be divided into a nucleus of periodicals more particularly devoted to the subject and several groups or zones containing the same number of articles at the nucleus. When the numbers of periodicals in the nucleus and succeeding zones will be as I: n: n²...” (Bradford, 1948)

The frequency distribution of output of authors of scientific papers was first studied by Alfred Lotka, who proposed that the number of authors making n contributions is about $1/n^2$ of those making one

contribution, and the proportion of all contributors, who make a single contribution is about 60 percent, or

$$a(n)=k/n^2$$

Where a is the number of authors producing n papers and k a constant (Lotka, 1926).

Bibliometric data provide precise and accurate observations particularly in the study of social science and Humanities. University administration and officials of governmental agencies have seen it as a tool for evaluating the effectiveness of their research programs. Thus, the technique seems very promising in the realm of practical knowledge. In recent years, bibliometric techniques present themselves as a key to objective evaluation. If words are ranked on the basis of the frequency of their occurrence in a long text in decreasing order, the law states that the frequency of Occurrence $f(r)$ of a word is the reciprocal of its rank n . (Zipf, 1949) The law is represented by

$$f(r)=c/n,$$

Where c is a constant, or

$$\text{Log } f(r) + \log n = \log c$$

The law represents only an approximation of the relationship between rank and Frequency, which is hyperbolic. (Wyllis, 1981) Zipf's formulation has been further refined and many generalized forms have been derived (Mandelbrot, 1953)

Bibliometric tools and techniques are being used by the authors to analyze the bibliographic records of scientific research output. This study aims to quantify the research output of The M S University of Baroda, Gujarat, and its significance to India. Using an original database Dimensions of researcher productivity in social sciences and humanities (SSH) at MSU, this study aims to show which subject the most productive is among SSH.

2. Review of Literature:

A literature review is a organization of text that examines the critical points of current knowledge, such as essential findings as well as theoretical and methodological contributions to a specific topic. Because literature reviews rely on secondary sources, they do not report any new or original experimental work. A literature review is typically written before a research proposal and results in section. Its ultimate goal is to bring the reader up to date with the current literature on a topic, and it serves as the foundation for other goals, such as any future research that may be required in the field.

The authors of this study conducted a bibliometric analysis of The M S University of Baroda, a leading university in the state of Gujarat. The study's primary goal is to reflect the university's research trend and scenario from 2001 to 2021. Because a large number of universities in India have been studied in terms of their scientific research, the authors have reviewed some of the related literature in order to provide a clear understanding of the current study. This study presents an exclusive thematic review of relevant literature such as Research Productivity and Bibliometric analysis.

According to (Rush & Wheeler, 2011), it is an obligation for junior faculty members of an institution to be productive researchers aside from academic and service responsibilities. According to the study, despite the requirement of published research from junior faculty, they are not given adequate support in terms of their research accomplishments. Furthermore, the authors contend that senior faculty guidance and collaboration with them can propel research productivity to new heights. (Chaudhari, Bhatt, & Mandalia, 2020) assessed the research efficiency and productivity of various urology faculties and departments using various indices such as the h-index, crown index, Eigen factor, and so on. In their study, they concluded that, while bibliometrics is beneficial because it provides a mathematical framework for assessing research quality, modification for novel indices is required for evaluation purposes in order to achieve the best results. According to (Hasselback, Reinstein, & Abdolmohammadi, 2012) there is a significant correlation between faculty research output measures. According to the study, highly productive faculty researchers rank high regardless of the type of measures used to evaluate them. Furthermore, they reveal that gender, affiliation, academic rank, and teaching experience all have an impact on faculty members' productivity. (Abramo & D'Angelo, 2014) in their study related to the measurable productivity of research activity say that measuring the productivity of a researcher is probably the only and most essential indicator that can assist in gauging the strategy, stratagem, and functioning of a system. (Chaudhary, Mandalia, & Parmar, 2021) Conducted research on a researcher's research productivity and academic ranking. According to his research, the h-index is the most important indicator of an author's rank and position, and it suggests that the h-index should be considered when assessing an author's productivity. (Gupta, 2010) the study ranked universities in India using the bibliometrics technique, which is based on publication output and citation count. Similarly, (Prathap & Gupta, 2009) suggested a new method for ranking research performance of institution of higher education in India by using a composite indicator that combined the pointer of quantity and quality of publications to develop an enactment pointer to rank the institutions.

Bibliometrics is a widely accepted method for bringing promising research areas to the forefront. Analyzing the bibliographic information of scientific publications can help identify the relationships between documents. (Sevukan & Sharma, 2008) Carried out a "bibliometric analysis of research output of biotechnology faculties in some Indian central universities" during 1997-2006 indexed in PubMed and ISI Web of Science database. The results indicated a steady growing of literary publications in the study. Two-authored publications outweigh among the pattern of authorship. However, the application of Bradford's law did not fit the literature analyzed. (Chaurasia & Chavan, 2014) Carried out a bibliometric analysis of the research output of Indian Institute of Technology (IIT Delhi) during 2001-2010 retrieving data from Institute for Scientific Information (ISI), Web of Science Database-Science and Citation Index Expanded (SCIE) with 6109 publications. The study revealed the growth, contribution, and impact of research carried out by the faculty members and researchers of IIT Delhi. (Siwach & Satish, 2015) Made a bibliometric analysis of research publications of Maharshi Dayanand University (Rohtak) during 2000-2013. The study analyzed 1247 publications indexed in SCOPUS database and revealed the year-wise research productivity, its citations impact, national and international collaborations, top collaborating institutions, subject-wise distribution of papers, journals

used for communication, most preferred journals for publication, most prolific authors, number of citations received, and top-cited papers of the University during the period under study. (Maharana & Sethi, A bibliometric analysis of the research output of Sambalpur University's publication in ISI Web of Science during 2007-11, 2013) have done a bibliometric assessment of the scientific research output of Sambalpur University during the 2007 to 2011. Which describes the growth, contribution, and impact of research carried out by the faculty members, researchers, or students of Sambalpur University. It also attempts to analyze the growth and development of research activity of the university as reflected in publications output covered by ISI Web of Science during the period under study. Swain et al in their study entitled "Scientometric Dimension of Research Productivity of a Leading Private University in India' examine the research productivity of KIIT University" Odisha, India in regard to 361 papers indexed in Scopus from the year 2000 to February 2013. Similarly, (Maharana & Das, Research publication trend of Utkal University's researchers indexed in Scopus during 2008 to 2012: a bibliometric analysis, 2013) 2013 carried out a study bibliometric analysis of Utkal University research publications published during 2008-2012 based on indexed in Scopus bibliographic database, to find out the annual growth of university publication, author productivity, etc. Researched analyzed 447 papers and figured out 0.95 Degree of Collaboration as out of 447 papers only 19 papers contributed by a single author and annual growth rate counted 8.77%. The study calculated 3.8 average authors per paper. (Hosseinpour & Gilavand, 2017) Examined the research productivity of humanities faculty members at universities in Ahvaz, Iran's southwest. They discover that the university serves as the primary axis of science production through knowledge and research.

The majority of the studies used ISI WOS and Scopus data to provide a comprehensive overview of research productivity. They did not, however, investigate or conduct specific subject fields, publications, most productive authors, as well as the various sources, as well as collaboration with countries, and how the scientific output of each field contributes to the development of social science and humanities by accessing dimensions data tools.

Thus, this quantitative analysis, which employs an expanded version of the large dataset aims to demonstrate the output of the major subject fields, such as history and archaeology, historical studies, sociology, psychology, economics, education, political science, and others, and how they shaped the past, present, and future of the Disciplines in Social Sciences and Humanities, The MS University of Baroda.

3. Objectives of the Study

The main objectives of the study are as under.

1. To find out the total number of publications of researchers of MSU in the field of social sciences (SS) and humanities(H) indexed by dimensions
2. To find out the different types of documents which the social sciences and humanists have published.
3. To find out the most productive authors in SSH of MSU during the period (2001-2020)

4. To find out the core journals in which publications appeared and their impact factor and country of publication.
5. To find out the number of citations received by the publications.

4. Research Methodology:

The current study was limited to research publications published by The M S University of Baroda, Vadodara between 2001 and 2021. Dimensions database was selected as the primary source database from which data were retrieved by conducting an affiliation search with The M S University as the affiliation university. After retrieving the data, it was limited to 2001-2021, while we selected subject only those who are social science and humanities related, after download each subject individual, see the subject list (Table-1) we got a 847 publications discovered. Aspects referring to the type of document, subject category, journal, country, departments, keywords, and h-index were analyzed default with R-studio cloud software. (R Studio, 2021)

5. Analysis and Interpretation

5.1. Subject Wise Paper and Citations in Social Sciences and Humanities

The M S University of Baroda has contributed to various subject areas in Humanities and Social Sciences. It could be observed that university academicians have the highest publications published in the subject of History and Archaeology and the least publications published in the subject of Journalism and Professional Writing. It is seen that a total number of 847 articles published from The M S University of Baroda indexed in Dimensions during the period of 2001- 2020. Total publications of 23 subjects have received 4,106 citations within average citation per publication is 77.69. It is observed in the results that the publications in Psychology are having the highest average with 8.48 citations per publication followed by Archaeology with 6.75 citations.

Table-1. Subject wise rank distribution of publication and citations.

Rank	Subjects	Total Publications	Total Citations	ACPA	Percentage (%)
1	History and Archaeology	179	1000	5.84	21.13
2	Historical Studies	117	624	5.33	13.81
3	Sociology	76	492	6.47	8.97
4	Psychology	65	551	8.48	7.67
5	Archaeology	64	432	6.75	7.55
6	Education	55	187	3.4	6.49
7	Economics	50	66	1.32	5.9
8	Applied Economics	46	55	1.2	5.43

9	Philosophy and Religious Studies	41	115	2.8	4.84
10	Political Science	29	189	6.52	3.43
11	Religion and Religious Studies	23	64	2.78	2.72
12	Law and Legal Studies	16	81	5.06	1.89
13	Human Geography	15	81	5.4	1.79
14	Philosophy	14	30	2.14	1.65
14	Studies in Creative Arts and Writing	14	42	3	1.65
15	Library and Information Studies	11	32	2.91	1.3
16	Policy and Administration	9	26	2.89	1.07
16	History and Philosophy of Specific Fields	9	13	1.4	1.07
17	Linguistics	8	24	3	0.94
18	Language Studies	2	2	1	0.23
18	Social Work	2	0	0	0.23
19	Other Language, Communication and Culture	1	0	0	0.12
19	Journalism and Professional Writing	1	0	0	0.12
Total		847	4106	77.69	100

(ACPP) Average Citation per Paper

5.1.1 Subject-wise rank distribution of publication

The subject-wise rank distribution of publication is listed in Table 1, which shows in the History and Archeology is the most favored area of research among the research community of MSU with 21.13%, followed by Historical Studies (13. 81%), Philosophy and Religious Studies and Studies in Creative Arts and Writing with (1.65%) each. Similarly, the case with Policy and Administration and History and Philosophy of Specific Fields with 1.07% each. Language Studies and Social Work stood at the eighteenth position with 0.23% each were as Other Language, Communication and Culture and Journalism and Professional Writing with 0.12% each stood the last rank among the subjects.

5.2 Year-Wise MSU Publications in Social Sciences and Humanities (SSH).

Table-2 presents the data relating to the growth of research publications in Social Sciences and Humanities from 2001 to 2020. The years in which more than 500 papers published are 2019,2018 and 2017(1640 Papers),2016,2014(891 Papers), 2015,2013,2012,2011(1446 Papers),2010,2009,2008 and 2007 (964 Papers), 2006,2005,2004 and 2003 (575 Papers) are relatively more productive in relation to the total number of publications in SSH. The less productive years are 2002 and 2001 (162 Papers), with less than 100 papers. The remaining years as shown in the table shows a moderate growth of research. As the publication data were downloaded on 25th May 2021 from the Dimensions database the year 2020 is having the highest publications of 676 papers. It is clear that at the beginning stage,

the number of articles published i.e. during the year 2001 and 2002 was less and increased progressively. But it can be seen that in between the ups, there are dropdowns also in the number of articles. Hence, the investigators are very much sure about the increase in total research productivity from the year 2020 onward.

Table-2. Year-wise MSU Publications in Social Sciences and Humanities (SSH)

Year	MSU Total Publications	MSU Total Citation	MSU ACP	MSU SSH Publications	Total Citation Per Article	Total Citation Per Year	Citable Years
2001	80	2000	20.74	14	7.71	0.39	20
2002	82	2000	25.52	17	5.06	0.27	19
2003	117	3000	22.93	17	4.82	0.27	18
2004	110	2000	20.14	12	11.58	0.68	17
2005	161	4000	21.85	25	9.6	0.6	16
2006	187	4000	23.71	17	7.24	0.48	15
2007	206	5000	22.97	40	20.25	1.45	14
2008	233	4000	16.76	27	3.52	0.27	13
2009	233	4000	18.83	22	14.82	1.23	12
2010	292	6000	19.74	40	5.75	0.52	11
2011	321	6000	17.55	45	7.44	0.74	10
2012	381	5000	12.96	49	10.24	1.14	9
2013	364	5000	14.97	39	2.64	0.33	8
2014	404	6000	15.33	44	6.27	0.9	7
2015	380	4000	10.96	37	2.57	0.43	6
2016	487	3000	6.74	75	3.87	0.77	5
2017	572	3000	5.8	85	2.79	0.7	4
2018	514	3000	5.65	61	1.72	0.57	3
2019	554	2000	2.75	92	0.38	0.19	2
2020	676	789	1.17	89	0.56	0.56	1
Total	6354	73789		847			

5.3 Bradford's Law of distribution in research communication source

Table 3 Bradford's Law analysis of scattering with respect 847 articles are distributed in table 3 according to their zones. First zone, RCS is 6 (3.37%) source of contributed of communication sources published. RP is 288 (34.00%) research publication. second Zone, RCS 13 (6.60%) publication source of contributed of CS, and RP is 282 (33.29%) research publication, Third Zone, RCS 178 (90.36%) source of contributed of communication sources published, RP is 277 (32.70%) total research

productivity. After this analyzed the numbers of journals in each zone increase and citation productivity decrease simultaneously.

Table 3 Bradford's Law of distribution in research communication source

Zone	RCS	CRCS	Rate (%)	RP	CRP	Rate (%)
Zone 1	6	6	3.37	288	288	34.00
Zone 2	13	19	6.60	282	570	33.29
Zone 3	178	197	90.36	277	847	32.70

RCS: Research Communication Source; **CRCS:** Cumulative of Research Communication sources; **RP:** Research Publications; **CPR:** Cumulative of Research Publications

5.4 Most Productive 20 Authors in Social Sciences and Humanities (SSH)

The most productive 20 authors of The M S University of Baroda in the disciplines of SSH have been cited in Table 4 which ranked those who contributed more than 10 research publications and those contributed more than 6 publications during the period of 2001 to 2017, out of the total publications 203 of over all 847 publications published during the year 2018 to 2020. It indicates that the research productivity of the authors are gradually increasing day by day.

It measures the most productive authors who frequently published the amount of publication in a certain duration while ranking the authors according to counts of publication, Kapadia, S ranked in the top with 25 research publications received 183 citations followed by the Biswas U N with 16 publications received 4 citations. Ajith Prasad P produced 15 publications ranked on 3rd position with the highest number of citations i.e. 208 whereas Sriram R in the same position with a same number of publications received 75 citations only. Position of 9th ranked shared by four authors, Allard K, Härenstam A, Madella M, and Pousette A. published 8 research individually, similarly 'Ikegame A.' and Krishnan K Shared the 10th rank with 7 publications each. However, Baxi R, Bhangaokar R, Cheneyville T, Gala J have published an equal number of papers i.e. 6 publications but their citation are measured more than 25. It has been observed that as research productivity compare to the percentage of publications and citations Ajith Prasad P (2010, 208) has more citations followed by, Kapadia S (2001, 183), Madella M (2010, 121) and Ikegame A (2009, 118) respectively.

However, in the observation of H-index suggested by (Ajith Prasad P, 2010), measures the productivity, as well as the impact of research published by authors, diversify the ranking of top authors and the top rank captured by 'Biswas U N' with 01H-index, followed by 'Sriram R' with 05 of H-index. The top-ranked author 'Kapadia S.' in counts for numbers of research publication downgraded on the 2nd rank with a rate of 09 H-index as shown in table-4.

Table-4. Most productive 20 authors in social sciences and humanities (SSH)

Rank	Author	Publication Year Started	No. of Publication	H-Index	G-Index	M-Index	Total Citation
1	Kapadia S	2001	25	9	12	0.43	183
2	Biswas U N	2011	16	1	1	0.09	4
3	Ajith Prasad P	2010	15	10	14	0.83	208
3	Sriram R	2011	15	5	8	0.46	75
4	Bishnoi T R	2006	14	1	1	0.06	2
5	Devi S	2017	12	1	1	0.2	2
6	Saraswathi T S	2003	11	7	8	0.37	75
7	Turner B	2005	10	0	0	0	0
8	Dave S	2016	9	1	1	0.17	1
9	Allard K	2017	8	1	1	0.2	2
9	Härenstam A	2017	8	1	1	0.2	2
9	Madella M	2010	8	6	8	0.5	121
9	Pousette A	2017	8	1	1	0.2	2
10	Ikegame A	2009	7	5	7	0.39	118
10	Krishnan K	2005	7	2	5	0.12	26
11	Baxi R	2014	6	4	6	0.5	40
11	Bhangaokar R	2009	6	4	6	0.31	38
11	Bhattacharya N	2016	6	4	4	0.67	26
11	Chenneville T	2014	6	4	6	0.5	40
11	Gala J	2013	6	4	6	0.44	42

5.5 Most Productive Sources in Social Sciences and Humanities

The mapping of research publications published in various sources in Social sciences and Humanities disciplines. It is evident that, the researchers of The M S University of Baroda use to publish their work in a wide range of sources indexed in Dimensions database. Out of 847 documents, 22.07% of documents are published in (Unknown Documents as R-Software data) like. Preprints Articles, Chapter, Preprint, monograph, edited book etc.3.06% is published in the Statemean's Yearbook whereas less than 0.94% are published through Indian Journal of History of Science, Indo-Iranian Journal, Understanding Attractive Work In A Globalized World, Understanding Attractive Work In A Globalized World, Antiquity, Lecture Notes in Civil Engineering, Modern Asian Studies, The Indian

Economic & Social History Review, Journal of Empirical Research on Human Research Ethics, and South Asian Studies respectively which have been in table-5.

Table-5. Top 20 Productive sources in Social Sciences and Humanities (SSH)

SN	Sources	No. of Articles	Citation	Impact Factor
1	Article, Chapter, Preprint, monograph, edited book etc.	187	1769	No
2	The Stateman's Yearbook	26	19	No
3	SSRN Electronic Journal	25	30	No
4	Psychology and Developing Societies	18	122	0.21
5	Towards Excellence (Conference Proceeding)	18	0	No
6	Palgrave Macmillan Studies in Banking and Financial Institutions	14	8	0.19
7	Fathering in India	12	0	No
8	International Journal of Hindu Studies	12	6	0.19
9	Quaternary International	12	35	2.19
10	Psychological Studies	10	52	0.72
11	Indian Journal of History of Science	8	4	No
12	Indo-Iranian Journal	8	7	0.29
13	Palgrave Series in Indian Ocean World Studies	8	0	No
14	Understanding Attractive Work in A Globalized World	8	2	No
15	Antiquity	7	44	1.65
16	Modern Asian Studies	7	86	0.53
17	The Indian Economic & Social History Review	7	23	0.37
18	Journal of Empirical Research on Human Research Ethics	6	40	0.95
19	South Asian Studies	6	13	0.27
20	The Indian Journal of Pediatrics	6	48	1.5

5.6 MSU with Collaboration Countries.

Interdisciplinary research and international exchange programs are encouraged at M S University of Baroda. The analysis shows that 847 papers were published with collaboration along with 33 different countries. Table 5 data show to top 15 countries. The involvement of other countries with the researchers/scholars of The M S University of Baroda can be seen in the distribution of research output by geographical regions. On the whole 847 contributors belonging to India, the collaborative

contributors are from The UK with 7.67%, Spain (2.60%), Sweden (2.36%), Canada (1.42%), Italy (1.18%), Germany (0.83%), and rest countries as mentioned in table no 6 are below 0.71% each respectively.

The number of research articles published by India with at least one other country as a co-author (determined by country affiliation) can be used to calculate country-specific collaboration. Table 5 shows country-to-country collaboration in social science and humanities research from 2001 to 2021, with India accounting for 2609 of the total citations. It was discovered that The Maharaja Sayajirao University of Baroda received the most citations when compared to other countries

Table-6. MSU with Collaboration Countries.

Rank	Countries	Articles	Total Citation
1	India	847 (100%)	2609
2	U K	65 (7.67%)	382
3	Spain	22 (2.60%)	76
4	Sweden	20 (2.36%)	0
5	Canada	12 (1.42%)	18
6	Italy	10 (1.18%)	2
7	Germany	7 (0.83%)	22
8	France	6 (0.71%)	0
8	Japan	6 (0.71%)	17
9	Nigeria	5 (0.59%)	2
9	Sri lanka	5 (0.59%)	1
10	Australia	4 (0.47%)	0
11	Israel	3 (0.35%)	1
11	Netherlands	3 (0.35%)	4
11	Romania	3 (0.35%)	0

Figure-6. Three Find Plot, Authors, Affiliation, and sources in Social Sciences and Humanities (SSH)

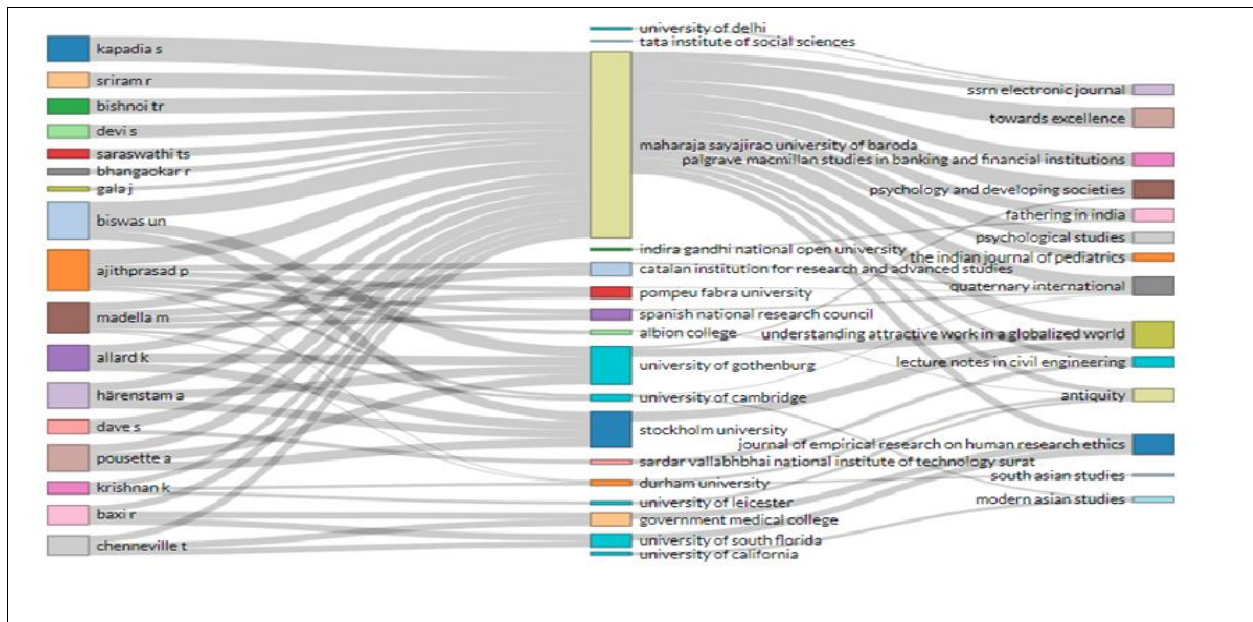


Figure 6 Data chart shows three fields plot map R- cloud Studio software, three types of data showing Authors, University or Instauration name, and sources name, maximum authors from MSU and most productive author Kapadia S. and favorable journal are towards excellence.

Figure-7. Top-Authors Production over the Time in Social Sciences and Humanities (SSH)

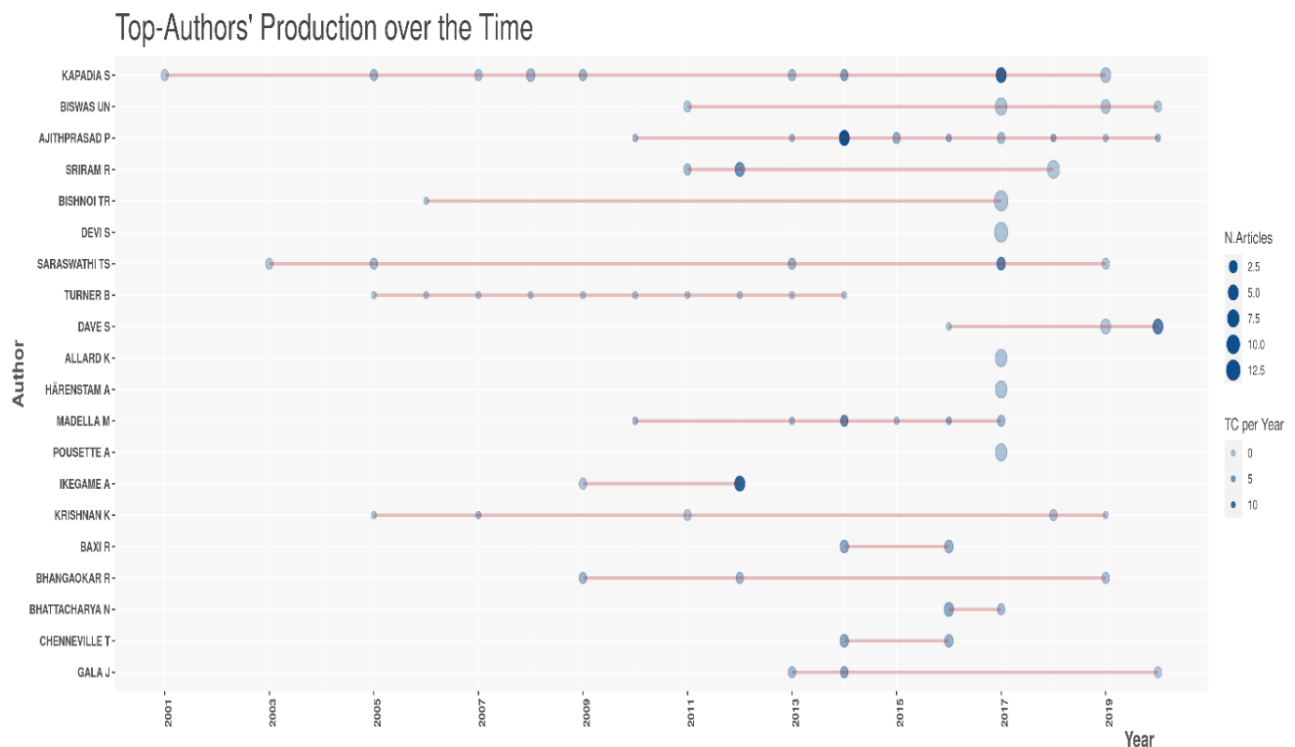


Figure 7 shows the most productive authors' publications started from to end year. Most productive authors number of articles and citation calculation details. Figure 7 data showing Kapadia S are the most productive author and first paper cited in 2001 while following 2020.

Figure-8. Social Sciences and Humanities (SSH) authors' social network map

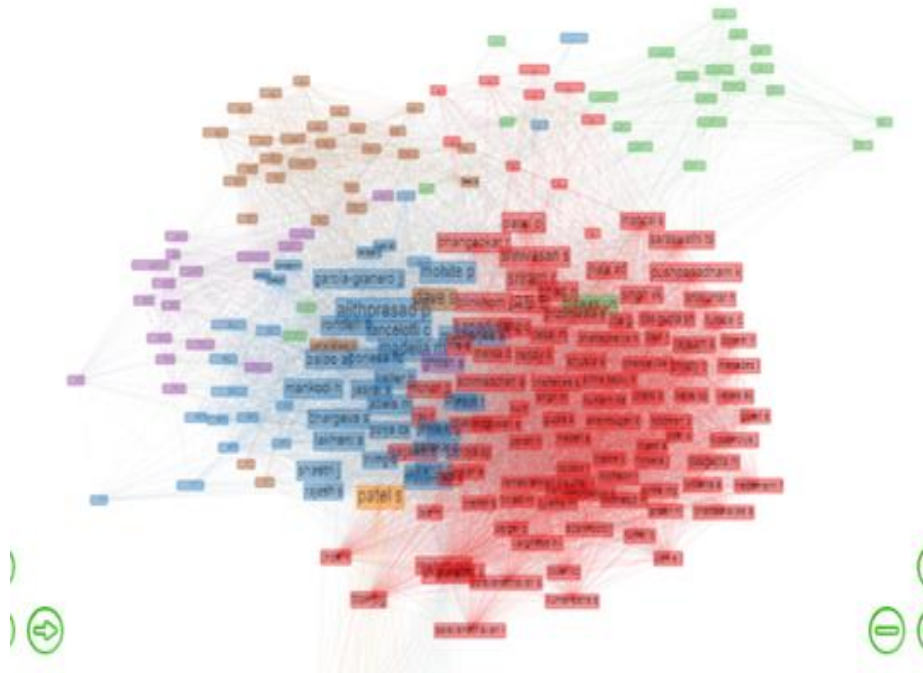


Figure 8 show the MSU co-authorship social network analyzed by R-Studio Software.

6. Conclusion

Research and innovation are two factors that frequently determine a university's progress. Examining a university's publication output is one approach to quantifying its research. This research looks into the publications of the M S University of Baroda. To comprehend the impact of the focal area on the 23 fundamental areas, such as history and archaeology, historical studies, sociology, and psychology, Archaeology Applied Economics, Education Economics Religious Studies and Philosophy Religious Studies and Philosophy Political Science, Religion and Religious Studies, Law and Legal Studies, Human Geography, Philosophy, and Creative Arts Studies are just a few of the subjects covered. When compared to other countries, the Maharaja Sayajirao University of Baroda, India, was found to have the most citations. Finally, our research relied solely on Dimension Data. However, the authors are adamant that the underlying dynamics of the social sciences and humanities, both in terms of publication and impact factor, percentage (percent), h-index, g-index, m-index, and citation culture,

have been thoroughly examined, in order to have a better understanding of the social sciences and humanities disciplines, particularly with regard to the application of bibliometrics.

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