

Assessing the Academic Journey of 'Financial Inclusion' from 2000 to 2020 through Bibliometric Analysis

Biswajit Prasad Chhatoi*, Sharada Prasad Sahoo, Durga Prasad Nayak

Department of Economics and Management, Khallikote University, Berhampur, Odisha, INDIA.

ABSTRACT

In developing countries like India, Financial Inclusion has gained scholarly attention over the last two decades. In this work, the authors have analysed the bibliometric information obtained from Scopus database pertaining to the keyword 'Financial Inclusion' and produced the visualisation networks by using the open-source Vosviewer software. After applying all the necessary principles of exclusion, the authors have deployed journal-wise, author-wise, country wise and keywords cluster-wise analysis of 463 articles. The study found that in contemporary times, research attention should be given to the fields such as financial policymaking aiming at poverty eradication through women's contribution. The field of financial inclusion gained momentum after 2013, and steady growth in the research was observed up to 2019. The policy framework changes in India make the country hotspot for research regarding financial inclusion where an ample amount of research was found on financial services and microfinance.

Keywords: Financial Inclusion, Bibliometric, VoSViewer, Scopus database, Knowledge Mapping.

Correspondence

Biswajit Prasad Chhatoi

Department of Economics and Management Khallikote University, Berhampur-761008, Odisha, INDIA.
Email id: chhatoiiprasad@gmail.com

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INTRODUCTION

The field of financial inclusion gained scholarly attention by^[1] Elgers and Clark in the year of 1972. Following them, Wang *et al.* 1984^[2] and Chambers and Shuffelbottom 2010^[3] recommended key research directions in financial inclusion.^[4-8] Fuller, 1998; Fuller and Jonas 2002; Jones 2006; Cheng 2010; and Madill *et al.* 2010, addressed the success of financial inclusion through quality credit unions in the banking ecosystem. Financial inclusion is a socio-economic activity and depends on social banking Kamath 2007,^[9] credit ecosystem^[10] Urrea and Maldonado 2011 promotion of microenterprise^[11] Treviño-Rodríguez and Chamiec-Case 2012,^[12] corporate social responsibility Haldar *et al.* 2016,^[13] institutional investment Bongomin *et al.* 2016^[14] understanding on banking products Thoene and Turriago-Hoyos, 2017,^[15] investment assistance by the financial intermediaries Ramakrishna and Trivedi 2018, infrastructure to support financial services Della Peruta 2018,^[16] and development of new financial services Demirgüç-Kunt *et al.* 2020.^[17]

On the supply side, the possible factors responsible for financial inclusion are institutional framework Candiya Bongomin *et al.* 2017,^[18] remittance facility Anzoategui *et al.* 2014,^[19] and social inclusive policy of government Fuller *et al.* 2006.^[20] In India, the improvements in financial inclusion is possible by improving rural participation Ghosh 2019.^[21] Demonetization Daya and Mader 2018,^[22] Prime Minister Jan Dhan Yojana Sinha and Azad 2018,^[23] MGNREGS Ghosh 2017,^[24] gender gap minimization Ghosh and Vinod 2016,^[25] enhancement of women participation Beck *et al.* 2015,^[26] enrichment of Rural Regional Banks (RRBs) Bapat *et al.* 2016,^[27] rural banking network of public sector bank Maity and Sahu 2018,^[28] financial stability of bank Ahamed and Mallick 2019 are the major factors responsible for enhanced financial inclusion in India.

Policy changes and reforms are the catalyst of financial inclusion Marshall 2004 Dasgupta, 2013; Esnard-Flavius and Aziz, 2011.^[30-32] The specific policies targeting financial inclusion are social inclusion Fuller *et al.* 2006; Arun and Kamath 2015; Sarma 2015^[20,33,34] inclusive banking Esnard-Flavius and Aziz, 2011^[32] poverty alleviation Jones; and Mahadeva 2008; Deepika and Sigi 2014; Ambarkhane *et al.* 2016, Palareti *et al.* 2016^[35-39] monetary policy Anarfo *et al.* 2019^[40] credit policy Rao 2007^[41] and welfare policies Salleh and Alwee 2015.^[42] Banks are developing different strategies for cost reduction, which also ensure financial inclusion in long-run Abor *et al.* 2018.^[43] The effective strategies and channels designed by banks that have

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impacted financial inclusion are mobile money/mobile banking Thomas and Natarajan 2017; Abor *et al.* 2018; Thulani *et al.* 2014,^[43-45] Microfinance Ghosh 2013,^[46] technological innovation in banking Thulani *et al.* 2014; Arner *et al.* 2020,^[45,47] digitalisation in Fintech era Gabor and Brooks 2017,^[48] information communication-based processing Dabbous and Nassereddine 2018.^[49]

On the demand side, the financial literacy Rizliyanto *et al.* 2017; Schuetz and Venkatesh 2020^[50,51] financial education Vishvesh and Venkatraman 2015^[52] and women empowerment Mia *et al.* 2019^[53] significantly affect financial inclusion. Financial literacy has a positive impact on investment and saving behaviour Mindra and Moya 2017,^[54] development of social capital Okello Candiya Bongomin *et al.* 2016; Bongomin *et al.* 2016^[55,13] and have an indirect positive impact on financial inclusion. Economic empowerment of women Hendriks 2019,^[56] through microfinance Mia *et al.* in 2019,^[53] minimization of both gender gap Adegbite and Machethe 2020,^[57] and gender violence Ghosh and Günther 2018^[58] and shifting from microfinance to microenterprise Mader and Sabrow, 2019^[59] have a positive impact on inclusive financial inclusion.

In recent years, the field of financial inclusion assumed growing importance in establishing a policy framework for microcredit and microfinance as well as similar lending institutions. Ironically, many growing economies are yet to realise the benefits of financial inclusion, thereby remained silent about such an empowerment tool. As a result, emphasis has been shifted towards inclusive economic policies. Many policies have been prepared to target *et al.* leviation of poverty, inclusive development, and raising the house household income. The present study is a novel approach towards 'knowledge-mapping' in the field of financial inclusion. The rationale to undertake this study is to build understanding on inclusive financial inclusion and gauge the pattern of development in the research domain of financial inclusion. The study shall enrich areas that are Business Management, Economics, and Social Science. The current research triggers towards discovering the field, which requires greater attention in such a maturing phase of financial inclusion.

This research work has been narrated here in six distinct parts with logical presentation of facts and analysis. The initial section carries the introduction following a lucidly explained review of literature in the second part. The methodology has been presented in the third part. The fourth section of this paper embraced results and discussion. In the fifth part, findings have been explained, and in the last section, the conclusion, managerial implication, and limitations have been presented.

REVIEW OF LITERATURE

The tradition of bibliometric studies was pioneered by Cole and Eales during 1917.^[60] Many paths within the domain of this discipline remained unravelled until 1969. The scientific study bibliometrics synonymous with the term "Contribution Mapping" was first introduced by Fairthorne in 1966.^[61] In the subsequent research, two information analysts Pritchard and Groos, 1969^[62] have framed the initial procedure of bibliometrics analysis. Tague *et al.*, in 1981,^[63] applied the concepts of bibliometrics to identify potential research gaps pertaining to a field of study. Behrens and Luksch, 2006; Castillo-Vergara *et al.*, 2018; Liu, 2013; Ramos-Rodríguez and Ruiz-Navarro, 2004^[65,67,66,64] drew attention to the application of the mathematical and statistical techniques embedded in bibliometrics to the domain of finance, economics, and management. As a scientific and systematic instrument for analysing extant literature, bibliometric methods have been deployed to assess and identify research trends in a wide array of academic studies as revealed by Kostoff *et al.*, 2007; Li *et al.*, 2009; Zitt and Bassecouard, 1994.^[69,70,68] For instance, bibliometric studies applied to finance and development economics were conducted by Chang and Ho, 2010; Chung *et al.*, 1992; Ferreira *et al.*, 2014; Genest *et al.*, 2009; Schäffer *et al.*, 2011.^[71-75] Several Open Source and Subscription-based application software (Geaney *et al.*, 2015; Rostaing *et al.*, 1993)^[76,77] are available and continuously being augmented to process the bibliometric datasets in order to obtain a research trend. The widely applied software 'VOSviewer' (Taşkın and Aydinoglu, 2015; van Eck and Waltman, 2010, 2017)^[78-80] is an user-friendly and convenient option for analysis and visualisation.

The application of Bibliometric methods in various areas of finance and its allied studies has a cherished history embodying a great deal of publications in the yesteryears. Needless to mention here that myriads of thought provoking research has been inked by several authors. (Hsu and Chiang in 2017; Martínez-Climent *et al.* in 2018; Tunahan and Esen in 2016). In the pursuit of mining the research trends, bibliometric methods have been applied in various areas of finance like banking finance (Lampe and Hilgers in 2015; Xu *et al.* in 2018),^[84,85] behavioural finance (Costa *et al.* in 2017, 2019; Pimenta and Fama in 2014),^[86-88] devolvement economics (Banarjee in 2014; Bonilla *et al.* in 2015; Rey-Martí *et al.*, in 2016),^[89-91] accounting (Chung *et al.* in 1992; Merigó and Yang in 2017).^[71,92] Information mapping in the area of finance is emerging (Huang and Ho in 2011; Mosley and Hulme in 1998)^[93,94] among the global researchers. As far as the subfield of finance is concerned many research work has been conducted, like mergers and acquisition by Ferreira *et al.* in 2014; Reis *et al.* in 2019,^[75,95] corporate governance by De Bakker in 2005; Tunger and Eulerich in 2018; Zheng and Kouwenberg in 2019,^[96-98] capital structure

by Kumar *et al.* in 2019; Ponzi in 2002,^[99,100] working capital by Lukkari in 2011,^[101] stock market by Daim *et al.* in 2006,^[102] microfinance by García-Pérez *et al.* in 2017; Gutiérrez-Nieto and Serrano-Cinca in 2019^[103,104] has already been accomplished.

The researcher considers documents from the field of business management, economics and interdisciplinary social science domain that portray financial inclusion in the title, abstract, and keyword into the preview of the study. After an extensive search, the researcher found that bibliometric analysis pertaining to the field of financial inclusion was not yet encountered. That compels the researcher to conduct a bibliometric analysis in the field of financial inclusion. In order to plot the information map and knowledge gap of financial inclusion the current researcher is administered.

METHODOLOGY

In this research work, the researchers have dealt with the following methodological issues with proper justifications. Financial Inclusion, being a maturing discipline, has made its presence in the mountainous research literature mounts the challenge in selecting the sample for analysis. We have limited the keywords "Financial Inclusion" appearing in the title of the research articles for this purpose. We have also excluded the conference proceedings, editorial documents, and chapters in edited books for convenience in analysis. To obtain high-impact research articles, we have accessed Scopus database to download the bibliometric database for analysis. Our search effort included the time period from 2001 to 2020 (till 30th June). Applying all required exclusion principles, we have finalised 463 articles for further analysis. All the articles obtained were written in the English language. Articles published in other languages were kept beyond the scope of this work.

DATA ANALYSIS

The bibliometric information obtained through Scopus database were subjected to Journal Wise, year-wise, Author Wise, Country-wise and Keyword Cluster analysis to explore research pattern in Financial Inclusion and gap to be addressed. Data analysis has been performed using the visualisation open-source software Vosviewer, and tabulation work has been performed using MS Excel and Tableau.

Data analysis and interpretation

Table 1 and the corresponding Figure 1 represents prominent authors in the field of financial inclusion. The top ten authors have contributed seventy-one documents in the field of financial inclusion. A total citation of 543 has been received by the top ten authors. The average number of citations per document is approximately eight. Out of the top ten authors,

Table 1: Prominent Authors in the field of financial inclusion.

Authors' Name	NoD	TC	CpD
Munene, J.C.	14	70	5
Ntayi, J.M.	12	76	6.33
Malinga, C.A.	8	55	6.8
Bongomin, G.O.C.	7	18	2.57
Ghosh, S.	7	33	4.71
Okello Candiya Bongomin, G.	7	59	8.42
Abor, J.Y.	5	44	8.8
Demirgüç-Kunt, A.	4	141	35.25
Mader, P.	4	39	9.75
Anarfo, E.B.	3	8	2.66
Total	71	543	7.64
Average	7.1	7.64	NR

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020; (NoD- Number of Documents, TC- Total Citations, Cp D- Citations per Documents)

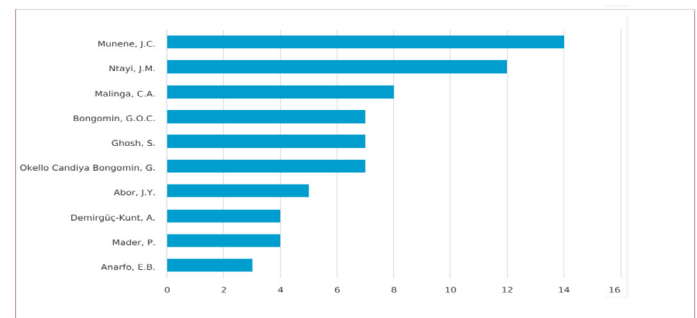


Figure 1: Prominent Authors in the field of financial inclusion.

Source: Data in Table 1; Courtesy; Tableau.

only four authors have citations more than the overall average. The most cited authors with respect to average citation are Demirgüç-Kunt, A (35), Mader, P (10), Abor, J.Y (9), and Okello Candiya Bongomin (8). The total number of documents by the top ten authors is 71 and average document per author is 7. Three authors have total documents of more than 7. They are Munene, J.C.(14), Ntayi, J.M. (12), and Malinga, C.A. (8). Munene has the highest 14 number of documents in the field of financial inclusion, with a total citation score of 70 with an average of five citations per document. Demirgüç-Kunt has only 4 documents in the field of financial inclusion, and the total citation is 141, with an average of 32.25.

Table 2 and the corresponding Figure 2 exhibit the association among authors. Here the researchers have considered only the documents of the top ten authors. The top ten authors in the field of Financial Inclusion are clubbed under six clusters. Out of six clusters, each of the last 3 clusters has only one author, whereas the first cluster has the highest three authors. The rest two clusters have two authors in each, Out of the six clusters; the authors of 'Cluster 1' have published the highest total number of documents (27), whereas authors of 'Cluster 2' have

Table 2: Cluster Analysis of Author.

Cluster Number	Name of Author	No. of Documents	Citations
Cluster 1	Ntayi, J.M.	12	76
	Malinga, C.A.	8	55
	Bongomin, G.O.C.	7	18
Cluster 2	Demirgüç-Kunt, A.	4	141
	Klapper.L	3	176
Cluster 3	Munene, J.C.	14	70
	Okello Candiya Bongomin, G.	7	59
Cluster 4	Abor j.y.	5	44
Cluster 5	Jones P.A.	3	48
Cluster 6	Pozzebon M	3	63

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

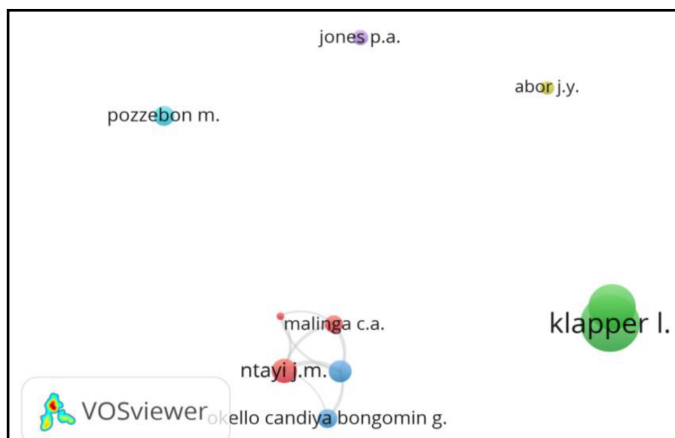


Figure 2: Representing the author cluster analysis.

the highest total citation score. Ntayi, J.M, Malinga, C.A, and Bongomin, G.O.C. are the authors included in Cluster1; they have total of 27 seven documents with 149 citation scores. Ntayi, J.M, Malinga, C.A, and Bongomin, G.O.C. have 12, 08, and 07 documents each, with 76, 55, and 18 citations respectively. The total author, document, and citation score of Cluster 2 is 2, 7, and 317 respectively. In cluster 2, Demirgüç-Kunt and Klapper.L has 4 and 3 numbers of documents with 141 and 176 citations respectively. Munene, J.C. and Okello Candiya Bongomin are found in Cluster 3, with 14 and 7 documents with total citations of 70 and 59 respectively. In the cluster 4, 5 and 6 there is only one author in each cluster, and they have devoted 5, 3 and 3 number of documents and 44, 48 and 63 numbers of citations respectively.

The researchers have considered the first two decades of the twenty-first century as the period of the study to capture the gradual developments in the field of financial inclusion. It is ob-

Table 3: Year Wise Documents Analysis.

Year	Number of Documents
2000	0
2001	1
2002	1
2004	1
2005	1
2006	2
2007	6
2008	3
2009	3
2010	4
2011	7
2012	13
2013	21
2014	23
2015	26
2016	47
2017	55
2018	73
2019	125
2020	51
Total Documents over 20 Years	463
Average No. of Documents	23.15 ~23

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

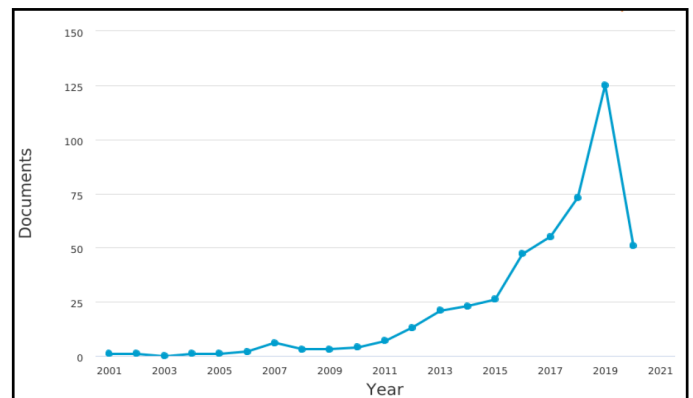


Figure 3: Year wise documents Analysis.

served from the above Table 3 and corresponding Figure 3 that in the 20 years of span, the researchers have contributed a total of 463 documents to the knowledge domain of financial inclusion. In the year 2019, the highest numbers of documents have been devoted i.e. 125 by the researcher. In the year 2000, there was no document available in the said field, which was the lowest one. Up to the year 2006, there was just one

document published each year. From the year 2007 to 2010, over four years, a discrete rate of growth was observed in the publication of the article in the said field. After the year 2014, exponential growth in the publication of articles was found in the said field. The study has considered only the first half of 2020, and up to 30th June 2020 only 51 documents were found in the field of financial inclusion. Average documents published per year in the domain of Financial Inclusion are 23.

Table 4: Prominent Countries in the research field of Financial Inclusion.

Country Countries	Number of documents	Number of Citations
India	133	626
United Kingdom	53	601
United States	47	516
Nigeria	24	56
China	20	101
South Africa	19	46
Uganda	19	82
Indonesia	17	34
Malaysia	16	13
France	13	146
Total	361	2221
Per country	36.1	222.1
Citation per document	6.15	

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

The Table 4 and Figure 4 demonstrate that 361 documents were produced from the top ten in the list of contributing countries. Those 361 documents are accounted for 2221 citations. The average document per country is 36, and the average citation per country is 222. The average citation per document for a country is six, i.e., a single document has received evenly minimum 6 citations. Only three countries are having more documents than the average documents, they are India (133), the United Kingdom (53), and the United States of America (47). Rest 7 countries have published total documents less than the overall average of document per country. In the case of citations, the same three countries have the highest citations and are placed in the top ranks accordingly. Therefore, it can be said that the country, which produced more documents

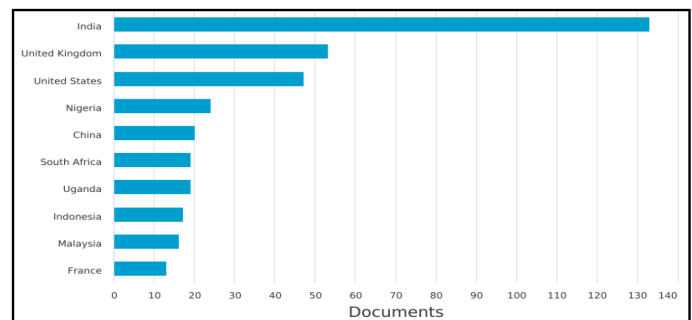


Figure 4: Prominent Countries with respect to documents in Financial Inclusion.

Table 5: Top Sources of documents in the field of Financial Inclusion.

Sources/Details	Year wise Publication														Statistical Information	
	2007	08	09	10	11	12	13	14	15	16	17	18	19	2020	Total	Document/year
Economic and Political Weekly	4	0	1	1	0	0	2	4	1	2	3	3	2	0	23	1.64
International Journal of Applied Business and Economic Research	0	0	0	0	0	0	1	0	2	5	5	0	0	0	13	0.93
International Journal of Scientific and Technology Research	0	0	0	0	0	0	0	0	0	0	0	0	6	7	13	0.93
International Journal of Social Economics	0	0	0	0	0	0	0	0	0	1	3	3	2	2	11	0.79
Enterprise Development and Microfinance	0	0	0	0	0	1	4	1	0	0	1	1	1	0	9	0.64
Indian Journal of Finance	0	0	0	0	0	0	0	0	1	3	1	0	3	0	8	0.57
Sustainability Switzerland	0	0	0	0	0	0	0	0	0	0	1	3	2	2	8	0.57
International Journal of Recent Technology and Engineering	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7	0.50
World Development	0	0	0	0	0	0	1	2	0	0	1	1	0	2	7	0.50
Applied Economics	0	0	0	0	0	0	0	0	0	0	1	1	1	3	6	0.43
Total	4	0	1	1	0	1	8	7	4	11	16	12	24	16	105	7.50
Average documents Per Sources	.4	0	.1	.1	0	.1	.8	.7	.4	1.1	1.6	1.2	2.4	1.6	10.5	

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

Table 6: Top Affiliating Organisations in the field of Financial Inclusion.

Affiliations/ Details	Year wise Publication										Statistical Information	
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total	Average
Makerere University	0	0	0	0	0	3	6	8	2	1	20	0.37
University of Ghana	0	0	0	0	0	0	1	1	4	2	8	0.15
Bank of India	1	0	0	0	0	0	1	3	3	0	8	0.15
The World Bank, USA	0	0	1	3	0	2	0	0	1	1	8	0.15
University of Witwatersrand	0	0	0	1	0	0	1	1	2	1	6	0.11
Hunan University	0	0	0	0	0	0	1	1	3		5	0.09
Fundacao Getulio Vargas	0	1	0	0	0	1	0	1	1	1	5	0.09
Institute of Development Studies, Brighton	0	1	0	0	0	1	0	1	1	1	5	0.09
Symbiosis International Deemed University	0	0	0	0	0	0	0	2	2	1	5	0.09
University of South Africa	0	0	0	1	1	0	0	1	1	0	4	0.07
Total 10	1	2	1	5	1	7	10	19	20	8	54	1.37
Average	0.1	0.2	0.1	0.5	0.1	0.7	1	1.9	2	0.8	5.4	

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

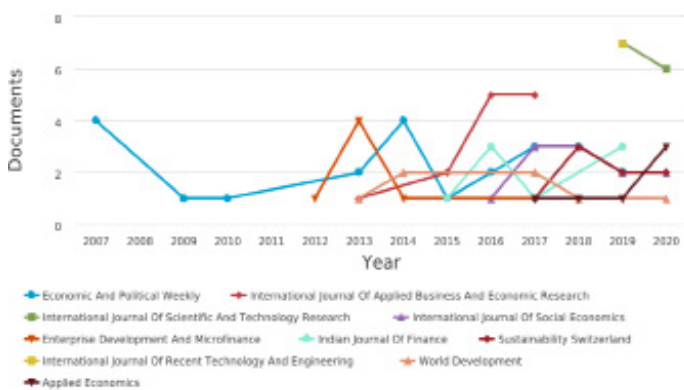


Figure 5: Top Sources of documents in the field of Financial Inclusion.

to the said field, has scored more citations. India records 133 numbers of documents in its name, which is the highest among the top 10 nations in terms of documents and also scored 626 citations, which is the highest among the top 10 nations contributing to the knowledge domain of financial inclusion. France devoted the lowest documents (13), whereas Malaysia has scored the lowest citations (13).

The above Table 5 and Figure 5 elucidate details of the year-wise source publication. The researchers have considered only the top ten sources and their documents published from 2007 to 2020. The top ten sources end with 105 documents over 14 years. Economic and political weekly have the highest 23 number of documents on g financial inclusion. The average number of the document per source is 11. Only four sources have total documents higher than the overall average publication per source. Out of 14 years of study, 15 documents were published by prominent sources over the first seven years with

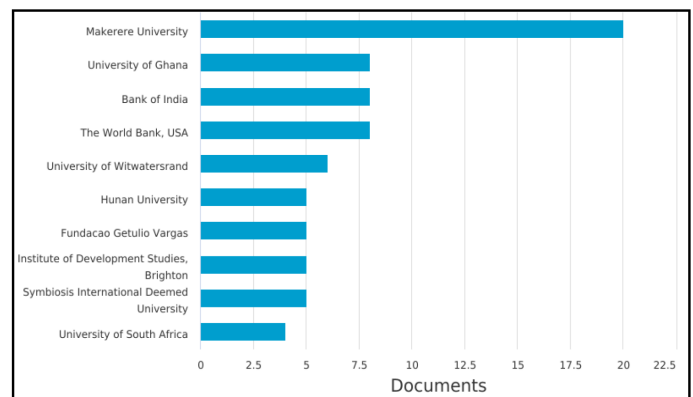


Figure 6: Top Affiliating Organisations in the field of Financial Inclusion.

a discrete growth. Over the last seven years, 85 documents were produced by prominent sources, with an average of 12 documents per year. The overall average number of documents published by the top sources per year was only 7. The year-wise total document of six years (2013, 2016, 2017, 2018, 2019, and 2020) is higher than the overall average document per year. Out of the ten prominent sources, Economic and Political Weekly has published the highest 23 documents in 10 years out of 14 years of analysis, which made it the most consistent source. Out of the top ten sources, International Journal of Recent Technology and Engineering has 7 documents in total and published in one year i.e., 2018.

Table 6 and Figure 6 reflect the details of documents published from prominent affiliating organisations in the knowledge domain of financial inclusion. We have analyzed only the documents published by the top ten affiliating organisation over a period of 2011 to 2020 because the top

Table 7: Keywords Cluster Analysis.

Cluster Number and Other details	Name of the Items	Links	Occurrences
Cluster 1: 11 Items; Total links 194; Total Occurrences 124; Highest Links (Financial Services) 32; Highest Occurrences (Financial Services) 44; Lowest links (Institutional Framework) 10; Lowest Occurrences (Institutional Framework, Household Survey and Income Distribution) 5	Accessibility	15	9
	Financial Market	20	9
	Financial Provision	17	12
	Financial Services	32	44
	Household Income	15	7
	Household Survey	14	5
	Income Distribution	11	5
	Institutional Framework	10	5
	Literacy	19	10
	Low Income Population	20	7
	Rural Finance	21	11
Cluster 2: 7 Items; Total links 130; Total Occurrences 103; Highest links (Financial System) 28; Highest links (Financial System) 34; Lowest links (Economic Growth) 11; Lowest Occurrences (Lending Behaviour) 6	Banking	24	24
	Developing World	26	16
	Economic Growth	11	7
	Financial Crisis	16	9
	Financial System	28	34
	Lending Behaviour	13	6
	Rural Area	12	7
Cluster 3: 6 Items; Total links 96; Total Occurrences 132; Highest links (Microfinance) 29; Highest links (Social Inclusion) 76; Lowest links (Education, Livelihood and Social Inclusion) 12; Lowest Occurrences (Education) 6	Education	12	5
	Livelihood	12	6
	Microfinance	29	26
	Poverty Alleviation	17	12
	Social Inclusion	12	76
	Women's Status	14	7
Cluster 4: 4 Items; Total links and Occurrences 51 and 57; Highest links and Occurrences (Finance) 17 and 20; Lowest links (Financial Inclusion) 12; Lowest Occurrences (Financial Policy and Policy Making) 6	Finance	17	20
	Financial Inclusion	6	8
	Financial Policy	12	7
	Policy Making	16	7
Cluster 5: 3 Items; Total links and Occurrences 53 and 37; Highest links and Occurrences (Savings) 22 and 17; Lowest links and Occurrences (Insurance System) 13 and 5	Credit Provision	18	15
	Insurance System	13	5
	Savings	22	17
Cluster 6 - 3 Items; Total links and Occurrences 44 and 32; Highest links and Occurrences (Economic Development) 22 and 15; Lowest links and Occurrences (Economics) 2 and 5	Economic Development	22	15
	Economics	2	5
	Poverty	20	12

Total Cluster - 6; Total items - 34; Total links - 568; Total Occurrences - 470

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

ten organisations have published their all documents in the said period. Total 54 documents have been devoted by the top ten organisations, with an average of 5 documents per organisation. Out of ten organisations, nine organisations have published a higher total number of documents than the average document per journal. Makerere University published

the highest 20 number of documents. Till the year 2015, top 10 organisations in the field of financial inclusion did not have a constancy trend of document publication. In the year 2019, highest 20 documents were published on financial inclusion. Makerere University is the most promising organisation in

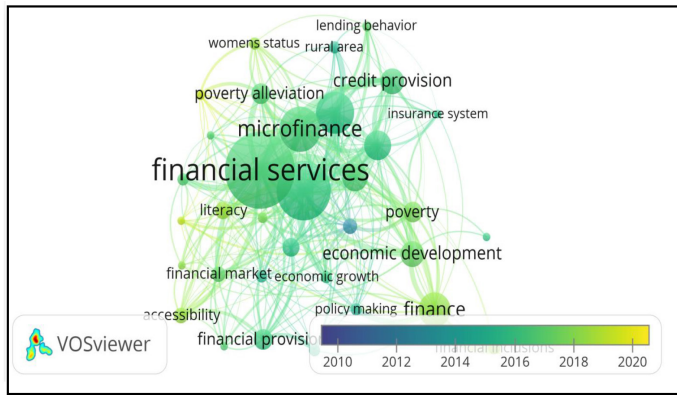


Figure 7: Keyword Cluster Analysis.

the said field where as University of South Africa is the least constant organisation in the said field.

Analysis cooked by the researchers on the ground of author keywords gives a comprehensive picture of the research trends in financial inclusion. To analyse the keywords, we have used Vosviewer software. Before the keyword analysis, the authors have fixed the threshold level to 5, which means five documents must use the same keyword minimum 5 times. Thirty-four keywords were found from 463 documents having any relationship with financial inclusion. Six clusters were identified with 34 keywords associated with themselves. Cluster 1 has 11 items; a keyword financial service has been used the highest by 44 documents and has an association with 32 keywords of other documents. This cluster suggests, in the field of Household Survey, Income Distribution and Institutional Framework better scope of research exists as these keywords have 14, 11, 10 associations with other documents respectively.

In cluster 2 it has seven items, a keyword financial system was used by the highest 34 documents and associated with 28 keywords of other documents. The same cluster enumerates in economic growth less work has been done. The keyword economic growth was found only in 7 documents and an association with 11 keywords. Cluster 3 has 6 items. The keyword social inclusion was used highest in 76 documents and associated with 12 keywords of other documents. The keyword 'education' in cluster 3, was used by only 5 documents and had an association with 12 documents which were the lowest in the said cluster. Cluster 4 consists of 4 items, the keyword finance has shown its presence in 20 documents and has a prolific association with 17 keywords of other documents. The same cluster also adds voice to the keyword financial inclusion, used by 8 documents and has an association with 6 keywords other documents, which is the lowest one. Cluster 5 has 3 items; the keyword savings was used by 17 numbers of documents and associated with 22

keywords of other documents. In the same cluster, the keyword insurance system found a place in only 5 documents and has an association with 13 keywords of other documents regarding financial inclusion. In the last cluster that is cluster 6 it has 3 items, the keyword economic development was used by 15 documents and had an association with 22 keywords of other documents. In the same cluster, keyword economics found only in 5 documents and has an association with 2 keywords of other documents.

Analysing the Figure 7 generated through Vosviewer software, by considering the pertinence proliferation of period in which more papers are devoted by authors. Here, researchers have considered the period from 2010 to 2020, because of more research in the field of financial inclusion devoted after 2009. Initially, during the period 2010 to 2014 more emphasis has been given to the field of the financial crisis and its impact on financial service, microfinance, social inclusion, lending behaviour, credit provision, economic growth, and policy-making, rural finance and poverty. After 2014 more emphasis has been given to policy making to build a positive environment to avail financial inclusion. So from the year 2014 to 2016 more devotion has been seen in the field of policymaking to cope with education, financial services, poverty, savings, rural finance, economic growth, and microfinance. From 2016 to 2018 more research cooked on financial markets and its effect and effort to comprehensively cope with banking, livelihood, accessibility, credit provision, financial service and insurance system. Between the above said period, research also administered in the field of household income, low-income population, financial system, poverty, insurance system and lending behaviour. 2018 onwards, more research has done in the field of woman status, poverty alleviation, and literacy.

Table 8 summarises and reports the top 10 most cited articles in financial inclusion. Out of the total articles collected, the top ten most cited articles were selected for the citation analysis. The citation of the top ten cited articles was found in the range-bound of 49 to 125. The total citation of ten highly cited articles is 693, and the average citation per document is 69. Most cited ten articles in financial inclusion were published in 10 journals over a period of nine years by 19 authors. Out of 10 most cited documents, four documents have only one author, whereas the rest six documents have more than one author. Out of 19 authors, Demirgüç-Kunt A., Klapper L have contributed two documents, whereas the rest of the authors have only one document to the final list of top most cited articles. Paper titled "Financial inclusion and development" by Sarma M., Pais J. published in the year 2011, collected the highest 125 numbers of citation reflected in "Journal of International Development". Paper titled "Measuring financial inclusion: Explaining variation in use of financial services across and within countries" by Demirgüç-

Table 8: Citation analysis.

Name of the Paper	Author	Year	Citation	Journal
Financial inclusion and development	Sarma M., Pais J.	2011	125	Journal of International Development
Measuring financial inclusion: Explaining variation in use of financial services across and within countries	Demirgüç-Kunt A., Klapper L.	2013	81	Brookings Papers on Economic Activity
The foundations of financial inclusion: Understanding ownership and use of formal accounts	Allen F., Demirguc-Kunt A., Klapper L., Martinez Peria M.S.	2016	77	Journal of Financial Intermediation
Financial inclusion, poverty reduction and the millennium development goals	Chibba M.	2009	74	European Journal of Development Research
The digital revolution in financial inclusion: international development in the fintech era	Gabor D., Brooks S.	2017	67	New Political Economy
Triggers and barriers to financial inclusion: The use of ICT-based branchless banking in an Amazon county	Diniz E., Birochi R., Pozzebon M.	2012	58	Electronic Commerce Research and Applications
Financial institutions in disadvantaged areas: A comparative analysis of policies encouraging financial inclusion in Britain and the United States	Marshall J.N.	2004	57	Environment and Planning A
Financial Inclusion, Gender Dimension, and Economic Impact on Poor Households	Swamy V.	2014	55	World Development
The antinomies of 'financial inclusion': Debt, distress and the workings of indian microfinance	Taylor M.	2012	50	Journal of Agrarian Change
Understanding financial inclusion in China	Fungáčová Z., Weill L.	2015	49	China Economic Review
Total	19	9	693	10

Source: Compiled and Computed from Scopus database over a period 2001 to 30th of June 2020

Kunt A., Klapper L. published in the year 2013 collects 81 numbers of citation reflected in "Brookings Papers on Economic Activity". Paper titled "The foundations of financial inclusion: Understanding ownership and use of formal accounts" by Allen F., Demirguc-Kunt A., Klapper L., Martinez Peria M.S. published in the year 2016 collects 77 numbers of citations reflected in "Journal of Financial Intermediation". The above three articles are the three most cited article in the field of Financial inclusion. Likewise, article titled "Understanding financial inclusion in China" by Fungáčová Z., Weill L. published in 2015 collects 49 citations reflected in "China Economic Review" was placed in rank 10 in the list of the most cited article.

FINDINGS

Financial inclusion is demarcated as the availability and fairness of opportunities to admittance financial services. It states a process by which persons and businesses can go for apposite, affordable, and timely financial products and services. The present study tries to identify and evaluate the development along with uncovered and untouched areas of financial inclusion. The study evaluates the evolution of financial inclusion, limiting its scope to the domain of Business Management, Social Science, and Economics.

After vividly studying financial inclusion since its inception from different perspective, it gives saturated results and pertinent information for further study. Studying on the basis

of author gives the result that, which authors are the prominent authors and their associations. As far as the first 2 decades of 21st century, the highest documents were cooked in the year 2019. Out of total documents, the top ten prominent authors dedicated 71 documents, which scored 543 citations. Munene is a prominent author in the field of financial inclusion. The association between Ntayi, Malinga, and Bongomin has produced the highest numbers of documents whereas the association between Demirgüç-Kunt and Klapper has the highest citation.

Out the different country researched on financial inclusion, India is a prominent country regarding financial inclusion research. Total documents produced by prominent ten countries are 361 out of which the contribution of India is near about 37%. The United Kingdom marked highest after India in publishing documents on financial inclusion, followed by the United States of America.

Aftermath, the researchers studied the sources which portray keynotes on top ten sources and their publications in the field of financial inclusion concerning year. Total of 105 documents were published by top 10 sources, out of which "Economic And Political Weekly" has published the highest 23 documents in the said field. The source "International Journal of Recent Technology and Engineering" among the top 10 source journal shows inconstancy in publishing the documents in the field of financial inclusion.

Top ten organisations are accounted for 54 documents out of the total documents listed in the database and are actively participating in the research field only over the last 10 years. The highest 20 documents are published by "Makerere University" of Uganda. With an average rate of 5 documents per organisation and 5 documents per year, prominent affiliating organisations have published their documents. In 2019, highest 20 documents were published by the top 10 sources.

From the substantial analysis of clusters, it enunciates that, very rare numbers of research has been done in the areas of Household survey, income distribution, institutional framework, economic growth, lending behaviour, education, women's status, financial policy, policy making, insurance system, poverty with respect to financial inclusion. So the researchers recommend the above mention areas needs to be addressed.

CONCLUSION

Financial inclusion refers to individuals and businesses have admittance to convenient and reasonable financial products and services that encounter their requirements as transactions, payments, credit, savings, and insurance conveyed responsibly and sustainably. To elucidate information gap and knowledge map the present study has administered. The current study is a non-experimental and conducted by the secondary data collected from Scopus database. The study finds Munene is the prominent author in the field of financial inclusion. In the year 2019 highest 125 number of documents has been devoted. The highest number of documents devoted by India as far as the geography is concerned. The source named "Economic and Political Weekly" has published the highest 23 number of documents in the said field, and marked as the prominent journal. Makerere University devoted the highest number of document regarding financial inclusion. It became the most prominent organisation in the field of financial inclusion.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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