

Mapping the landscape of financial inclusion research: A comprehensive bibliometric analysis (1998-2023)



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ARTICLE INFO

Article history:

Received 15 March 2023

Received in revised form

29 June 2023

Accepted 24 July 2023

Keywords:

Financial inclusion

Bibliometric analysis

Global trends

Research collaboration

Research keywords

ABSTRACT

This research work employs advanced bibliometric methodologies to offer a comprehensive overview of 2,165 research works pertaining to financial inclusion. These works were culled from the Scopus database and span the period from 1998 to 2023, within the domains of business-economics and social sciences. The investigation delves into multifarious facets of the global landscape of financial inclusion research, encompassing an examination of the most extensively cited studies and prominent authors, the preeminent academic journals, the principal research keywords, and their interrelations, as well as the foremost research institutions. Additionally, it scrutinizes the trends in international collaboration within this field. Significantly, this study augments the existing body of knowledge on financial inclusion by virtue of its incisive analysis of the global publishing landscape, thereby discerning pivotal research trajectories. This research endeavors to serve as an indispensable resource for scholars, facilitating an in-depth comprehension of the financial inclusion domain and assisting in the identification of potential areas for further inquiry. It is poised to contribute substantively to both academic scholarship and policy formulation in the realm of financial inclusion.

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1. Introduction

All people should have access to reliable and inexpensive financial services, which is one of the main objectives of the financial inclusion development goal. For the eradication of poverty, the advancement of society, and economic prosperity, it is important. Providing people from all socioeconomic backgrounds with accessible and high-quality financial services is a key component of financial inclusion. It makes formal financial institutions accessible and aids in lowering poverty and economic inequality. The definition of financial inclusion and its measurement were the main topics of early study. Financial inclusion significantly contributes to economic growth and prosperity by facilitating steady and long-term economic growth (Sarma and Pais, 2011; Agarwal and Agarwal, 2022).

Also, encouraging financial inclusion has repercussions for the larger economy. For instance,

it raises the financial system's savings rate, enabling economic entities to access financial resources at fair prices for consumption and commerce. As a result, people and communities experience more economic growth and prosperity (Sharma, 2016).

Economists have increasingly concentrated on researching this subject because of the crucial role that financial inclusion plays in fostering economic development (Ahmad et al., 2020; Anthony-Orji et al., 2023). This study seeks to offer a thorough review of the state and trends of scholarly publications throughout the world on the subject of financial inclusion. We can learn more about how to promote and grow financial inclusion to help people and communities throughout the world via their efforts.

The rest of this paper is structured as follows: The literature review and research methodology are introduced in section 2. The data source is shown in Section 3. Section 4 of the research summarizes the findings. Conclusions are presented in Section 5.

2. Literature review and research methodology

Financial inclusion, according to Sarma and Pais (2011), is essential for providing equal economic possibilities for all participants in an economy. A financial inclusion system needs a few key features in order to do this. First and foremost, it should

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<https://doi.org/10.21833/ijaas.2023.08.020>

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make it possible for the manufacturing resources to be allocated efficiently, which lowers capital costs and boosts productivity. Second, it should make formal financial services that considerably cut down on the time and expense of handling everyday affairs easily accessible. Finally, a financial inclusion system promotes market transparency, lessens inequality for societally disadvantaged groups, and slows the rise of informal loan sources (Afrin et al., 2017; Grohmann et al., 2018). A financial inclusion system may increase efficiency and well-being for all participants in the economy by enabling effective financial services generally and by supplying safe and secure channels for savings.

The capacity of economic entities to access and use formal financial goods and services in a responsible and sustainable way at a reasonable cost is referred to as financial inclusion, according to experts at the World Bank (Demirgüç-Kunt et al., 2020). This concept emphasizes the significance of offering financial services in an ethical and sustainable manner while keeping them affordable for everybody.

The growth of economic organizations, institutions, and financial market structures depends on promoting financial inclusion. It has a favorable influence on decreasing poverty rates and income inequality, and increasing the number of individuals using formal financial and banking services at reasonable costs, hence boosting economic growth. We can guarantee that everyone has the opportunity to realize their economic potential by granting equitable access to financial services (Abel, 2020; Adjei et al., 2020).

Pritchard (1969) was the first to offer bibliometric analysis, a statistical technique for analyzing and determining the temporal trend of scientific research publications. This method offers a thorough picture of a study area by building connections between studies, the most significant authors, and international collaboration on the subject. Bibliometric analysis is a crucial tool for both academics and policymakers since it may provide light on potential future research topics. In conclusion, encouraging financial inclusion and making use of bibliometric analysis are crucial measures toward attaining economic growth and making sure that all members of society have equitable access to the economy.

Since bibliometric analysis has developed over the past several years, a wide range of tools are now readily available to assist researchers in the study and comprehension of their data. CiteSpace, GraphPad Prism, Gephi, Pajek, SciMAT, UCInet, etc. are a few of the most widely used programs.

VOSviewer® (van Eck and Waltman, 2010), a potent tool that has grown more and more well-liked among bibliometric analyzers, was the method we used for this study. We examined bibliometric data on the subject of financial inclusion, a matter that is becoming more and more important in the modern world, using VOSviewer®. The work of Gálvez-Sánchez et al. (2021), who employed bibliometric

analysis to present a thorough review of research on financial inclusion, serves as the foundation for our study. Their research suggests that the spread of technology, particularly financial technology (FinTech), is expected to play a significant role in enhancing the accessibility, effectiveness, and sustainability of the financial system.

Researchers may learn important new things about difficult subjects like financial inclusion with the use of bibliometric analysis tools like VOSviewer®. By utilizing these tools, we may learn more about the elements that influence development in this crucial sector and work to develop a financial system that is more fair and sustainable for everybody.

Aziz et al. (2021) carried out research to investigate the connection between digital banking and financial inclusion. They used bibliometric analysis, a technique that includes examining publications and citations to discover trends and patterns, to do. This study uses descriptive research, document analysis of other studies, and literature from online journals to examine the literature on digital banking and financial inclusion from 2014 to 2020. The analysis of 126 publications showed that prior research had mostly focused on the good economic and social growth brought about by digital banking and financial inclusion.

3. Data source

The study used an advanced search to search for all publications on the topic of financial inclusion in the Scopus database with a query string (TITLE-ABS-KEY ("Financial Inclusion") AND (LIMIT-TO (SUBJAREA,"ECON") OR LIMIT-TO (SUBJAREA,"SOCI") OR LIMIT-TO (SUBJAREA,"BUSI"))) AND (LIMIT-TO (LANGUAGE,"English")) AND (LIMIT-TO (DOCTYPE,"ar"))). According to Scopus categorization, a search in the Scopus database using advanced filters turned up 2165 papers in the disciplines of (i) Economics, Econometrics, and Finance, (ii) Business, Management, and Accounting, and (iii) Social Sciences that were published between 1998 and 2023. Every article was written in English. The following stage involves pulling from these 2165 articles all pertinent data, including index information and citations, for additional analysis. Using VOSviewer® software version 1.6.17, the raw data was cleaned up, processed, and examined.

4. Empirical results

An extensive investigation of the subject of financial inclusion was carried out using the VOSviewer® program. The research findings gave a thorough and organized summary of how the issue is presently being handled across the world. A total of 4,148 authors from 151 different nations contributed to the 2,165 papers that were the subject of the analysis. An astounding 103,581 references were included in these publications,

which appeared in 721 different periodicals. The writers of these publications also included a total of 40,935 references in their works, emphasizing the sizeable body of study in this field.

A data analysis carried out in March 2023 revealed that since 2015, research on financial inclusion has been gaining momentum. There has been a considerable increase in interest in this area of study, as seen by the jump in the number of studies on financial inclusion from 86 in 2015 to 528 in 2020. Given that 123 studies have already been recorded in the first three months of 2023 in the Scopus database, it is important to note that this trend appears to be continuing in 2023. These results imply that financial inclusion is a growing topic of interest for both scholars and policymakers. For a complete breakdown of the number of studies on financial inclusion that were done each year (Fig. 1).

The 20 most frequently referenced studies on financial inclusion are included in Table 1. Notably, Ozili's (2018) paper had 334 citations, which highlighted the substantial influence of her work in the area. With 308 citations, Allen's et al. (2016) book comes in second, highlighting the importance of their research in the field. Allen et al. (2014) wrote a paper in the Journal of African Economics that has been mentioned 112 times, coming in at number 20 overall. Despite the fact that this figure may appear little in comparison to the top two works, it nonetheless indicates a significant advancement in the subject. These results highlight the significance of these studies and their bearing on the study of financial inclusion.

Recent studies have highlighted the importance of financial inclusion research, which is led by Klapper L., Ozili (2018), Hassan M. K., Le et al. (2020), and Koomson I. These scientists have created ground-breaking financial studies that have gotten a lot of citations. There have been 751

citations for Klapper L., 427 for Ozili (2018), 345 for Hassan M. K., 302 for Le et al. (2020), and 259 for Koomson I. The next most-cited author is Hassan M. K. The top 20 writers in the field of financial inclusion research are listed in Table 2 in great detail. Moreover, Ghosh S. has done a lot of research on financial inclusion and has 20 studies that are available in the Scopus database. Financial inclusion is obviously a subject that merits more investigation given the abundance of information now accessible.

With 22 studies and 1065 citations, Table 3 demonstrates that Global Development is the most significant journal in the area of financial inclusion. Other significant journals with 655, 538, 480, and 460 citations each are Sustainability (Switzerland), Borsa Istanbul Review, Journal of International Development, and Finance Research Letters. It is noteworthy that, with 63 publications, Sustainability (Switzerland) has the most scientific papers on financial inclusion in the Scopus database. This implies that the journal has been particularly active in disseminating research on this subject, making it an important source for academics and researchers curious to learn more about financial inclusion.

Twenty institutions have carried out the most research studies on financial inclusion, per the information in the statistics in Table 4. With 28 studies, The World Bank is the top organization in this field, while Makerere University Business School is second with 25 studies. With 21 studies apiece, Symbiosis International Deemed University and the University of South Africa are tied. Last but not least, 17 research on financial inclusion have been carried out by Washington University. It is noteworthy to emphasize that these institutions have made substantial contributions to the expansion of knowledge on this crucial subject, which might have profound effects on financial practices and legislation all over the world.

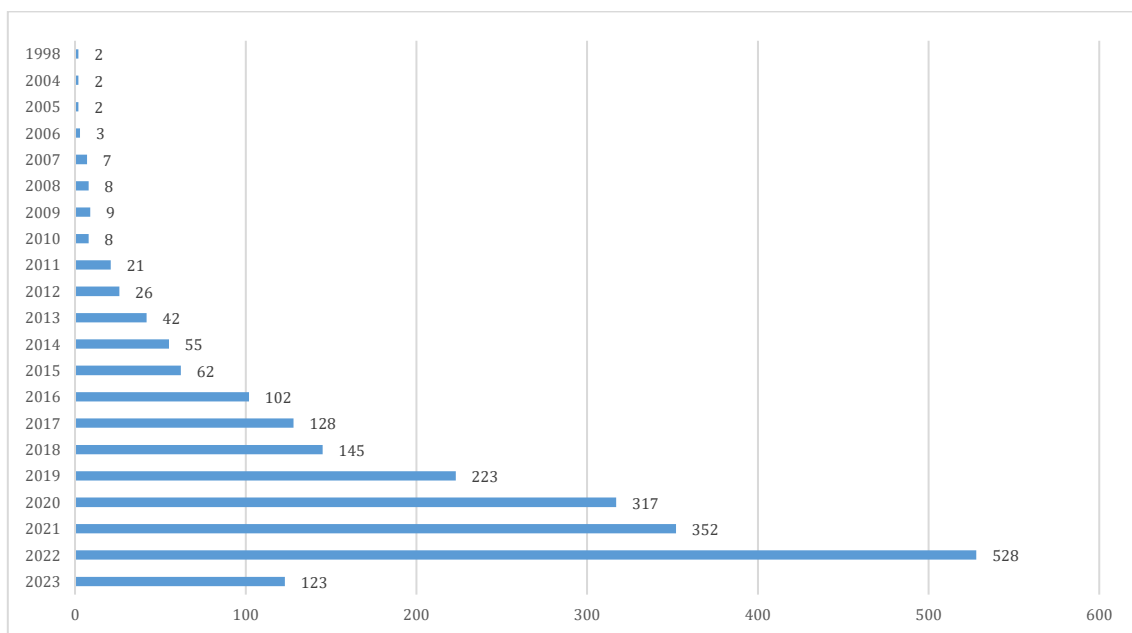


Fig. 1: Number of financial inclusion research studies by year in the Scopus database

Table 1: Top 20 research works with the highest citation rates on financial inclusion on the Scopus database

ID	Research	Title	Cited by
1	(Ozili, 2018)	Impact of digital finance on financial inclusion and stability	344
2	(Allen et al., 2016)	The foundations of financial inclusion: Understanding ownership and use of formal accounts	308
3	(Gabor and Brooks, 2017)	The digital revolution in financial inclusion: international development in the FinTech era	249
4	(Usman et al., 2021)	Does financial inclusion, renewable and non-renewable energy utilization accelerate ecological footprints and economic growth? Fresh evidence from 15 highest emitting countries	203
5	(Kim et al., 2018)	Financial inclusion and economic growth in OIC countries	202
6	(Zins and Weill, 2016)	The determinants of financial inclusion in Africa	196
7	(Fungáčová and Weill, 2015)	Understanding financial inclusion in China	172
8	(Le et al., 2020)	Does financial inclusion impact CO2 emissions? Evidence from Asia	166
9	(Munyegera and Matsumoto, 2016)	Mobile Money, Remittances, and Household Welfare: Panel Evidence from Rural Uganda	160
10	(Chen and Bellavitis, 2020)	Blockchain disruption and decentralized finance: The rise of decentralized business models	154
11	(Leong et al., 2017)	Nurturing a FinTech ecosystem: The case of a youth microloan startup in China	151
12	(Grohmann et al., 2018)	Does financial literacy improve financial inclusion? Cross country evidence	148
13	(Ahamed and Mallick, 2019)	Is financial inclusion good for bank stability? International evidence	143
14	(Schuetz and Venkatesh, 2020)	Blockchain, adoption, and financial inclusion in India: Research opportunities	139
15	(Neaime and Gaysset, 2018)	Financial inclusion and stability in MENA: Evidence from poverty and inequality	129
16	(Sharma, 2016)	Nexus between financial inclusion and economic growth: Evidence from the emerging Indian economy	123
17	(Hassan and Aliyu, 2018)	A contemporary survey of Islamic banking literature	115
18	(Qin et al., 2021)	Does financial inclusion limit carbon dioxide emissions? Analyzing the role of globalization and renewable electricity output	112
19	(Farah et al., 2018)	Mobile-banking adoption: Empirical evidence from the banking sector in Pakistan	112
20	(Allen et al., 2014)	The African financial development and financial inclusion gaps	112

Table 2: Top 20 research authors with the highest citations on the topic of financial inclusion in the Scopus database

ID	Author	Citations	Documents	Total link strength
1	Klapper L.	751	6	55
2	Ozili (2018)	427	10	56
3	Hassan M. K.	345	6	38
4	Le et al. (2020)	302	5	23
5	Koomson I.	259	12	38
6	Ghosh S.	242	20	40
7	Ntayi J. M.	240	14	31
8	Munene J. C.	237	17	28
9	Wang X.	227	9	9
10	Chen Y.	199	5	10
11	Friedline T.	199	9	3
12	Okello Candiya Bongomin G.	190	15	19
13	Sun Y.	181	5	5
14	Abor J. Y.	179	7	66
15	Wang Y.	179	8	16
16	Malinga C. A.	166	8	19
17	Cull R.	151	5	22
18	Bernards N.	144	6	7
19	Mhlanga D.	115	7	10
20	Babajide A. A.	92	7	26

Table 3: Top 20 journals with the highest citation in financial inclusion research in the Scopus database

ID	Source	Documents	Citations	Total link strength
1	World Development	22	1065	281
2	Sustainability (Switzerland)	63	655	203
3	Borsa Istanbul Review	13	538	155
4	Journal of International Development	21	480	209
5	Finance Research Letters	17	460	71
6	Review of Development Finance	7	409	152
7	New Political Economy	9	407	73
8	Research in International Business and Finance	10	367	142
9	Emerging Markets Finance and Trade	15	356	101
10	International Journal of Social Economics	47	345	217
11	International Journal of Bank Marketing	18	305	63
12	Journal of African Business	12	301	83
13	Journal of Financial Economic Policy	11	299	162
14	Telecommunications Policy	15	294	56
15	Journal of Development Studies	11	293	54
16	Review of International Political Economy	14	266	60
17	Applied Economics	20	250	110
18	Technology in Society	5	214	23
19	Social Indicators Research	10	198	62
20	European Journal of Development Research	6	196	70

Table 4: Top 20 institutions with the highest number of studies on the topic of financial inclusion in the Scopus database

ID	Affiliation	Documents
1	The World Bank, USA	28
2	Makerere University Business School	25
3	Symbiosis International Deemed University	23
4	University of South Africa	21
5	Washington University in St. Louis	17
6	University of Ghana	17
7	University of Johannesburg	16
8	Covenant University	16
9	SOAS University of London	14
10	University of the Witwatersrand, Johannesburg	13
11	Zhongnan University of Economics and Law	13
12	University of Oxford	13
13	Central Bank of Nigeria	12
14	The University of North Carolina at Chapel Hill	12
15	University of Nigeria	12
16	Hunan University	12
17	Indian Institute of Management Bangalore	12
18	Pan-Atlantic University	12
19	Birla Institute of Technology and Science, Pilani	11
20	University of Lagos	11

We can see how several nations have collaborated on financial inclusion research in Fig. 2 and Table 5. Notably, with 4607 citations each, the United States and the United Kingdom have the most. India, on the other hand, comes out as the nation with the most publications, having contributed 452 articles. Moreover, India has developed the greatest number of research cooperation ties with other nations, as seen by the Overall Link Strength of 2089. These results imply that India is an important player in the development of research on financial inclusion and that working with India might be a useful way to advance this field. The United States and the United Kingdom are also often cited, highlighting their significance in international research. Overall, these results show the value of international research collaboration and the important contributions that many nations are providing to the subject of financial inclusion. A thorough summary of these partnerships can be seen in Fig. 2 and Table 5, and

more studies in this field will likely provide significant future insights and discoveries.

The most popular research terms, the network architecture that links these phrases, and how these keywords have changed over time are all covered in great detail in Fig. 3 and Table 6. According to the statistics, Financial Inclusion was used 1254 times, making it the most often. After this are Financial Services (187 appearances), followed by Microfinance (171 appearances). India is the fifth most often used keyword, with 151 occurrences, while the Financial System is in fourth place with 164 occurrences. The complexity and diversity of the network architecture that connects these keywords also highlight the range and depth of the study in this area. The pattern in how these terms have changed over time offers intriguing insights into how the study of financial services and inclusion has developed.

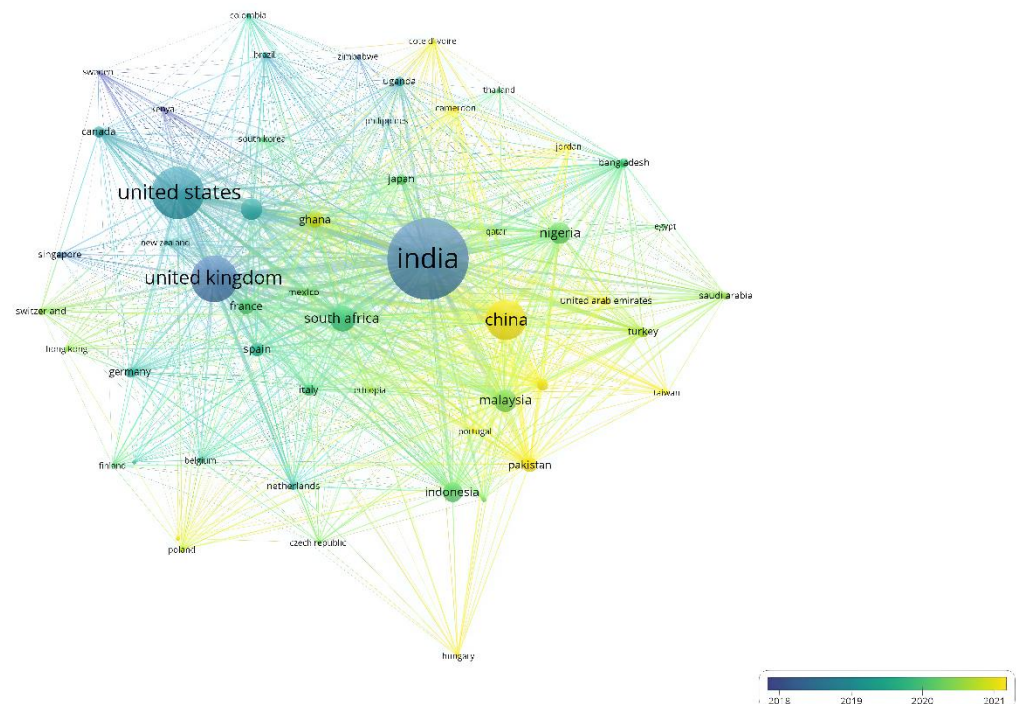


Fig. 2: Network system of research links between countries on the topic of financial inclusion based on the Scopus database

The study directions for financial inclusion for the 2018–2020 academic year are denoted in green terms in Fig. 3. Financial inclusion, mobile banking, income inequality, financial institutions, Africa, financial service, econometrics, economic growth, and financial education are some of the primary research keywords. For research on financial inclusion throughout the designated time period, these keywords offer direction. It is vital to emphasize that financial inclusion is a difficult problem that requires a multidisciplinary approach. In addition to the aforementioned keywords, additional aspects such as cultural and social norms, legal and regulatory frameworks, and technical improvements should also be taken into account in financial inclusion research.

The yellow cluster in Fig. 3 represents research on financial inclusion starting in 2020. The research in this cluster focuses on the application of technology to promote financial inclusion, such as blockchain, which allows for safe and fast transactions. While academics look for innovative methods to provide underrepresented communities with financial services, innovation is also an important topic of focus. For instance, mobile money and finTech have drawn a lot of interest recently due to their ability to offer access to financial services via mobile devices. This is particularly important for underserved populations who may not have access to traditional banking services. Mobile money and FinTech can provide a convenient and cost-effective way for individuals to save, send, and receive money. Other areas of focus include digital finance, which includes a wide range of financial services offered through digital channels; digital financial inclusion; digital payment; and digital financial services, which includes a wide range of financial products and services offered through digital channels, like online banking and mobile banking.

5. Conclusion

This work used bibliometric techniques to examine a dataset of 2165 financial inclusion research publications from the Scopus database. The study produced the following significant findings.

First, there has been an increase in the number of research publications published on the issue of financial inclusion, notably between 2015 and 2023. This is due to the realization that financial inclusion is essential for both developed and developing nations' economic success. Financial inclusion may lower poverty and inequality while fostering economic growth by integrating more individuals into the formal financial system.

Second, the study by Ozili (2018) is now the most referenced work in all financial inclusion studies. The notion of financial inclusion and its significance for development are thoroughly discussed in this paper. The advantages and difficulties of digital money for financial inclusion and stability are discussed in this essay. Although developing and developed economies' financial inclusion has

benefited from the use of digital finance, there are still problems that must be resolved before it can be more useful to people, companies, and governments. The paper emphasizes the necessity for more studies to examine the connection between digital money and economic crises.

Third, Klapper L. has received 751 citations from 6 research publications, making her the author with the most impact on the discussion of financial inclusion. The main subject of Klapper's study is how financial inclusion affects both economic growth and poverty alleviation. Her work has played a significant role in influencing the conversation around financial inclusion and its contribution to sustainable development.

Fourth, among all the studies on financial inclusion, World Development has received the most citations. This is hardly shocking considering that World Development, one of the top journals in the discipline of development studies, has throughout the years published a number of significant works on financial inclusion.

Fifth, with 24 research papers, the World Bank is the organization that has published the most on financial inclusion. It is significant to note that the World Bank's thorough investigation into financial inclusion reveals their dedication to comprehending the difficulties and possibilities of granting access to financial services to individuals who are historically neglected. In order to assist governments and financial institutions in developing policies and products that support financial inclusion, the World Bank conducts surveys and offers technical assistance. The World Bank also works with other institutions to provide creative ways to increase access to financial services around the world.

Sixth, when it comes to financial inclusion, the United States and the United Kingdom have the most citations. It's crucial to remember that India has the greatest amount of study publications on this subject. This indicates that while the United States and the United Kingdom have had a significant impact on the conversation around financial inclusion, India has taken a more active role in the production of research on the subject. It's probable that this is caused by India's distinct economic and social environment, as well as the fact that there are many unbanked people living there. So, there is a chance for other nations to benefit from India's experience and use its lessons in their own circumstances. Also, it's crucial to carry out more studies on financial inclusion in order to comprehend its intricacies and find efficient methods for promoting it globally.

Lastly, as science and technology advance, financial institutions are compelled to adapt continually due to fiercer competition. Upcoming studies on financial inclusion will concentrate on how technology, such as blockchain, virtual currencies, digital banks, and digital finance, may help to advance financial inclusion. This will need scholars to remain up-to-date with the latest innovations in technology and to study how they

may be exploited to promote financial inclusion in a sustainable and equitable way.

Acknowledgment

The author received financial help from the Ho Chi Minh University of Banking in Vietnam. This study was made possible by the generous help from interested parties.

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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