

## **The Twenty-First Century Social Media Research: A Bibliometric Review**

### **Anthony Kofi Mensah**

Student, Master of Philosophy, Information  
Communication Technology Department of  
Information Systems and Technology, C. K. Tedam  
University of Technology and Applied Sciences,  
Navrongo, Ghana.

Corresponding Author: [kofiabuaku69@gmail.com](mailto:kofiabuaku69@gmail.com)

ORCID iD: <https://orcid.org/0009-0008-4396-7883>

### **Peter Awonnatemi Agbedemrab**

Associate Prof., Department of Information  
Systems and Technology,  
C. K. Tedam University of Technology and  
Applied Sciences, Navrongo, Ghana.

[pagbedemrab@cktutas.edu.gh](mailto:pagbedemrab@cktutas.edu.gh)

ORCID iD: <https://orcid.org/0000-0001-8904-1009>

### **Nasir Koranteng Asiedu**

Librarian, University Library, C. K. Tedam University of Technology and Applied Sciences,  
Navrongo, Ghana.

[nasiedu@cktutas.edu.gh](mailto:nasiedu@cktutas.edu.gh)

ORCID iD: <https://orcid.org/0000-0003-1158-012X>

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### **Abstract**

This study investigated the intellectual framework of literature on social media and highlighted the new trends in social media research. The search for relevant publications on the topic on May 28, 2023, began with the use of the Scopus database, which resulted in the retrieval of 157,474 documents covering the years 1941 to 2024. Following filtering, the total number of records, which covered the years 2000 through to 2022, was reduced to 50,872, and the same was used for the data analysis using VOSviewer. The analysis involved co-word analysis and citation analysis, which made it possible to uncover the patterns of research topics and aided the identification of influential publications and authors. The findings of the study therefore revealed that research on social media has received significant attention from scholars globally, with 2022 recording the highest number of publications. Results from the country analysis indicated that the geographical closeness of countries does not create collaborative advantages for authors. The institutional analysis also revealed that the ESCP Business School and North-West University are the top two leading institutions by reference to the number of citations. Regarding the most cited publication, the paper, “Users of the World, Unite! The Challenges and Opportunities of social media,” authored by Kaplan, A. M., & Haenlein, M., in 2010, received the most citations within the period under review. The study therefore recommends that future studies should use the two academic database,s which are Scopus and Web of Science to conduct an in-depth survey on social media research in the 21<sup>st</sup> century.

**Keywords:** Social Media, Bibliometric Analysis, Internet, Communication, Social Network.

### Introduction

The role of technological advancements like the internet, smartphones, and other handheld devices, which precipitated the emergence of social media, cannot be underemphasized whenever the tool is mentioned in this 21<sup>st</sup> century. These technologies in the shape of smartphones, as already intimated, paved the way for the introduction of social media, which in the long run has turned to shape the behavior and actions of people both online and offline (Asiedu, Buad & Martin-Yeboah, 2023). Nonetheless, the development and accessibility of the internet have had a tremendous impact on the increase in social media use. This is due to the popularity and ease of communication and information access through social networks in the twenty-first century. According to Abbas Jusoh, Masod and Ali (2021), social media are computer-mediated technologies that enable users to engage with one another through online communities and networks. Social media users can efficiently interact, communicate, and share information through these groups and networks.

Social media websites like Facebook, Instagram, WhatsApp, Twitter, YouTube, and TikTok, in the view of Azzaakiyyah (2023), have transformed how individuals interact and communicate on a global scale. It is a growing element that has affected every aspect in the global community. To seek knowledge, acquire knowledge, and disseminating knowledge through the internet, social media users follow or are followed by other social media users. In 2021, Statista reported that over 3.78 billion people use social media globally, with users logging in for an average of 145 minutes daily (Marzo et al., 2024). It has also been observed that the tool is widely accessed by children, teenagers, young adults, and the elderly. The widespread accessibility and usage of the tool by people of different ages goes to emphasize the overdependence of the tool by all ages across the globe for social engagements or interactions. This also goes to show that as part of the 21<sup>st</sup> century human evolution, the tool has been accepted and seen as part of the normal developmental process of human beings (Jiang, Wang & Li, 2022). This, therefore, contributes to bringing out the reasons why so much time is spent on social media platforms, irrespective of the demerits or negative consequences it poses.

Social media has a lot of promise in education, business, and entertainment, given its growing popularity and instructive uses, especially during promotions and advertisements. Onuora Obasi, Ezeah & Gever (2020) have proven how social media has demonstrated its ability to inform the public about health issues during the COVID-19 pandemic. Kim, Lim & Brymer (2015) have also shown how social media has changed companies and customers' way of communicating by bringing everyone together in ways that were previously unavailable and unthinkable. While these platforms can be used to spread beneficial content, Hilary and Olannye-Onkonofua (2021) have argued that malicious accounts have also been utilized in recent times to disseminate false information to sway public opinion.

The growing interest in social media use has led to many social media studies aiming to comprehend its possible impact on social, economic, emotional, and cognitive development. Lal, Dwivedi, and Haag (2023) claimed a sizable vacuum in the literature in this area. Socially and emotionally, social media platforms have contributed a lot, notwithstanding their disadvantage of reducing physical or face-to-face interactions among people. Emotionally, people can connect, share, and feel a sense of belonging in the virtual world. It has also helped introverts to make more friends virtually than in the real world. This has helped to reduce depression and loneliness among such people (Asiedu & Badu, 2018; Graciyal & Viswam, 2021; Steinert & Dennis, 2022). This tool's emotional and social importance became more

pronounced in the era of the COVID-19 pandemic, where lockdowns were instituted to curtail the spread of the disease. It was, however observed that there was a significant rise in the use of social media during this period by people of all ages (Cho, Li, Ngien, Tan, Chen & Nekmat, 2023; Malm, Oti-Boadi, Dey, Adade & Ocansey, 2022; Pandya & Lodha, 2021).

Economically, social media platforms have helped boost businesses across the globe. Both small-scale and big companies can use this tool to advertise their products. This has enabled them to reach out to a large number of people irrespective of geographical barriers. Unarguably, it has helped in reducing the stress of buyers since they do not have to be physically present at the shop before they can make their purchases since all these can be done on social media platforms which also creates the avenue for buyers to initiate a conversation with the seller to make more enquiries about the product (Amrouche & Hababou, 2021).

In sum, social media is used for many different reasons. The five reasons for using social media, according to Nyland (2007), are to meet new people, for entertainment, to maintain relationships, and for social events. According to Hinson (2011), social media is used for social activities such as chit-chatting and finding new acquaintances. Li and Chung (2006), on the other hand contend that while the internet itself is not addictive, its social functions, self-expression, communication, and fostering of interpersonal relationships are. These traits, which are also shared with social media, increases the issue of many users struggling with social media addiction (Hou, Xiong, Jiang, Song & Wang, 2019; Sahin, 2017; Simsek, Elciyar & Kizilhan, 2019).

Existing studies have focused on specific social media platforms or aspects of social media research, such as user behavior or content analysis (Smith, 2018; Lai & To, 2015). Moreover, while bibliometric analysis has been widely employed in various fields, its application to social media research remains limited (Gan & Wang, 2014; Yazdanjue, Yazdanjouei, Gharoun, Khorshidi, Rakhshaninejad & Gandomi, 2025). Therefore, there is a need to leverage bibliometric techniques and tools, such as the Scopus database and VOSviewer, to analyze and visualize the scholarly landscape of social media research. This would enable a better understanding of the overall research landscape, key contributors, interdisciplinarity, research collaboration patterns, and emerging research themes within social media.

Additionally, a lack of comprehensive bibliographic analysis encompasses a wide range of social media research topics, methodologies, and trends. By undertaking a comprehensive bibliometric study of social media research, this study provides a thorough overview of the current state of social media research, identification of significant themes and trends, and the provision of better insights into the dynamics of scholarly collaboration and knowledge dissemination within the field by analyzing scholarly publications, citations, and collaboration networks.

### **Objectives of the Study**

1. To assess the emerging trends in social media publications.
2. To analyze the impact of publications on social media.
3. To examine the intellectual structure of Social Media literature.

### **Literature Review**

Websites and software applications enabling users to exchange material and/or engage in social networking are social media (Leyrer-Jackson & Wilson, 2018). Some of the tools that

Feuls, Fieseler, and Suphan (2014) identified as social media include wikis, forums, multimedia platforms (YouTube, Flickr), blogs (WordPress), microblogs (Twitter), social games, social networking sites (Facebook), and instant messaging. DePietro (2013) asserts that social media's primary purpose is to connect people to societies of people who have chosen to join that link, because these people want to engage with that network as frequently as possible. The description of social media by Bamigboye and Olusesan (2017) as web-based applications that facilitate associations, the interchange of user-owned content, and user-generated ideas has helped contribute to understanding what social media is. In the view of Hang (2024), it is one of the most popular channels for social interaction and communication on the globe right now. Currently, social media is the most common means for individuals, businesses, families, friends, organizations, and students to communicate and exchange information without being restricted by geographical distances (Asare-Donkoh, 2018). It has contributed to improving student collaboration, group interactions, knowledge, and skill sharing. Other names for social media include "Web 2.0" and "Social Networking Sites" (SNSs). It enables users to create a public or semi-public profile within a bounded system, which allows them to view and navigate their list of connections and those made by others within the system.

Due to social media's fast uptake and extensive usage, a substantial amount of studies have been done on this quickly expanding subject. Chen et al. (2019), for instance, state that a thorough analysis of several studies on social media research trends has shown a dynamic ecosystem with changing themes and contributions worldwide. It was discovered that computer science and computer engineering are two of the primary study fields that have led to the rising academic interest in Electronic Discovery in social media. China and the United States of America have contributed the most to the area's growth, primarily via promoting research collaborations inside their own countries. Moreover, Kargaran, Shahri, Ghorbani, Saberi, Jamali and Alebrahim (2024) conducted a study that revealed a significant surge in research on social media-based co-creation since 2008. The United States and the United Kingdom have been the top countries for publications in this field. Again, Chhatrapati, Trivedi, Chaudhari, Sharma, and Bhatt (2023) observed that annual publications on social media security show a consistent upward trend, with the US, China, and India leading the way in significant themes like "Social Media," "Security," and "Trust".

Furthermore, Chaudhari, Chaudhari, and Pawar (2021) conducted a bibliometric review of propaganda analysis in social media. This bibliometric review indicates that computer science is beginning to catch up to the social sciences when it comes to studying propaganda on social media. Positive trends may be observed in the research on developing propaganda in social media. According to the keyword analysis, propaganda on social media is being researched about problems like "political astroturfing", "fake news," "terrorism", and "radicalization". In addition, there has been significant progress in tourism city-focused social media research. The researchers Nusair, Butt and Nikhashemi (2019) collected a statistical analysis on social media use in hospitality and tourism research. The study outcomes indicated how social media research trends changed in the context of tourism towns between 2005 and 2021. These trends covered topics such as social media and online social networking, techniques such as sentiment analysis, publishing outputs with the most comprehensive partnerships, and other items to establish a framework based on trends in social media research for tourist towns. These results are evidence of a wide range of study areas, international collaboration, and the development of social media studies at all levels of academia.

Social media has been an essential influence in several research areas, e.g., genetics, public health, medicine, and animal welfare. As Pulido, Redondo-Sama, Sordé-Martí and Flecha (2018) argue, researchers use social media to disseminate their findings and certify discoveries that have a very positive impact on society. The primary goal is to make the findings of their study, which are obtained both qualitatively and statistically, as widely available as possible. Using social media as a tactical method is vital to ensure public inclusion and an uncensored evaluation process. Consequently, social media has become a helpful instrument for including the public in evaluating the significance of research. Hawkins, Hillman, Carlos, Rawson, Haines, and Duszak (2014) stressed the importance of social media in research publications and singled out the marvelous role that “Twitter” or “X” plays in ensuring wide accessibility and readability of publications. Haustein, Sugimoto, and Larivière (2015) also emphasized the positive impact of social media on research activities. In the view of Özkent (2022), the merits of social media in the 21<sup>st</sup> century for scholarly publications cannot be underestimated, as it aids in gaining more citations on peer-reviewed published articles. This view is also supported by authors (Fagbule, 2018), Bardus et al., (2020), and Gan, Yaaco, and Latif (2021,) who indicated similar sentiments in their various studies.

Intellectual structure deals with analyzing the key effect that a particular author, article, source or entity has had within the realm of academia, specifically on an academic discipline or field. Such issues as authorship analysis, institutional analysis, keywords co-occurrence, and others are mainly discussed under the concept of intellectual structure in cases of bibliometric analysis (Khare & Jain, 2022). Authorship analysis, institutional analysis, and keywords co-occurrence are all ways of statistically trying to understand and determine the significant role or influence authors and institutions have played in a field of study. A bibliometric study, conducted on social media, discovered a growth in social media authorship with the United States of America emerging as the country with the most articles produced on social media in 2014. Countries like the United Kingdom, Spain, and China were behind the United States of America at the top position. This same study added that the “Journal of Health Communication” attained the leading spot as the Journal with the most publications on social media. Keywords such as “social media”, “social networking”, “web 2.0,” “Facebook” were primarily used in conducting searches on social media as they appeared several times in the keywords co-occurrence analysis that was done (Gan & Wang, 2014).

A different study that was conducted using the Scopus database with “social media and digital economy” being the focus revealed that Russia, the United States of America, the United Kingdom, and China, respectively are the top producers of publications on social media. This study went ahead to indicate that the United States of America is the country with the highest number of citations on the concept, with Management Science being the journal with the highest citations on social media. “Fan, W.” was the author with the highest number of citations on the topic under consideration during the bibliometric analysis (Akhtar, Azhar, Khan & Rahman, 2023). A bibliometric study on “social media and terrorism” using the Scopus database between 2009-2022 also found that the United States of America had the highest number of authors who have contributed enormously to social media research. The study’s analysis suggested that “Tsikrika T and “Vrochidis S” were the authors with the highest publications (Yumitro, Febriani, Roziqin & Indraningtyas, 2023). There are a lot of studies that have been conducted on bibliometric analysis of social media in other disciplines (Leung, Sun & Bai, 2017; Gan, et al., 2021; López-Carril, Escamilla-Fajardo, González-Serrano, Ratten & González-García,

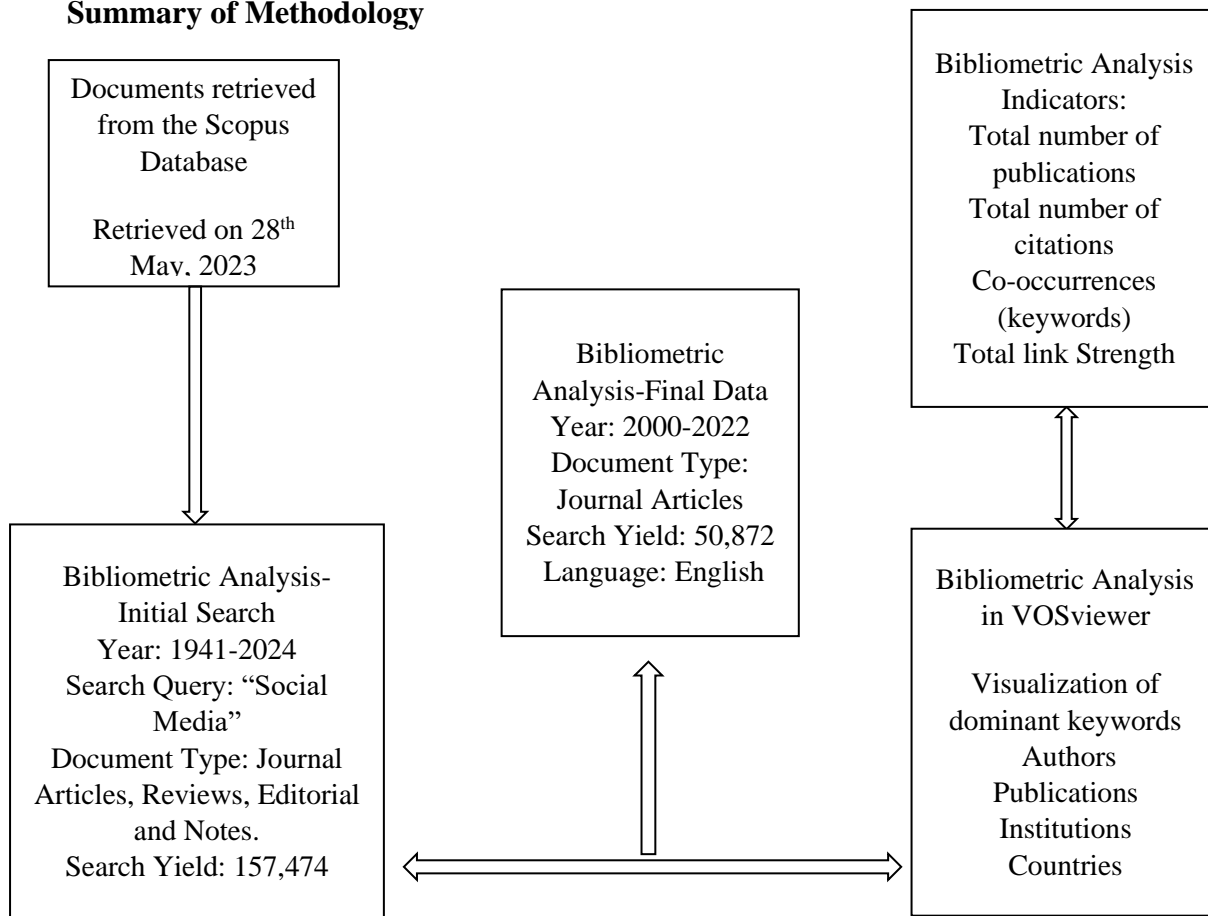
2020; Nusair et al., 2019; Zyoud, Sweileh, Awang & Al-Jabi, 2018). Although these studies are conducted on social media and other concepts that are found in different disciplines, the results of these studies suggest that the United States of America is the leading country in publications that have connection with anything social media (Abbas et al., 2021; López-Carril et al., 2020; Yu, Sukjairungwattana & Xu, 2023).

Overall, the literature review has disclosed that social media has come to stay, and whether the world recognizes that or not, it has altered our way of communicating, engaging, and interacting among ourselves. It is a powerful tool and one of man's most well-accepted technological inventions. The review also undoubtedly revealed that there are a lot of studies on social media in different disciplines. This goes to show that the majority of academic disciplines have taken an interest in the study of the tool, paying attention to its downsides and benefits to humanity. It is a tool or platform that has to be embraced because it contains "mixed blessings," as opined by Asiedu (2017).

### **Materials and Methods**

There are numerous scientific databases apart from Scopus and Web of Science. However, these two are scholars' most well-known and frequently utilized databases to retrieve bibliometric data on a given body of literature (Guz & Rushchitsky, 2009). The Scopus database served as the study's data source because it was the best choice. It has also been demonstrated that Scopus offers a broader coverage of academic publications than Web of Science (Ahmi & Mohamad, 2019). Furthermore, it provides sufficient information on literature from various educational fields (Effah, Asiedu & Otchere, 2023). For this study, the Scopus database was solely used. The study's data was, however obtained from the Scopus website ([www.scopus.com](http://www.scopus.com)), using the search query, "Social Media". The search was conducted on May 28, 2023. During the initial stages of the search, 157,474 documents in total, spanning the years 1941 to 2024, were found. At the time of data collection, 153,599 of the 157,474 documents were in the final stages of publication, while the other 3,875 were under consideration for publication (articles in press). The initial data was limited to articles at the final stages of publication. Articles in press, which were three in number, were excluded from the analysis. Only documents published in English were considered. Following filtering, the total number of records, which covered the years 2000 through to 2022, was reduced to 50,872, and the same was used for the data analysis.

**Summary of Methodology**



**Results**

**Trends in publications**

Research on “Social Media” has seen significant growth over the years. As confirmed by Figure 1, the number of publications between 2000 and 2022 has consistently been on an upward trend. The trend analysis shows that social media has been well-researched over the past two decades. With only one paper published in 2000, the number of studies on social media has risen substantially to 7,227 in 2022, which recorded the highest number of publications. Although there were some inconsistencies in the annual publications, on average, the trend is one of rising numbers. The growth in publications, however intensified after 2006. 2007 recorded 1120% growth in publications over 2006 (from 5 papers in 2006 to 61 in 2007). Over the past decade (between 2013 and 2022), the average annual publication was 4,738. The growth in attention given to “Social Media” research can be attributed to the tremendous and fast-paced developments witnessed in information and communication technologies.

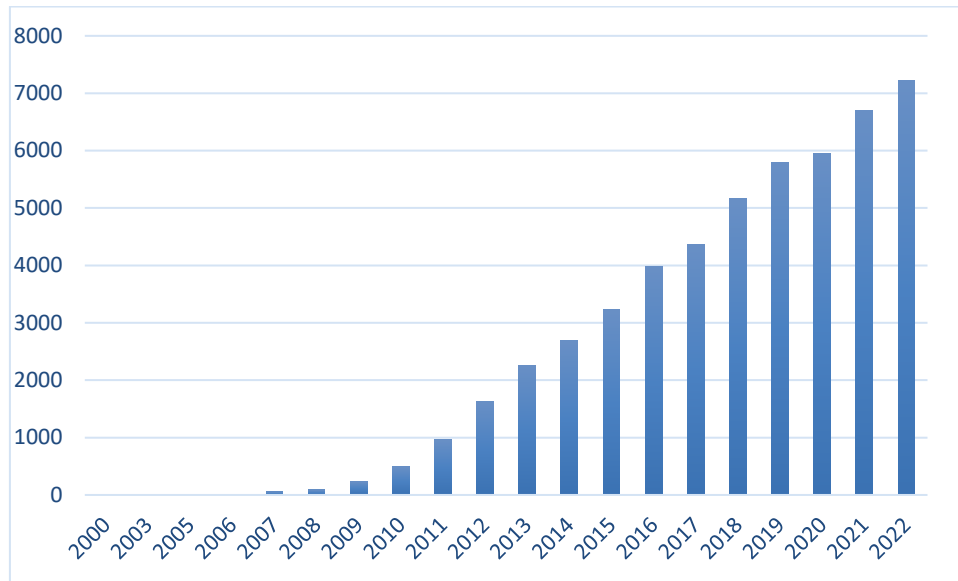


Figure 1: Trends in social media research

### Most productive and influential countries

Table 1 displays the breakdown of papers by country. The country-level analysis revealed that authors from 116 countries have by far contributed to the literature on social media. Table 4.1, however displays only the top 20 most productive countries (by using the number of documents as a basis for the ranking). Leading the table is the United States. The United States has contributed 662 papers to the knowledge base of social media. It also earned a citation count of 39,094 and has a total link strength of 238. Following the United States distantly is the United Kingdom with 196 papers and 10,835 citations and a total link strength 142.

Table 1

Most productive countries

Rank	Country	Documents	Citations	Total Link Strength
1	United States	662	39094	238
2	United Kingdom	196	10835	142
3	India	178	4265	66
4	China	160	7045	128
5	Australia	138	5900	95
6	Malaysia	79	1251	26
7	Germany	77	6105	53
8	Italy	65	2407	29
9	Canada	63	5943	48
10	Hong Kong	60	3668	65
11	France	58	13542	65
12	South Korea	56	2104	40
13	Indonesia	54	421	12
14	Spain	53	1921	38
15	South Africa	50	1192	36
16	Finland	49	3440	52

Rank	Country	Documents	Citations	Total Link Strength
17	Turkey	44	1418	21
18	Taiwan	36	1978	25
19	Sweden	35	926	28
20	Netherlands	30	2195	19

The link strength was used as the indicator of the level of collaboration between countries. In total, the United States has the highest total link strength, meaning that the United States has the highest level of scholarly partnership with other nations. The United States is closely followed by the United Kingdom, which secured a total link strength of 142. The highest link strength (22) exists between the top two most productive countries (USA and UK). Figure 2 shows the network visualization map of dominant countries.

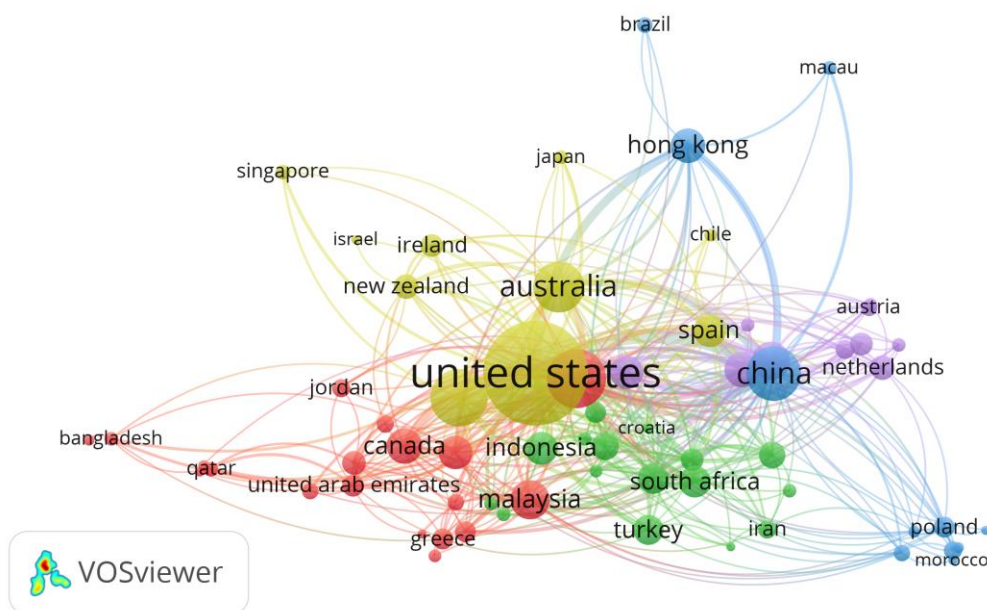


Figure 2: Visualization of dominant countries

The study also looked into whether authors benefit from collaboration when countries are geographically close. This was done by analyzing the relative link strengths between geographically close nations and those far apart. The study used the United States as a point of reference. The link strength between the United States and the United Kingdom is 22. However, the link strength between the United States and Canada is 19. From this analysis, the geographical nearness of countries does not necessarily create a strong collaborative advantage for authors.

To analyze the most influential countries in Social Media research, the study used the number of citations earned by the various countries as a proxy. The result is displayed in Table 2, highlighting the top 20 most influential countries in Social Media research. The United States emerged as the most cited country, earning 39,094 citations. France came second with 13,542 citations, followed by the United Kingdom with 10,835 citations. The United States maintained its ranking in the citation analysis. The United States is therefore the leading country in Social Media research regarding both the productivity rate and citation count.

The results of the citation analysis of countries depict that the volume of publications produced by an author or country does not necessarily reflect the number of citations they receive. For instance, while South Africa's research output was twenty times more than that of the Netherlands, the latter's citation count exceeded that of the former by more than 1,000. The Netherlands, with only 30 publications earned 2,195 citations, an average of 73.17 citations per paper. This is way ahead of the citation per South Africa paper (23.84). The number of citations reveals the quality of publications, in which case Dutch scholars are noted for producing quality publications ahead of South African.

Table 2

*Most cited countries*

Rank	Country	Documents	Citations	Total Link Strength
1	United States	662	39094	238
2	France	58	13542	65
3	United Kingdom	196	10835	142
4	China	160	7045	128
5	Germany	77	6105	53
6	Canada	63	5943	48
7	Australia	138	5900	95
8	India	178	4265	66
9	Hong Kong	60	3668	65
10	Finland	49	3440	52
11	Italy	65	2407	29
12	Netherlands	30	2195	19
13	South Korea	56	2104	40
14	Taiwan	36	1978	25
15	Spain	53	1921	38
16	Turkey	44	1418	21
17	Malaysia	79	1251	26
18	South Africa	50	1192	36
19	New Zealand	29	940	18
20	Sweden	35	926	28

### Institution analysis

Beyond the analysis of the affiliated countries of Social Media scholars, the study examined the authors' affiliated institutions. These institutions are primarily universities and research centres. The number of citations was used as a proxy for measuring the most influential institutions within the context of social media. From Table 3, the top 20 leading institutions have roughly comparable numbers of publications. Most of them have three publications, while a few produce between four and six documents.

École Supérieure de Commerce de Paris Business School (ESCP Business School) in France was crowned the most influential institution, earning 9,070 citations over the period under review. Following closely is the North-West University in South Africa, with 844 citations. On average, the institution analysis tells a similar story as the country-level analysis.

Out of the top 20 institutions, 5 are located in the United States. This is reflective of the country analysis, which revealed that the most dominant country was the United States.

Table 3

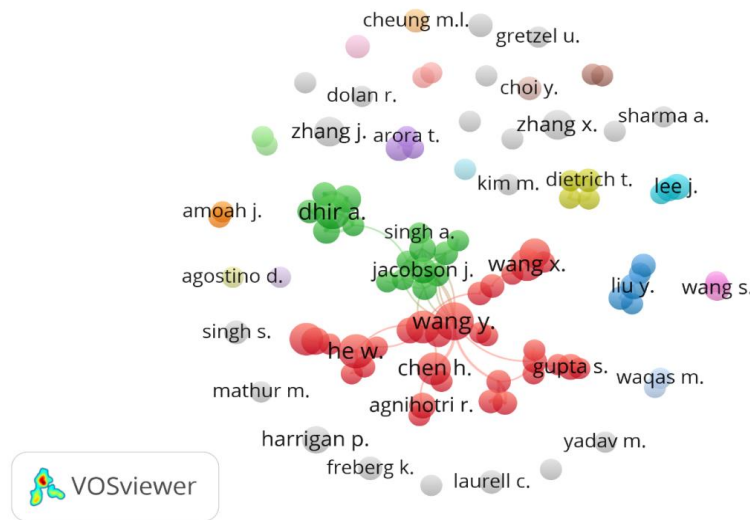
*Most prominent institutions*

Rank	Organization	Country	Documents	Citations
1	ESCP Business School	France	4	9070
2	North-West University	South Africa	11	844
3	New York University	United States	3	744
4	Ryerson University	Canada	3	473
5	Rennes School Of Business	France	3	368
6	Chinese Culture University	Taiwan	4	362
7	University Of Stavanger	Norway	5	282
8	S.I. Newhouse School of Public Communications	United States	3	186
9	Economics And Industrial Engineering	Italy	3	185
10	University of Agder	Norway	6	181
11	Shandong University of Finance and Economics	China	3	179
12	The Hong Kong Polytechnic University	Hong Kong	3	165
13	University Of Science and Technology of China	China	3	153
14	Arizona State University	United States	3	150
15	University Of Turku	Finland	5	130
16	University Of Bergen	Norway	4	123
17	Old Dominion University	United States	4	114
18	Queensland University of Technology	Australia	3	107
19	University Of Rochester	United States	3	95
20	City University of Hong Kong	Hong Kong	3	91

### Authorship and co-authorship analysis

Having analyzed the affiliated countries and institutions of the various authors in Social Media research, let us now consider the individual authors themselves. The authorship analysis was performed to identify the dominant and most influential authors in Social Media studies. This section considers the number of publications as a basis for determining authors' contribution to the field under study. The most productive authors in terms of increasing knowledge in the topic are those who have the most publications.

According to the survey, 4,432 authors contributed to advancing social media knowledge over the time frame under consideration. Figure 3 displays the network visualization of writers with at least four documents. Only 101 of the 4,432 writers produced at least four publications during the review period.



Another set of three authors each shares an equal 7 publications, while the last seven have six papers each. Co-authorship analysis was conducted by reference to the link strength metric to examine the level of collaboration among authors. The higher the link strength, the greater the partnership or co-authorship relationship between the authors in question. From Figure 3, the most enormous link strength exists among Wang Y., Gupta S., Chen H., Wang X., Agnihotri R. and He W. amongst others which are not part of the top 20. These authors constitute the largest cluster with a total link strength of 210.

Table 4 provides details of the top 20 authors in Social Media research. The most productive author is Wang Y. with 14 publications to his credit. Ranking second are He W. and Dhir A. with 11 publications each. The remaining authors have competitive and comparable levels of productivity. Four authors have 10 papers each to their credit. Three authors have 8 papers each.

Table 4  
Most productive authors

Rank	Author	Documents	Citations	Total Link Strength
1	Wang Y.	14	912	7
2	He W.	11	1085	1
3	Dhir A.	11	844	13
4	Wang X.	10	951	3
5	Chen Y.	10	670	5
6	Kim J.	10	365	1
7	Chen H.	10	168	5
8	Zhang J.	8	745	0
9	Li Y.	8	477	3
10	Zhang X.	8	378	0
11	Kaur P.	7	772	11
12	Park J.	7	200	1

Rank	Author	Documents	Citations	Total Link Strength
13	Harrigan P.	7	166	0
14	Kumar A.	6	931	0
15	Kumar V.	6	635	2
16	Agnihotri R.	6	631	1
17	Jacobson J.	6	583	2
18	Benitez J.	6	476	2
19	Gupta S.	6	474	0
20	Lee J.	6	208	0

The authorship analysis also focused on the level of influence of the authors by reference to the number of citations. The study conducted a citation analysis of the authors to identify the most influential authors in social media research. The top 20 writers by the number of citations are shown in Table 5. Topping the table is He W. with 1,085 citations. The implication is that other scholars find publications by He W. to be of high quality. For instance, one of his papers, "Social media competitive analysis and text mining: A case study in the pizza industry" features in the top 20 most cited articles, receiving 604 citations. Following distantly with 951 citations is Wang X. One of his papers which also features in the top 20 most cited publication earned 593 citations ("Social media peer communication and impacts on purchase intentions: A consumer socialization framework"). Kumar A. and Wang Y. followed closely with 931 and 912 papers respectively.

Table 5

*Most cited authors*

Rank	Author	Documents	Citations	Total Link Strength
1	He W.	11	1085	1
2	Wang X.	10	951	3
3	Kumar A.	6	931	0
4	Wang Y.	14	912	7
5	Dhir A.	11	844	13
6	Kaur P.	7	772	11
7	Zhang J.	8	745	0
8	Chen Y.	10	670	5
9	Kumar V.	6	635	2
10	Agnihotri R.	6	631	1
11	Jacobson J.	6	583	2
12	Li Y.	8	477	3
13	Benitez J.	6	476	2
14	Gupta S.	6	474	0
15	Zhang X.	8	378	0
16	Kim J.	10	365	1
17	Lee J.	6	208	0
18	Park J.	7	200	1
19	Chen H.	10	168	5
20	Harrigan P.	7	166	0

### Citation of publications analysis

The most important articles in a particular research subject are identified by citation analysis, a key science mapping tool (Donthu, Kumar, Mukherjee, Pandey & Lim, 2021). The quantity of citations a paper obtains indicates its effect or impact (Donthu et al., 2021). Researchers usually cite other articles because they find them applicable to their study (Shibly, 2016). With the aid of the VOSviewer software, the citation analysis was conducted, and the result is displayed by the VOSviewer on a map (see Figure 4).

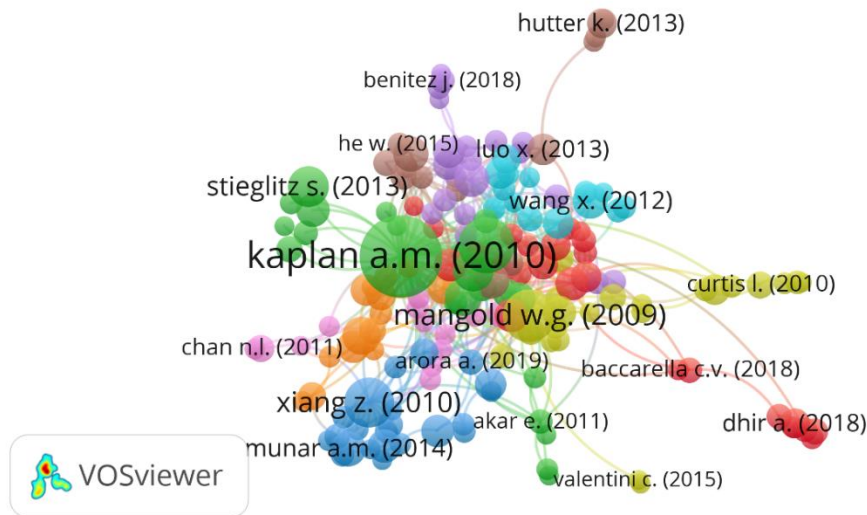


Figure 4: Visualization of most cited articles

Table 6, however presents the top 20 publications ranked based on the number of citations received. Of the top 20 most cited articles, seven were published between the years 2009 and 2012. Eight were published in 2013, while five were published between 2014 and 2016. This indicates the high quality of Social Media research in the 21<sup>st</sup> century. While five of the top 20 papers were co-authored by two scholars, 15 were co-authored by three or more authors. From the foregoing, it can be inferred that articles which multiple scholars co-author tend to be more influential than sole-authored or dual-authored publications. This is because diverse contributions from different authors in a single research work enhance the quality of the research.

“Users of the World, Unite! The Opportunities and Challenges of Social Media” tops the list of works that have received the most citations. The 2010 publication of the article, which was co-authored by Kaplan, A. M., & Haenlein, M., was referenced 8,528 times. The study provided additional insight into social media and made it obvious how it differed from other concepts in its field, including Web 2.0 and user-generated content—having received 2,605 citations, Kietzmann, Hermkens, McCarthy, and Silvestre’s (2011) article "Social Media? Become Serious! Understanding the social media Functional Building Blocks. The paper "Social Media: The New Hybrid Element of the Promotion Mix" by Mangold and Faulds (2009) comes in second place regarding the quantity of citations. Mangold, W. G., and Faulds, D. J., who both co-authored the article, received 2,035 citations for it (Table 6).

Table 6  
Most cited publications

Rank	Document	Title of Paper	Citations
1	Kaplan A.M. (2010)	Users of the world, unite! The challenges and opportunities of Social Media	8528
2	Kietzmann J.H. (2011)	Social media? Get serious! Understanding The functional building blocks of social media	2605
3	Mangold W.G. (2009)	Social media: The new hybrid element of The promotion mix	2035
4	Xiang Z. (2010)	Role of social media in online travel information search	1769
5	Stieglitz S. (2013)	Emotions and information diffusion in social media—sentiment of microblogs and sharing behavior	969
6	Hanna R. (2011)	We're all connected: The power of The social media ecosystem	957
7	Whiting A. (2013)	Why people use social media: a use and gratifications approach	790
8	Bolton R.N. (2013)	Understanding Generation Y and their use of social media: a review and research agenda	721
9	Munar A.M. (2014)	Motivations for sharing tourism experiences through social media	635
10	Aral S. (2013)	Introduction to the special issue: social media and business transformation: a framework for research	621
11	He W. (2013)	Social media competitive analysis and text mining: A case study in the pizza industry	604
12	Wang X. (2012)	Social media peer communication and Impacts on purchase intentions: A consumer socialization framework	593
13	Berthon P.R. (2012)	Marketing meets Web 2.0, social media, and creative consumers: Implications for International Marketing Strategy	591
14	Godey B. (2016)	Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior	540
15	Hays S. (2013)	Social media as a destination marketing tool: its use by national tourism organisations	533
16	Rauniar R. (2014)	Technology acceptance model (TAM) and social media usage: an empirical study on Facebook	521
17	Gensler S. (2013)	Managing brands on social media environment	511
18	Kumar A. (2016)	From social to sale: The effects of firm-generated content in social media on customer behavior	502



Table 7  
Most cited journals

Rank	Journals	Documents	Citations	Total Link Strength
1	Business Horizons	25	16448	350
2	International Journal of Information Management	30	4067	114
3	Public Relations Review	56	3863	50
4	Journal Of Business Research	55	3125	189
5	Journal Of Interactive Marketing	18	3035	106
6	Information Systems Research	19	2212	64
7	Industrial Marketing Management	29	2181	166
8	Information And Management	25	2052	70
9	Technological Forecasting and Social Change	43	1784	112
10	Journal Of Retailing and Consumer Services	29	1741	99
11	Journal Of Management Information Systems	14	1563	25
12	Journal Of Research in Interactive Marketing	21	993	56
13	Journal Of Knowledge Management	13	917	34
14	Decision Support Systems	16	864	45
15	International Journal of Contemporary Hospitality Management	18	772	26
16	Technology In Society	26	646	39
17	Journal Of Business and Industrial Marketing	13	450	99
18	International Journal of Internet Marketing and Advertising	20	234	56
19	Journal Of Digital and Social Media Marketing	20	35	17
20	International Journal of Scientific and Technology Research	21	18	11

Table 8 and Figure 8 show the ranking of journals according to the number of publications. Public Relations Review emerged as the most productive journal with 56 articles despite being third in terms of citations. With 55 papers, the Journal of Business Research placed second. Technological Forecasting and Social Change ranked third with 43 documents. Among the top 20 most productive journals, the Journal of Business Research has the highest total link strength of 189.

Table 8

*Most productive journals*

Rank	Journals	Documents	Citations	Total Link Strength
1	Public Relations Review	56	3863	50
2	Journal Of Business Research	55	3125	189
3	Technological Forecasting and Social Change	43	1784	112
4	International Journal of Information Management	30	4067	114
5	Industrial Marketing Management	29	2181	166
6	Journal Of Retailing and Consumer Services	29	1741	99
7	Technology In Society	26	646	39
8	Business Horizons	25	16448	350
9	Information And Management	25	2052	70
10	Journal Of Research in Interactive Marketing	21	993	56
11	International Journal of Scientific and Technology Research	21	18	11
12	International Journal of Internet Marketing and Advertising	20	234	56
13	Journal Of Digital and Social Media Marketing	20	35	17
14	Information Systems Research	19	2212	64
15	Journal Of Interactive Marketing	18	3035	106
16	International Journal of Contemporary Hospitality Management	18	772	26
17	International Journal of Recent Technology and Engineering	18	15	10
18	Decision Support Systems	16	864	45
19	Journal Of Management Information Systems	14	1563	25
20	Journal Of Knowledge Management	13	917	34



Figure 6: Most productive journals

### Keyword analysis

Keyword analysis, sometimes referred to as co-word analysis, is a science mapping technique that is crucial for analyzing the content of publications (Donthu et al., 2021). A keyword's relevance to researchers can be inferred from how frequently it appears in publications. The keyword analysis was undertaken using the “author keyword” unit of analysis. A minimum threshold of 10 occurrences was set for the analysis to find the most frequently used keywords in the literature on social media. The criteria were met by 97 out of the 5,097 total keywords. A network visualization of the keywords is shown in Figure 4.7. The size of the nodes represents how frequently the corresponding words are used. The proximity of two words indicates how closely they are related. The thickness of the line connecting two keywords suggests the co-occurrence rate between those words. The thicker the line connecting two words, the more frequently they appear together (co-occur) in the publications.

Figure 7 also displays the density visualization map. Keywords with a high number of occurrences have more yellowish coloration, while those with fewer occurrences are closer to the blue regions on the map. From the map, the word “Social Media” appears to be the most important keyword used by scholars.

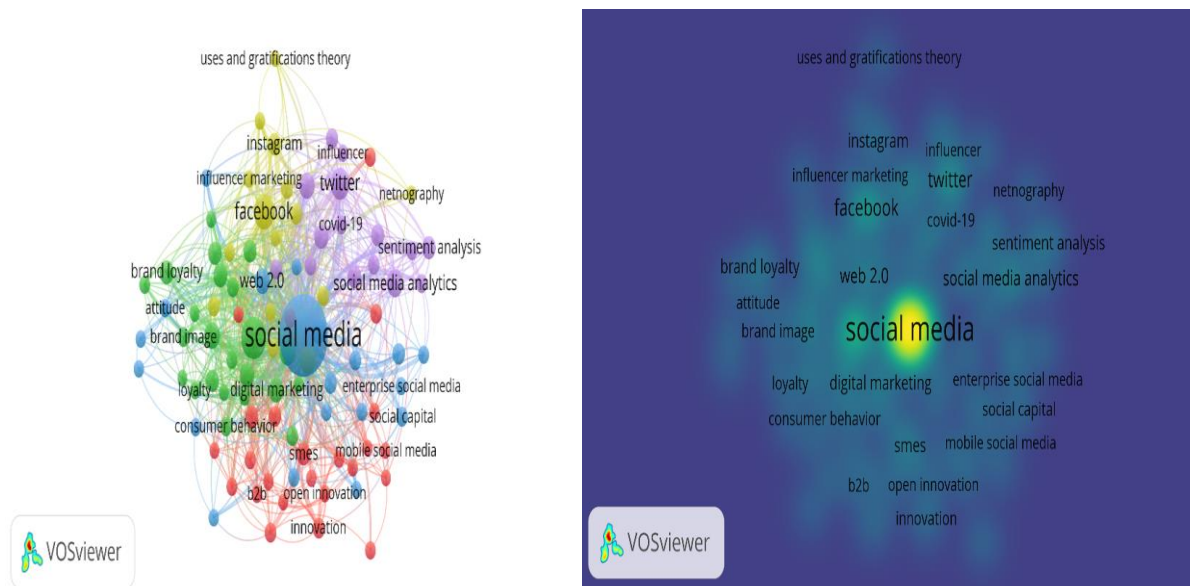


Figure 7: Network and density visualization maps of keywords

Table 9 lists the top 20 most occurring keywords with their respective number of occurrences and total link strength. As shown on the table, “Social Media” is the most frequently used keyword in the literature, appearing 1,363 times in the various articles. Following distantly is the word “Social Media Marketing”, with 172 occurrences and a total link strength of 114. Ranking third is “Facebook” with 96 occurrences. The highest link strength (64) exists between social media and Facebook. The implication is that these two words have the most excellent co-occurrence rate. Facebook ranks as the most widely used social media platform in the world. It is therefore not surprising that Facebook and social media have the highest co-occurrence rate.

Table 9  
Most occurring keywords

Rank	Keyword	Occurrences	Total Link Strength
1	Social Media	1363	524
2	Social Media Marketing	172	114
3	Facebook	96	135
4	Twitter	72	115
5	Social Media Analytics	49	42
6	Marketing	43	56
7	Customer Engagement	39	54
8	Engagement	39	50
9	Purchase Intention	39	47
10	Web 2.0	35	50
11	Digital Marketing	34	45
12	Trust	34	40
13	Communication	32	38
14	User-Generated Content	31	42
15	Brand Equity	30	41

Rank	Keyword	Occurrences	Total Link Strength
16	Brand Loyalty	30	36
17	Public Relations	28	36
18	SMEs	28	27
19	Social Media Advertising	28	12
20	Sentiment Analysis	26	34

### Discussion

This section discusses the key findings from the bibliometric analysis of the “Social Media” literature between 2000 and 2022. By taking into account the number of papers published each year and analyzing the trend in publications, the general research productivity in social media is discussed. Authors, institutions, countries, and publications are only some examples of the research constituents whose output would be discussed at.

As part of efforts of this study to look at the general trend of social media research using the Scopus database it was found that, research on social media over the years has received significant attention by authors globally therefore, there is increment in the number of papers that are published yearly on social media across disciplines. The most possible explanation for this could be that the world has finally come to accept that the tool has become part of human advancement, looking at the rate of reliance on it for every social engagement by people of all ages. This corroborates the view that social media research trends have shown a dynamic ecosystem with changing themes and contributions from all over the world, as intimated by Chen et al. (2019). As part of the goals of this study, the most influential and productive country in social media research was to be uncovered. The study at the end of its country-level analysis, found that the United States of America is the most influential, productive, and cited country in social media research. This finding is in agreement with studies such as (Gan & Wang, 2014; Akhtar et.al, 2023; Yumitro et.al, 2023). The study went ahead also to discover that the geographical nearness of countries does not necessarily create a strong collaborative advantage for authors.

As part of the intellectual structure of this study, there was a need to look at the institutional level analysis. Although the United States of America was found to be the most influential country in social media research, this achievement did not reflect in the institutional level analysis as the ESCP Business School in France was found to be the top higher education institution with the most citations in social media research. The Authorship and Co-authorship analysis also revealed that “Wang, Y” is the most productive author in social media research judging by the fact that this author alone has a lot of publications on social media and at the same time has collaborated a lot with other authors to produce scholarly documents on social media. This result contradicts the findings of Akhtar et.al (2023) and Yumitro et.al (2023), as these authors, in their separate studies, discovered different authors as the most productive in social media research. However, their findings could be linked to the fact that their studies were restricted to a particular discipline and social media use, unlike this current study which looked at the impact of social media research holistically.

Furthermore, the article “Users of the World, Unite! The opportunities and Challenges of social media,” co-authored by Kaplan A.M. and Haenlein, M in 2010, was found to be the publication with the most citations in social media research. Since this study aimed to look at the trends and impact of social media research over the years without necessarily limiting its

analysis to a particular Scopus-indexed Journal, it was also uncovered that the Journal called “Business Horizon” is the most cited journal in social media research. The Journal with the most significant number of papers on social media was the “Public Relations Review”. This result contradicts the findings of Akhtar et.al (2023), who found the Journal, “Management Science” as the most productive. This was the case because the author's research restricted its bibliometric study to the topic “social media and digital economy”.

In its entirety, this study looked at keyword analysis in social media research. It established that the keyword “social media” is used several times whenever searches are conducted on the concept. The most possible explanation for this could be that social media has become a household name therefore, people fail to use the synonymous names of the tool, such as “social networking sites,” “social platform”, “internet community” and others to conduct searches on the internet. People also fail to realize that using the name of a particular social media site like “Facebook” or “Twitter” can also bring out available information on social media. Accordingly, this result is consistent with Gan and Wang’s (2014) study. It was also discovered that studies focusing on “social media and Social Media Marketing” have dominated the social media literature over the period under review. Additionally, it was found that Facebook is ranked as the most widely used social media platform in the world, and this is not surprising looking at the impact it has made on the social, political, and economic lives of people globally.

### Conclusions

The objective of this study was to provide a bibliometric review of the state of literature in social media. This study is distinct from other reviews because it used the bibliometric analysis approach to examine the intellectual structure of research in social media in full. To achieve this objective, data on all relevant publications were collected from the Scopus database between 1941 and 2023. The VOSviewer software served as the data analysis tool for this study.

The data analysis is composed of performance analysis and Science mapping. While performance analysis looked at the individual contributions of the research constituents, science mapping examined the collaborative efforts between the research constituents. The study covered aspects such as the trend in publications or the yearly productivity of publications, most productive and influential countries, as well as the level of collaboration between the countries, most productive and influential authors, most dominant institutions, most cited publications, most productive and influential journals, and dominant themes emerging from the literature (using keyword analysis).

The summary of all the findings indicates that research on social media has received significant attention from scholars globally, with 2022 recording the highest number of publications.

### Limitations and future research opportunities

This study relied on only the Scopus database as the source of data. This may have limited the size of the data for the analysis since not all publications are captured by the Scopus database. Future researchers can employ other databases like Web of Science or a combination of them to expand the scope of the data. Moreover, a similar study could be carried out solely using data from a different database for comparison.

The study also discovered scant literature on Social Media research among African scholars. This is evidenced by only one African country (South Africa) made it to the top 20

leading countries. Given this gap in the literature, African scholars are encouraged to produce more publications on the subject matter to help contribute to the literature and also provide varying perspectives on social media research.

Future researchers could also explore social media's impact on nations' economic growth. A bibliometric analysis can also be conducted on the relationship between social media and students' academic performance. Literature has been dominated by studies in this area, and it is crucial that a bibliometric review is undertaken to map out the intellectual structure of research to provide relevant insights and also point out further gaps in the literature.

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