Folklore: A Scientometric Assessment of Fifty years of global research output

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Abstract:
The study aimed to identify the research trends and map the global publications on folklore during 1971-2020. The objectives of this research are to find out year-wise research, relative growth rate and doubling time, types of documents, prolific author, the pattern of authorship, productive journals, most cited documents, and author collaborations, institution, and countries; author keywords occurrences, and to know the latest trends in global folklore research. Fifty years of research data retrieved from the Scopus database covering 1971-2020. The word 'folklore' searched by selecting a 'title' option, refined by year and the language. Only English language research data considered for this analysis. Therefore 1929 publication downloaded in the BibTeX and CVS format. The collected data have analyzed with different software, such as Microsoft Excel, Access, Bibliomatrix.3.0, Vovsviewer and Scientopy. The result shows that the year 2017 recorded maximum research growth (130 documents). Most of the papers published in the form of articles (1111), single-authored papers are 73% (1406). The journal 'Folklore' found the leading producer of research in the considered field (164 papers). The University of California has been the highest collaborative institutions, and the USA contributed maximum articles (724).

Keywords: Scientometrics; folklore; Relative growth rate; Authorship pattern; collaboration; prolific sources

1. Introduction:

The word 'folklore' comprises two words: folk (meaning people) and lore (meaning knowledge), the knowledge of people transferred from generation to generation (Bennett, 1993). The present study considered to analyze the changing trends in this field of research in folklore and how these trends brought into a wide range of research. It will evaluate the changing scenario of the studies on folklore with time. Grimm brother's Kinder und Hausmarchen, published in 1812, is one of the earliest remarkable published works in folklore studies. Folklore was called "popular antiquities" in England in the 19th century. The word 'folklore' was first coined by William John Thoms in 1846 (Bennett, 1993). The genre had been a particular interest for academicians and folklorists, and it has maintained its relevance till date. Colonizers had shown particular interest in collecting and studying the folklore of their colonies and studying them to understand the people of its colonies and their culture and govern them better. Many popular fiction and prose narratives are written in various languages draw its content from folklore. Academicians from all the disciplines are showing immense interest in folklore studies due to its multidisciplinary or transdisciplinary approach. Women's studies, cultural studies, anthropology, literature, etc., are prominent disciplines that extensively study this genre. 'Folklore' was earlier understood by synonymous with folk tales and folk songs. However, it also includes other aspects of folk and their culture, such as architecture, art, food, etc. It studies all the different elements with academic enthusiasm like folk songs and folk tales, which help scholars to analyze the changes in the community's ideology and culture with the change in time. Folklorists are now suggesting that the word 'folklife' defines this genre better than the word 'folklore(Ben-Amos, 2020)'. Like the definitions, the medium of transmission of the lore of the folks is changing with time. Earlier, it transferred through oral traditions, but the medium is also evolving with changing technology. The advent of the internet, it is in the process of rapid transmission across its respective communities. It is no more limited to a small community; it has become easier for academicians and scholars to retrieve the knowledge about it. Similarly, the availability of more translated works of folklore with time, in various languages, has played a crucial role in the expansion of folklore studies. The present study assesses the global folklore research from 1971-2020 by applying scientometric methods. "Scientometrics analyze the quantitative aspect of the generation, propagation, and utilization of scientific information to contribute to a better understanding of the mechanism of scientific research activities." (Osareh, 1996). There is no such bibliometric study conducted on global folklore research except Estonian folklore research and folklore: Electronic journal of folklore from 2005–2014 (Lauk, 2016). The present paper attempts to trace these various factors related to folklore studies, thereby framing a picture of the changing trends through the scientometric research by mapping the published works on folklore. This study would be of immense relevance for scholars working in this area. It would also help them study the factors contributing to the changing trends in this genre.

2. Literature Review:

Lin, Zhu, Ahmad and Han (2019) have attempted to highlight quantitative analysis of global research on Brownfields during 1995-2017. The study data was collected from the web of science database using CiteSpace. The total 630 data downloaded for analyzing on co-authorship, co-word, co-citation, and cluster analysis. Most of the research carried out on Brownfields in the United States of America, followed by the United Kingdom, Canada, Germany, and China. It also revealed the most frequently used words in the studies are "Brownfields", "Heavy metal," "Remediation," "redevelopment" and "Sustainability". However, the term "Management and Biodiversity" received the maximum citation in recent years. The study examined co-citation cluster, and top topics were Sustainable regeneration, Urban Brownfield's regeneration, mental distribution, and coal mine brownfield and ecosystem services. The study helped the researcher and practitioner understand the salient features and trends of brownfield research globally.

Wuni, Shen and Osei-Kyei, (2019) have explored global research productivity on green building from 1992 to 2018. The study analyzed a total of 1147 research articles for this study from 1992 to 2018. It revealed that research on the green building was increased exponentially from 1992 to 2018. 44% of countries are highly engaged in the green building's research activity; major ten broad themes on the green building identified and suggested for future research. Overall, these papers provide a new insight to the researchers, funding agencies, policymakers, and other professionals.

Fang, Yin and Wu (2018) have described the research output in 'Climate Change' and 'Tourism' from 1990 to 2015. The study collected 1976 research publications during 1990-2015 in Climate change and Tourism using CiteSpace analyzing software. Study visualized collaboration network, co-citation network and recent emerging trends. The number of research publication has been increased exponentially, and it became an interdisciplinary subject. The highly productive authors and institution belong to Australia, United States of America, Canada, New Zeeland, and European countries. The study finds out hot topics of Climate Change and Tourism are consequences of climate change for tourism, necessary adaptations, the vulnerability of the tourism industry, tourist behaviour, demand in response to climate change and emission reductions in the tourism. The paper highlighted an in-depth analysis of climate change and tourism research activity for understanding global trends and directions in this field over the last 25 years.

Rahaman, Md Safiqur, Kumar, Dr Suchetan, Ansari, Khadeeja M N and Rahman, Md Rafiqur (2021) have researched the research trends in novel coronavirus from 1996-2020. A total of 2661 papers have been retrieved from Scopus database and analyzed through Bibliometrix and VOSviewer software. The analysis shows that "articles" were the most type of research form, 'The University of Hong Kong' was productive institutions, and *'Journal of Virology'* was the most impactful source in novel coronavirus. The word coronavirus was the highly appeared author keywords.

Guo, S, Tian, J, Zhu, B, Yang, Yu, K, Zhao, Z (2018) have explored research performance on metabolomics from 1992 to 2017. The study studied thematic trends, Number of articles, Prolific Authors, and most preferred journal in metabolomics. Bibliographic data (66721) has been retrieved and downloaded from the web of science database during 1992-2017. The study revealed that the USA has the maximum number of researches published in metabolomics, China Academic of Sciences has the highest number of publications. The most preferred journal was the *Proceedings of the National Academy of Sciences of USA*, *PLOS ONE* has most of the research Publications. The most prolific author was Nicholson with maximum co-citations. The study suggested that metabolic syndromes and related disease, novel pathways of metabolomics will be significant research work in the future.

Singh and Bebi(2013) have investigated 'Indian Women Scientist's' research productivity of the few selected Indian research institutes in physics and astronomy during 2011-2015. The study identified that active women scientist (12.35%) only while men scientist (87.65%) found that 73 women scientists out of 583, women scientist published 713 research paper from 2011 to 2015. The study explored that National physical laboratory has published the largest number of publication (144). In contrast, Indian Institute Astrophysics has the maximum number of citations, a research paper published in collaboration with other national and international institutes, and the average CC is 0.7480. It also described that most women scientist published the research work in the journal of Astronomy and Astrophysics. The most prolific author is Aditi Sen De, Harish Chandra Research Institutes with 38 articles.

3. Objectives:

The objective of the present study is to assess the fifty years of global research on folklore. In this specific objective, various objectives considered such as: to identify annual scientific production on folklore during 1971-2020, average citation per year, relative growth rate and doubling time, the pattern of authorship, the most impactful journal and authors, the most productive country and institution, the most cited country and to explore the research trends on folklore.

4. Material and Methods:

The research data extracted from the Scopus database. The search (TITLE -folklore) conducted on 14th December 2020, further limit to years (1971-2020) and Language (English). One thousand nine hundred twenty-nine research data downloaded to assess and classify according to different scientometric parameters, including yearly global research, document types, subject-wise distribution of documents, prolific author, etc. The collected records analyzed by using various analyzing tools such as Microsoft Excel, Microsoft Access, bibliometrics.30 (Massimo Aria & Corrado Cuccurullo, 2019), VOSviewer (van Eck and Waltman, 2010) and Scientopy (Ruiz-Rosero, J., Ramirez-Gonzalez, G. & Viveros-Delgado, 2019). The software vitally beneficial to prevent the human error in the analyses and the results are most trustworthy to consider.

5. Result and Discussion:

5.1. Yearly research growth:

Figure (1) shows that year-wise research on folklore from 1971 to 2020. The year' 2017' contributed the highest research papers (130), followed by 2013 (114 papers), and 2016 (108 papers). 1994 recorded the lowest research papers (09). During the first three-decade (1971-2000) the average research contribution per year found lowest (16.87 article per years) as compared to recent two decades (2001-2020), it was 71.15 average research per year.
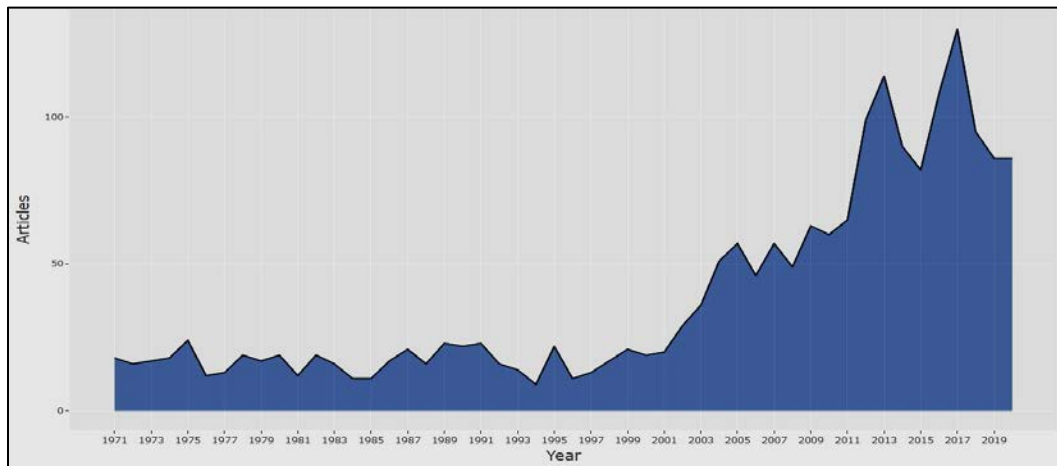

Figure (1): Annual Scientific production

Table (1): Yearly research output, Relative growth rate and doubling time

#	Year	NP	Cum+	Log 1	Log 2	RGR	DT	Mean TC per Year	Citable Years
1	1971	18	18	0.00	2.8903	0.00	0.00	0.3741	49
2	1972	16	34	2.8903	3.5263	0.6359	1.0896	0.1679	48
3	1973	17	51	3.5263	3.9318	0.4054	1.7091	0.1088	47
4	1974	18	69	3.9318	4.2341	0.3022	2.2925	0.0809	46
5	1975	24	93	4.2341	4.5325	0.2984	2.3216	0.0453	45
6	1976	12	105	4.5325	4.6539	0.1213	5.7102	0.2026	44
7	1977	13	118	4.6539	4.7706	0.1167	5.9370	0.0787	43
8	1978	19	137	4.7706	4.9199	0.1492	4.6417	0.1466	42
9	1979	17	154	4.9199	5.0369	0.1169	5.9245	0.0659	41
10	1980	19	173	5.0369	5.1532	0.1163	5.9567	0.0855	40
11	1981	12	185	5.1532	5.2203	0.0670	10.333	0.2521	39
12	1982	19	204	5.2203	5.3181	0.0977	7.0884	0.1675	38
13	1983	16	220	5.3181	5.3936	0.0755	9.1778	0.1554	37
14	1984	11	231	5.3936	5.4424	0.0487	14.203	0.0176	36
15	1985	11	242	5.4424	5.4889	0.0465	14.896	0.3844	35
16	1986	17	259	5.4889	5.5568	0.0678	10.207	0.2664	34
17	1987	21	280	5.5568	5.6347	0.0779	8.8889	0.1255	33
18	1988	16	296	5.6347	5.6903	0.0555	12.4707	0.2265	32
19	1989	23	319	5.6903	5.7651	0.0748	9.2607	0.0743	31
20	1990	22	341	5.7651	5.8318	0.0666	10.3911	0.1651	30
21	1991	23	364	5.8318	5.8971	0.0652	10.6172	0.3373	29
22	1992	16	380	5.8971	5.9401	0.0430	16.1097	0.2209	28
23	1993	14	394	5.9401	5.9763	0.0361	19.1544	0.6772	27
24	1994	9	403	5.9763	5.9989	0.0225	30.6832	0.3547	26
25	1995	22	425	5.9989	6.0520	0.0531	13.0379	0.1763	25
26	1996	11	436	6.0520	6.0776	0.0255	27.1200	0.2840	24

27	1997	13	449	6.0776	6.1070	0.0293	23.5869	0.2775	23
28	1998	17	466	6.1070	6.1441	0.0371	18.6477	0.5641	22
29	1999	21	487	6.1441	6.1882	0.0440	15.7219	0.3424	21
30	2000	19	506	6.1882	6.2265	0.0382	18.1069	0.8815	20
31	2001	20	526	6.2265	6.2653	0.0387	17.8771	1.2736	19
32	2002	29	555	6.2653	6.3189	0.0536	12.9129	0.6436	18
33	2003	36	591	6.3189	6.3818	0.0628	11.0266	0.3251	17
34	2004	51	642	6.3818	6.4645	0.0827	8.37236	0.4754	16
35	2005	57	699	6.4645	6.5496	0.0850	8.14695	0.5216	15
36	2006	46	745	6.5496	6.6133	0.0637	10.8734	0.4534	14
37	2007	57	802	6.6133	6.6871	0.0737	9.39987	0.4966	13
38	2008	49	851	6.6871	6.7464	0.0593	11.6856	0.6938	12
39	2009	63	914	6.7464	6.8178	0.0714	9.70337	0.6320	11
40	2010	60	974	6.8178	6.8814	0.0635	10.8995	0.8783	10
41	2011	65	1039	6.8814	6.9460	0.0646	10.7271	0.6170	9
42	2012	99	1138	6.9460	7.0370	0.0910	7.6142	0.7550	8
43	2013	114	1252	7.0370	7.1324	0.0954	7.2588	0.51503	7
44	2014	90	1342	7.1324	7.2019	0.0694	9.9828	0.53518	6
45	2015	82	1424	7.2019	7.2612	0.0593	11.6846	1.13414	5
46	2016	108	1532	7.2612	7.3343	0.0731	9.47961	0.4652	4
47	2017	130	1662	7.3343	7.4157	0.0814	8.50853	0.45384	3
48	2018	95	1757	7.4157	7.4713	0.0555	12.4671	0.7	2
49	2019	86	1843	7.4713	7.5191	0.0477	14.5018	0.4302	1
50	2020	86	1929	7.5191	7.5647	0.0456	15.1950		0

*NP=Number of publications, **RGR=Relative growth rate,***DT=Doubling time, ****Cum+=Cumulative*

5. 2. Mean citation per year:
Table (1) shows that 2001 produced 20 research papers with the highest mean citation per year (1.2736) followed by 2015 contributed 82 papers with mean citation per year 1.1341. The year 1971 has the highest citable year (49) and 2020 has the least citable year (0).

5. 3. Relative growth rate (RGR) and doubling time (DT): The concept of relative growth rate given by Mahapatra in the year 1985 (Mahapatra M, 1985). The relative growth rate and doubling time are associated with each other. Doubling time calculation is based on depending on relative growth rate. The equation of relative growth rate as below:-

$$R\ (1-2) = \frac{W1 - W2}{T2 - T1}$$

Where R (1-2) means the relative growth rate over a specified period of interval
W1=Log w1 (Natural log of the initial number of publications/Pages)
W2=Log W2 (Natural log of the final number of publications/ pages)
T2-T1= the unit difference between the initial time and final time
The relative growth rate for publications and pages calculated separately.
Therefore,
R (a) = Relative growth rate per unit of time (year)
R (p) =Relative growth rate per unit of pages, per unit of time (year).
Doubling time have a direct relation with the relative growth rate. If the number of research publications/ articles/pages of a subject double during the given period, then the difference between the logarithms of numbers at the beginning and end of this period must be the logarithms of number two. If one uses natural logarithms, then this difference has a value of 0.693. Thus, the corresponding DT for publications and pages can be calculated by the following calculations.

$$Dt = \frac{0.693}{R}$$

Where, *DT* =Double time, *R*= Relative growth
The table (1) show that relative growth was highest in 1972 (RGR=0.635989), and it was lowest in 1994 (RGR=0.022586). The table reveals that RGR was fluctuating and overall trends of RGR was decreasing during the study time (1971-2020). The doubling time was highest in 1994 (DT=30.6832), followed by 1996 (DT=27.12002), 1997 (DT=23.58696).DT (1.089642) was lowest in 1972. In the table, *Dt* was changeable in the fifty-year study with increasing *Dt* trends. The table shows an inverse relation between RGR and DT. This result agrees with the (Kumar and Rahaman, 2019).

5.4. Subject wise research contribution on folklore: The table(2) illustrated subject wise research papers in folklore from 19971-2020. 'Arts and Humanities' contributed maximum research papers (1089) followed by 'Agricultural and Biological Sciences' (81), 'Computer Science' (79), 'Biochemistry, Genetics and Molecular Biology' (47). 'Dentistry' (02) was the least contributed subject to folklore during fifty years of research.

Table (2): Top ten Subject wise research

#	Subject	NP	Ranks
1	Agricultural and Biological Sciences	81	2
2	Arts and Humanities	1089	1
3	Biochemistry, Genetics and Molecular Biology	47	4
4	Business, Management and Accounting	46	5
5	Chemical Engineering	07	9
6	Chemistry	15	8
7	Computer Science	79	3
8	Decision Sciences	16	7
9	Dentistry	02	10
10	Earth and Planetary Sciences	28	6

5.5. Prolific author: The table (3) described the top 15 prolific authors in the global folklore research. The table revealed that 'Newall V' (12 papers) produced maximum international research on folklore with 12 total citations followed by 'Baron R' (09 papers) with 52 total citations. The authors' Bronner SJ', Sanderson SF and 'Wood J' were contributed 08 papers each. 'Bronner SJ' has received the maximum total citation (90) for 08 research papers followed by 'Blank TJ' (TC=70) for only five research papers. Bronner SJ has the highest h-index (6) and g-index (8) for eight papers. 'Dash S' and 'Dinda SC' have least (01 papers each) contributed authors among the top 15 authors.

Table (3): Author impact

#	Author	h_index	g_index	m_index	TC	NP	PYS
1	Newall V	3	4	0.06	17	12	1971
2	Baron R	4	7	0.222	52	9	2003
3	Bronner SJ	6	8	0.194	90	8	1990
4	Sanderson SF	1	1	0.02	3	8	1971
5	Wood J	3	4	0.079	17	8	1983
6	Eliason EA	2	2	0.222	8	7	2012
7	Hasan-Rokem G	3	5	0.176	29	7	2004
8	Tangherlini TR	5	7	0.455	72	7	2010
9	Untiedt Kl	1	1	0.059	2	7	2004
10	Greenhill P	2	3	0.105	11	6	2002
11	Mysels KJ	2	3	0.063	13	6	1989
12	Blank TJ	4	5	0.333	70	5	2009
13	Chan PC	3	5	0.188	30	5	2005
14	Dash S	1	1	0.125	4	5	2013
15	Dinda SC	1	1	0.125	4	5	2013

*TC=Total citation,**NP=number of publications,*** PYS=publications year start*

5.6. Authorship pattern: Figure (2) shows the authorship pattern in the field of global folklore research. The table reveals that single author-produced 73% (1406 papers) of research followed by double authors (262), three authors (122), four authors (62) and fifth author (41). It was clear from

the table that only 1% of papers published by more than eight authors. Thus, the researchers are not interested in collaborating work while writing research on folklore.
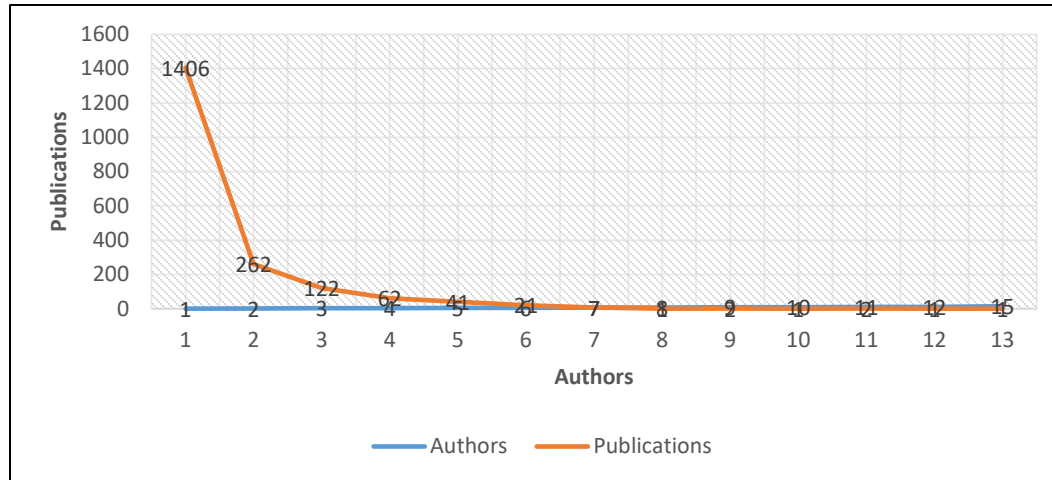

Figure (2): Pattern of authorship

5.7. Corresponding author's country:

Table (4) shows that most of the authors belong from USA (234 articles), followed by India's author (70 articles), United Kingdom's author (66 articles) and Canada's authors contributed 18 articles. Finland's authors were the least produced (9 articles) among the top ten corresponding authors country.

Table (4): Top ten Corresponding author's country

#	Country	Articles	Freq	SCP	MCP	MCP Ratio
1	USA	234	0.3662	222	12	0.0513
2	India	70	0.10955	69	1	0.0143
3	United Kingdom	66	0.10329	64	2	0.0303
4	Canada	18	0.02817	17	1	0.0556
5	Slovenia	13	0.02034	13	0	0
6	China	12	0.01878	9	3	0.25
7	Germany	12	0.01878	11	1	0.0833
8	Australia	10	0.01565	9	1	0.1
9	Japan	10	0.01565	9	1	0.1
10	Finland	9	0.01408	9	0	0

*SCP=Single county publication,**MCP=Multiple Country publications

5.8. Productive journals: Table (5) described the top 15 highly productive sources out of 1021 on global folklore research. The journal '*Folklore*' (164 papers) found leading contributed journal for fifty-years research followed by *'Journal of American folklore'* (67 papers), *'Journal of folklore research'* (37) and '*Folklore* (United Kingdom)' (31). The *Lecture notes in computer science* (5)

studied the least contributed journals on global folklore research. In terms of total citation received by journals, *'Journal of ethnopharmacology'* received maximum citations (TC=569) followed by Folklore (TC=425), *'Journal of American folklore'* (TC=443). *'Celebrating 100 years of the Texas folklore society*, 1909-2009' have zero citation for 16 papers. *'Journal of American folklore'* has the highest h-index (11) for 67 papers with 443 total citations. It also has leading g-index (17) for 67 papers with 443 total citations.

Table (5): Source impact

#	Source	h-index	TC	NP	PYS
1	Folklore	10	425	164	1971
2	Journal of American Folklore	11	443	67	2002
3	Journal of Folklore Research	8	185	37	2002
4	Folklore (United Kingdom)	3	49	31	2012
5	Western Folklore	6	102	28	1980
6	Fabula	5	51	24	1972
7	Milli Folklore	2	30	24	2008
8	Folklore (Estonia)	2	14	23	2012
9	FF Communications	1	11	19	2003
10	Traditiones	3	22	18	2011
11	Celebrating 100 Years of the Texas Folklore Society, 1909-2009	0	0	16	2009
12	A Companion to Folklore	6	92	15	2012
13	Folklore in Utah: A History and Guide to Resources	1	5	14	2004
14	Journal of Ethnopharmacology	7	569	10	1982
15	Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)	5	77	10	1991

5.9. Affiliation wise research contribution:

Table (6) illustrated that the University of California was the leading affiliated institutions in the field of folklore research (26 papers) followed by Pennsylvania state university (16 papers), Indiana University (15), Brigham young university (12). The China medical university, Michigan state university, and New York University contributed minimum papers (07). Most of the leading affiliated institutions are from the United States of America.

Table (6): Institution wise research

#	Affiliations	Articles
1	University of California	26
2	Pennsylvania state university	16
3	Indiana university	15
4	Brigham young university	12
5	Ohio state university	11
6	University of Pennsylvania	10
7	California state university	9
8	Harvard university	9

9	University of Massachusetts	9
10	University college	8
11	University of Alberta	8
12	University of Tartu	8
13	China medical university	7
14	Michigan state university	7
15	New York university	7

5.10. Country-wise research:

The table (7) display the US found the most productive country in folklore research during 1971-2020 followed by India (193 papers), United Kingdom (175), Canada (57), China (49), Australia (40) etc. Georgia contributed least (2 papers) amongst the top 15.

Table (7): Most cited and productive country

Country	Total Citations	Paper
USA	2411	724
India	1115	193
UK	492	175
Israel	243	27
Italy	153	25
Australia	145	40
China	139	49
Turkey	138	29
Poland	135	09
Japan	131	27
Portugal	119	08
Canada	111	57
Nigeria	100	17
Pakistan	82	25
Jordan	76	02
Korea	60	05
Germany	56	28
Georgia	53	02
New Zealand	42	15
Switzerland	40	09

5.11. Most cited country: Table (7) show that the USA found the most cited country (2411) followed by India (TC=1115, UK (TC=492), Israel (TC=243), Italy (TC=153), Australia (TC=145). Switzerland received minimum (TC=40) citation.

5.12. Visualization of co-citation of cited authors: Co-citation selected from 'types of analysis,' and cited authors selected from a 'unit of analysis', a full method used for calculation. Minimum five authors considered for analysis. There are 51067 authors out of which 1913 to meet the thresholds. The authors, with the highest total link strength, selected. Full item found 994, cluster, 22, links 63649, and total link strength 382386.

The figure (3) visualized that 'Dundes, A.' found the most co-citation of cited authors with 646 citations, followed by Bauman, R, SJ (214 citations). Dorson, RM (199 citations), Bronner, S.J (159 citations), Thomson, S (130 citations), Ben-Amos, D (129 citations), Abrahams, R.D (123 citations) and Krishenblatt-Gimblett, B (114 citations) etc.
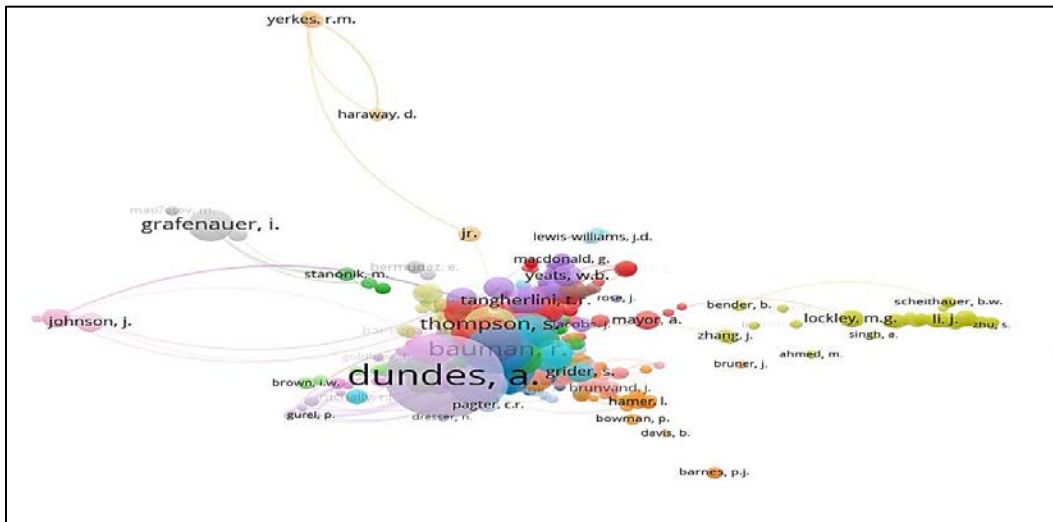

Figure (3): Co-citation of cited authors

5.13. Global most cited documents: Table (8) shows that the documents entitled '*Sudden and rapid death during psychological stress. Folklore or folk wisdom?*' (1971) by Engel, G.L was the most global cited papers with 303 total citations, followed by '*Antibacterial activity of some folklore medicinal plants used by tribals in Western Ghats of India'* (2000) by Perumal Samy R. Ignacimuthu S with 271 TC, '*Witching Culture: Folklore and neo-paganism in America'* (2004) with 137 citations. '*Metaphors of Masculinity: Sex and Status in Andalusian Folklore*' (2015) and '*Erythrocyte sedimentation rate from folklore to facts'* (1985) have 136 citations for each paper. '*Killing by neutrophil extracellular traps: Fact or folklore? (2012)* and *'Turning Facts into Stories and Stories into Facts: A Hermeneutic Exploration of Organizational Folklore (1991)* has 135 citations each, respectively. The paper titled '*What Folklore Tells Us about Risk and Risk Taking: Cross-Cultural Comparisons of American, German, and Chinese Proverbs (1998)* has least citations among the top ten most cited papers (TC=120).

Table (8): Top ten most Cited papers

#	Paper Title	Author	Year	Source	TC	TC/Y
1	Sudden and rapid death during psychological stress. Folklore or folk wisdom?	Engel G.L.	1971	Annals of internal medicine	303	6.06
2	Antibacterial activity of some folklore medicinal plants used by tribals in Western Ghats of India	Perumal Samy R., Ignacimuthu S.	2000	Journal of Ethnopharmacology	227	10.8095
3	Witching culture: Folklore and neo-paganism in America	Magliocco S.	2004	Witching Culture: Folklore and Neo-Paganism in America	137	8.0588
4	Metaphors of Masculinity: Sex and Status in Andalusian Folklore	Brandes S.	2015	Metaphors of Masculinity: Sex and Status in Andalusian Folklore	136	22.6667
5	Erythrocyte sedimentation rate. From folklore to facts	Bedell S.E., Bush B.T.	1985	The American Journal of Medicine	136	3.7778
6	Killing by neutrophil extracellular traps: Fact or folklore?	Menegazzi R., Decleva E., Dri P.	2012	Blood	135	15
7	Turning Facts into Stories and Stories into Facts: A Hermeneutic Exploration of Organizational Folklore	Gabriel Y.	1991	Human Relations	135	4.5
8	Antimicrobial and anti-inflammatory activity of folklore: Mallotus peltatus leaf extract	Chattopadhyay D., Arunachalam G., Mandal A.B., Sur T.K., Mandal S.C., Bhattacharya S.K.	2002	Journal of Ethnopharmacology	130	6.8421
9	A randomized controlled trial of Turkish folklore dance on the physical performance, balance, depression and quality of life in older women	Eyigor S., Karapolat H., Durmaz B., Ibisoglu U., Cakir S.	2009	Archives of Gerontology and Geriatrics	121	10.0833
10	What Folklore Tells Us about Risk and Risk Taking: Cross-Cultural Comparisons of American, German, and Chinese Proverbs	Weber E.U., Hsee C.K., Sokolowska J.	1998	Organizational Behavior and Human Decision Processes	120	5.2174

5.14. Three Fields-Plot of author, country and Institutions: The three fields-plot used to identify the relationship between author, country and institutions (figure 4). The figure observed that most of the authors and institutions belong from the USA, followed by the United Kingdom, China and India for folklore research.
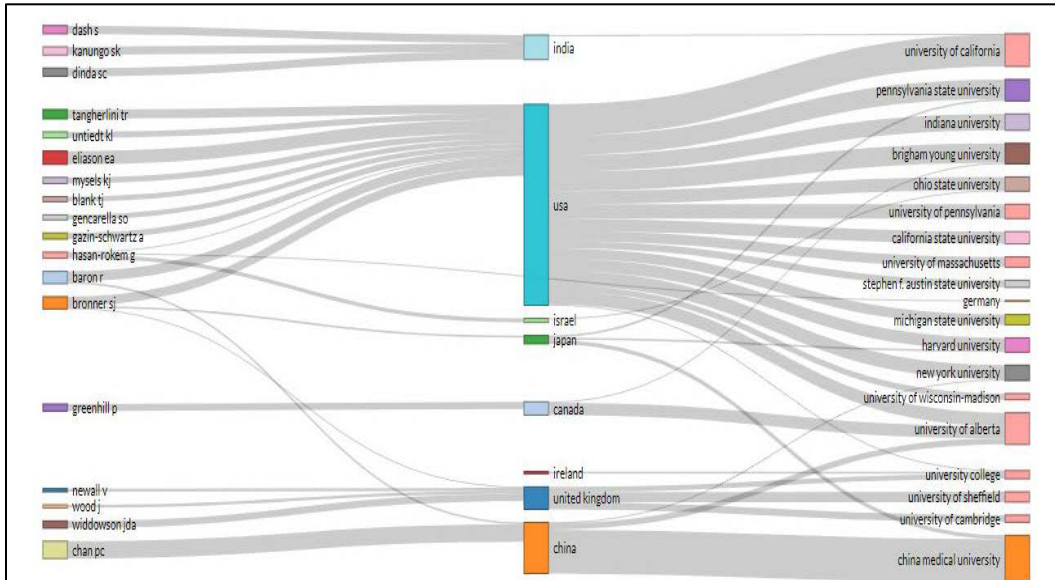

Figure (4): Relationship between the author (Left), country (Middle) and Institutions (Right) for folklore research
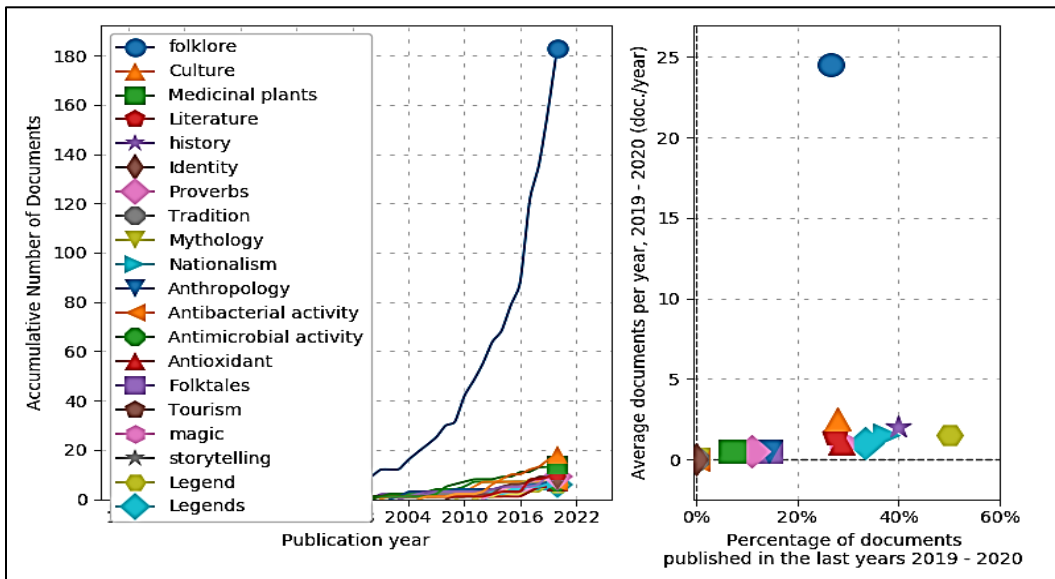

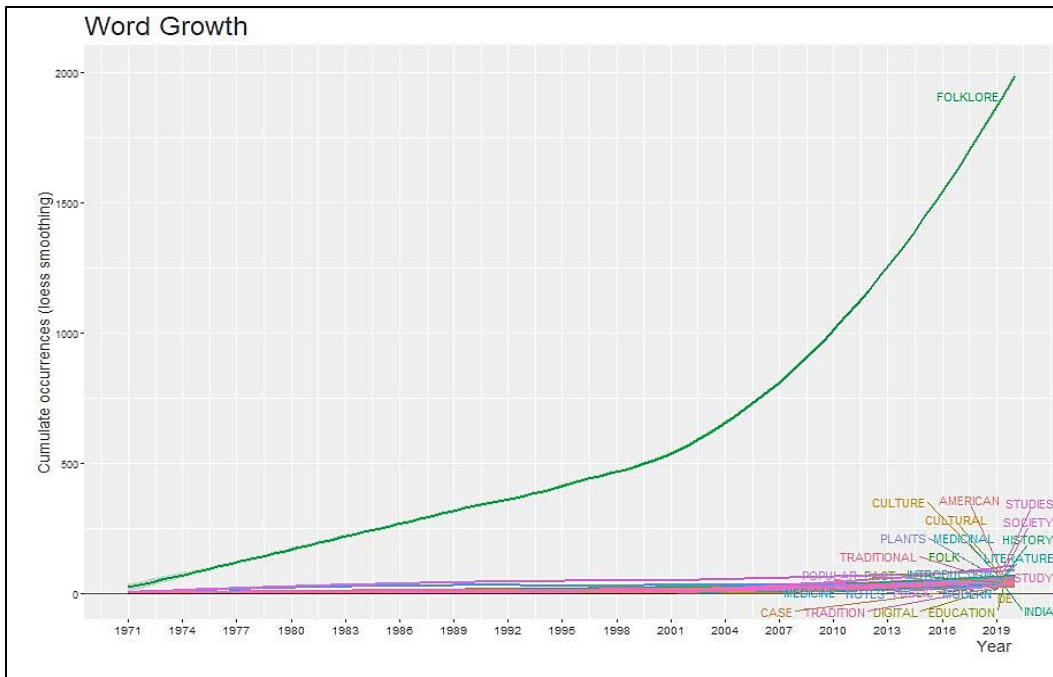*Figure (5): Evolution of author keywords*

5.15. Author keywords evolution: Figure (5) shows the author keywords evolution of folklore research from 1971-2020. The most used author keywords were *folklore, Culture, Medicinal plants, Literature, history, Identity, Proverbs, Tradition, Mythology, Nationalism, Anthropology, Antibacterial activity, Antimicrobial activity, Antioxidant, Folktales* etc. The author keyword 'f*olklore*' appeared maximum (184) with the highest average document per year (24.5) followed by 'Culture' (18) with 27.8 ADY. The top 5 author keywords appeared before the year 2004 to till 2020.

5.16. Research trend by title topics: Figure (6) illustrated research trends by title topic in the field of folklore from 1971 to 2020. The figure revealed the highly trends topics by titles which frequently occurred were Folklore (freq=1986), Study (freq=161), Culture (freq=122), Tradition (freq=96), Society (freq=85), Medicine (freq=84, and History (freq=69) etc. The topic folklore had highest log frequency (1986) in 2011.

Figure (6): Trend topic by titles

5.17. Title word dynamics: Figure (7) shows the title words growth from 1971 to 2020 in folklore. The most used title word dynamic was 'folklore' since 1971, and the word appeared 1986 times in the folklore research. The other title word dynamic was Study, Culture, Tradition, Society, Medicine, History, Fact, American, Literature, Plant, Folk, Nation, Popular, Modern, Active, Note, Case, Public and India.

Figure (7): Title word dynamics

Conclusion: To summarize, based on the analysis of global research on folklore during the last fifty years (1971-2020). There were 1021 sources for 1929 research papers. The average years from publication is 14.6, with average citations per documents (5.309), and Average citations per year per doc (0.4268). A total of 76300 references used for 1929 research paper on folklore in the last fifty year. There were keywords plus (ID) (4055), author's keywords (2802). Two thousand four hundred eighty-seven authors contributed 1929 papers with author appearances (3009). Single author-produced 1141 documents while multi-author contributed 1346 articles. The single-authored collaboration for 1406 papers, documents per author (0.776), authors per document (1.29), co-authors per documents (1.56) and collaboration Index (2.57).

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