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Insights and Influencers: A Decade of Social Media Marketing Research Revealed Through Bibliometrics

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Abstract: Social media marketing employs channels like Twitter, Facebook, Instagram, and YouTube for purposes such as advertising, customer interaction, sales, and fostering connections with the target audience. A notable gap in prior research within the Scopus database prompted this investigation, employing a bibliometric analysis focused on "(social media marketing OR social media strategy OR social media management OR social media platforms OR social media trends or social media contest OR social media analytics)." Adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, we scrutinized relevant articles on Scopus from 2013 to November 2023, revealing insights from 1,198 articles. The review findings demonstrate that the number of articles devoted to the study of social media and social media marketing has increased exponentially in recent years. More importantly, the research identifies some of the most influential studies in this area. The paper discusses trends and highlights the challenges related to social media platforms and marketing. To the authors' knowledge, this represents the first study to review the literature from leading journals on social media platforms in marketing using bibliometric techniques. Furthermore, lays the foundation for future research, guiding scholars to less-explored areas and fostering potential collaborations, thereby enhancing the depth of understanding in this domain.

Keywords: social media; platforms; marketing; bibliometric analysis; Scopus database.

JEL classification: M30; M31; M39; O3.

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1. INTRODUCTION

The convergence of digital platforms and marketing strategies has given birth to a dynamic paradigm termed "digital marketing" encompassing various components, including social media marketing (Wymbs, 2011; Key, 2017; Faruk *et al.*, 2021; Madan and Rosca, 2022). This paradigm signifies a revolutionary shift in how businesses promote and engage with their target audiences, capitalizing on digital channels' extensive outreach and interactive potential (Wymbs, 2011; Wang, 2021; Madan and Rosca, 2022). Social media marketing has become an essential component of modern marketing strategies, offering a platform for businesses to engage with their target audience and promote their products and services (Sharma and Verma, 2018). The success factors and best practices of social media marketing have been extensively explored, providing valuable insights into its multi-dimensional and multi-criteria framework (Jami Pour *et al.*, 2021). Furthermore, the adoption of social media marketing by small and medium enterprises (SMEs) has been influenced by various factors, shedding light on the significance of this marketing approach for businesses of all sizes (Dahnil *et al.*, 2014). Additionally, large global organizations have assessed the strategic adoption of social media, emphasizing its role as a crucial channel for advertising and marketing communications (Zhang and Mao, 2016).

Social media marketing involves using various social networks and platforms such as Twitter, Facebook, Instagram, and YouTube for advertising, customer interaction, sales, and building relationships with the target market (Jami Pour *et al.*, 2021). The popularity of digital platforms has led to a significant increase in social media users, with estimates reaching 447.9 million users by the end of 2023, highlighting the extensive reach of social media (Fresneda and Chandrashekaran, 2021). Social media marketing encompasses using social media platforms for marketing, sales, public relations, and customer service delivery (Bilgin, 2018). It has been emphasized that social media marketing activities are significant for branding actions, contributing to brand awareness, image, and loyalty (Li *et al.*, 2021). Despite the vast opportunities social media offers to companies, there is no clear definition or comprehensive framework to guide the integration of social media with marketing strategies (Al-Gasawneh *et al.*, 2023).

Furthermore, social media has been widely used for marketing to facilitate communication between manufacturers, marketers, and consumers (Emini and Zeqiri, 2021). The impact of social media marketing on brand awareness, purchase intention, and brand loyalty has been investigated, highlighting its relevance in influencing consumer behavior and perceptions (Sadli *et al.*, 2022; Sumague and Briones, 2022). Additionally, social media marketing has positively impacted customer perceptions and engagement, contributing to brand loyalty and image building (Muchardie *et al.*, 2016). Social media marketing has emerged as a powerful tool for businesses, enabling communication, brand promotion, and influencing consumer behavior.

Consumer attitudes toward social media and targeted advertising have been studied extensively, highlighting the impact of social media marketing on purchase intention and consumer behavior (Golob *et al.*, 2022; Sianturi *et al.*, 2022). Moreover, the utilization of social media as a marketing strategy for SMEs has been explored, emphasizing its role in enhancing the performance of millennial SMEs (Widyaningrum, 2016; Himelboim *et al.*, 2017). The influence of the family environment, entrepreneurial orientation, and the use of

social media marketing on the performance of SMEs has been investigated, underscoring the interconnectedness of these factors in driving business success (Himelboim *et al.*, 2017).

The development of digital marketing strategies and service quality using social media has been recognized as integral to the digital economy, emphasizing the inseparable nature of social media from an organization's integrated marketing strategy (Koesharijadi *et al.*, 2022). Furthermore, the role of social media influencers in promoting and reviewing products has been acknowledged, indicating the growing significance of influencer marketing within social media marketing (Stubb *et al.*, 2019; Sun, 2021). The impact of e-marketing and social media marketing on e-commerce shopping decisions has been studied, demonstrating the pivotal role of these strategies in shaping consumer behavior and purchase decisions (Priansa and Suryawardani, 2020). These interconnected concepts underscore the evolutionary trajectory of contemporary marketing, necessitating adept maneuvering of digital pathways to realize organizational goals within an increasingly interconnected global context.

Aware of the growing interest in social media marketing, several studies analyzing scientific production on "social media marketing" research have already been published (Goldie *et al.*, 2014; Noor *et al.*, 2020; Chaudhari and Pawar, 2021). However, no previous research was performed to map the "(social media marketing OR social media strategy OR social media management OR social media platforms OR social media trends or social media contest OR social media analytics)" production in the Scopus (SC) database. Hence, this investigation deviates from other literature reviews that focus on global academic research trends in the relevant field from 2013 to November 2023, specifically utilizing the SC database. The aim is to address a gap in scientific literature, aspiring to provide a thorough bibliometric analysis encompassing the most prolific countries, academic institutions, authors, and journals. Additionally, the study seeks to identify articles with the highest citation numbers, analyze the co-citation network of authors and papers, and determine hot keywords along with their occurrences. The primary contributions and objectives of this bibliometric analysis can be succinctly outlined as follows:

1) To identify the annual growth trends in scientific publications and citations within the "social media" research.

2) To assess the overall performance of the field by pinpointing prominent countries, academic institutions, journals, and authors contributing to social media literature.

3) To identify key themes and keywords that recurrently emerge in social media research, shedding light on the most prevalent topics within the field.

4) To highlight the most-cited review articles, offering valuable insights for future studies and research directions in the social media domain.

The structure of this research is as follows: Section 2 outlines the methodology employed in this study. Section 3 is concerned with findings and discussions. Section 4 provides concise and comprehensive conclusions. Finally, Section 5 presents the study's limitations and potential future directions.

2. METHODS

The study aims to provide a systematic and bibliometric literature review and a visualized overview of the existing articles (Alsharif *et al.*, 2022b; Yao *et al.*, 2022). This study followed the guidelines outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol of Page *et al.* (2021) to assess and study the

literature, which corresponds with the objectives of this study. Employing a bibliometric analysis approach, the study aimed to uncover and examine global research trends within the "(social media marketing OR social media strategy OR social media management OR social media platforms OR social media trends or social media contest OR social media analytics)" research. This comprehensive investigation encompassed the analysis of various facets, including the most productive countries, academic institutions, journals, authors, highly cited articles, and keyword occurrences, all serving as critical indicators for assessing the progress in scholarly publications within this domain.

The fundamental aim of this study was to offer a comprehensive insight into the ongoing trends in pertinent research, addressing gaps present in the current body of literature. In pursuit of this objective, four specific research questions were formulated, strategically guiding the analysis structure and aiming to attain a profound understanding of the existing scientific research within the examined domain. These research questions were meticulously crafted to illuminate crucial areas of interest, contributing to the advancement of knowledge in the relevant field, outlined as follows:

1) Is there an annual growth in scientific publications in the field, and if so, what is its magnitude?
2) Which countries, academic institutions, journals, and authors stand out prominently in the field?
3) What are the most notable keywords found in the selected articles?
4) Which articles receive the highest number of citations in the field?

Endeavoring to answer the research questions, the current study starts by extracting articles from the Scopus database in November 2023. This study has followed the instruction of Donthu *et al.* (2021); Alsharif *et al.* (2023e) to present a thorough bibliometric analysis detecting and listing "the prominent countries, institutions, journals, and authors"; later on, a brief description of each analyzed parameter is provided. In addition, this study followed the instructions of Ahmed (2022); Alsharif *et al.* (2023b) to systematically review the relevant articles. The VOSviewer software was utilized to create visualization maps, which simplifies bibliometric research across various fields (Koseoglu *et al.*, 2016; Alsharif *et al.*, 2020b; Palácios *et al.*, 2021; Pilelienė *et al.*, 2022). VOSviewer has been used in several studies such as neuromarketing (Sánchez-Fernández *et al.*, 2021; Alsharif and Pilelienė, 2023; Alsharif *et al.*, 2023c; Alsharif *et al.*, 2023e) that use neuroscience tools to study consumer behavior (Alsharif *et al.*, 2020a; Alsharif *et al.*, 2022a; Alsharif *et al.*, 2023d), digital marketing (Zhang *et al.*, 2017; Faruk *et al.*, 2021; Krishen *et al.*, 2021), social media marketing (Goldie *et al.*, 2014; Noor *et al.*, 2020; Chaudhari and Pawar, 2021; Joshi *et al.*, 2023), E-marketing (Gao *et al.*, 2021), and mobile marketing (Hussain and Aziz, 2022) to gain a comprehensive understanding of the development of using neuroimaging tools in this field.

The following query was applied to the title, abstract, and keywords: "TITLE-ABS-KEY (social AND media AND marketing OR social AND media AND strategy OR social AND media AND management OR social AND media AND platforms OR social AND media AND trends OR social AND media AND contest OR social AND media AND analytics) AND (LIMIT-TO (PUBYEAR , 2013) OR LIMIT-TO (PUBYEAR , 2014) OR LIMIT-TO (PUBYEAR , 2015) OR LIMIT-TO (PUBYEAR , 2016) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2023)) AND (LIMIT-TO (OA , "all")) AND (

LIMIT-TO (LANGUAGE , “English”)) AND (LIMIT-TO (DOCTYPE , “ar”)) AND (LIMIT-TO (SRCTYPE , “j”)) AND (LIMIT-TO (PUBSTAGE , “final”))”.

In November 2023, data was meticulously collected from the Scopus database for this rigorous study. The primary focus was on articles and reviews focusing on “(social media marketing OR social media strategy OR social media management OR social media platforms OR social media trends or social media contest OR social media analytics)” research. This study specifically targeted articles published between 2013 and November 2023, as there has been a noticeable surge in the number of publications related to these domains within this time frame. Additionally, the selection process was constrained to English articles, given the widespread use of the English language in academic publishing (e.g., Spanish (11 articles), Russian (9), Portuguese (5), Croatian (1), Ukrainian (1), Hungarian (1), German (1) were excluded). The objective of this study was to gather an extensive collection of articles to explore and highlight the global academic trends in the relevant research. Figure no. 1 visually depicts the systematic selection process employed in this study.

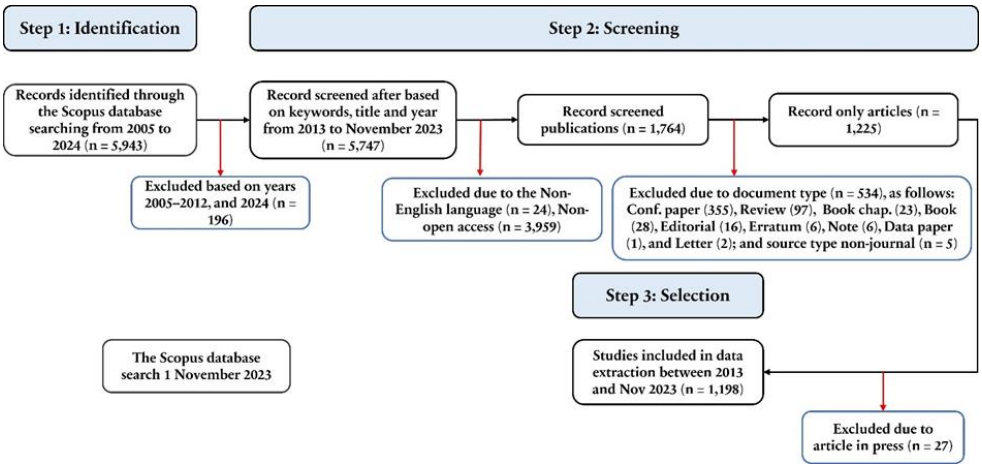

Figure no. 1 – An overview of the literature review and flow chart of selecting articles process
Source: own elaboration

3. RESULTS AND DISCUSSIONS

The examination of the methodology resulted in the identification of 1,198 scholarly journal articles pertaining to themes such as “social media marketing,” “social media strategy,” “social media management,” “social media platforms,” “social media trends,” “social media contest,” and “social media analytics.” The analysis underscored a significant proliferation in scholarly publications, with more than 60% of the total articles (798 documents) being disseminated in the past four years, spanning from 2020 to November 2023. Figure no. 2 provides a graphical representation of annual and cumulative publications and annual citations from 2013 to November 2023. The escalating interest among academics in this research domain has precipitated an upswing in both scholarly publications and scholarly attention to social media marketing research.

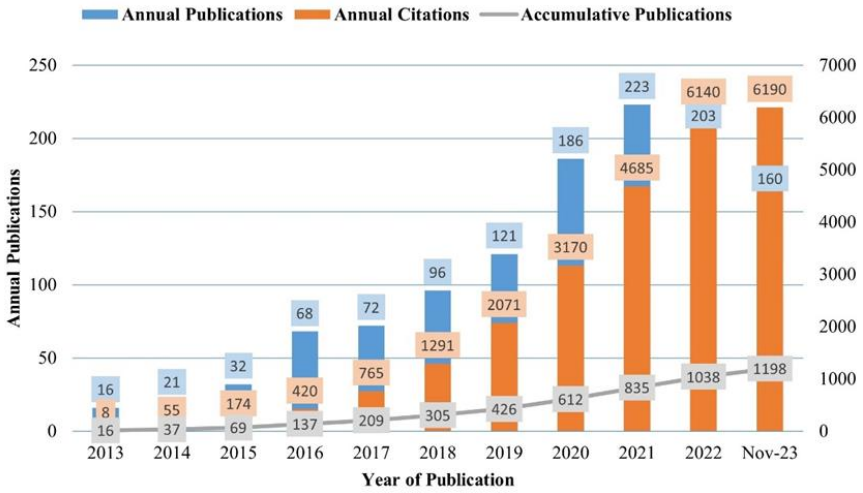

Figure no. 2 – The annual publications and citations between 2013 and November 2023
Source: own elaboration

3.1 A bibliometric analysis

3.1.1 Contributions of countries and institutions

The analysis conducted in this study reveals that countries exhibit a significant presence, with a minimum of 20 articles. The data presented in Table no. 1 provides a comprehensive overview of the findings, demonstrating that the combined contributions of the U.S.A, the U.K, and India contributed more than 50% (700 articles) of the total publications since 2013. The U.S.A is the most prominent country, producing a remarkable total of 366 articles, with the highest-cited documents (7851 citations). "Purdue University" has published 17 articles with 170 citations, whereas the "Indian Institute of Technology Delhi" published the highest-cited articles (10 articles and 914 citations). Although Canada has published 81 articles with 1839 citations, an institute, the "University of Toronto," emerged as the leading academic institution, contributing 18 documents that have received 262 citations. Finally, with 20 published articles, Hong Kong is positioned at the lower end among the most prominent countries, and its notable academic institution, the "The Hong Kong Polytechnic University," has contributed five articles to the body of research.

Table no. 1 – The top prominent countries with a minimum of 20 articles.

#	Country	TPs	TCs	The prominent institution	TPi	TCi
1	U.S.A	366	7851	Purdue University	17	170
2	U.K	212	6553	University of Oxford	15	237
3	India	122	2079	Indian Institute of Technology Delhi	10	914
4	Australia	119	2652	The University of Sydney	16	431
5	China	82	1702	Tsinghua University	8	142
6	Canada	81	1839	University of Toronto	18	262

#	Country	TPs	TCs	The prominent institution	TPi	TCi
7	Germany	59	1587	Fraunhofer Institute for Intelligent Analysis and Information Systems	5	147
8	Italy	50	1062	Politecnico di Milano	8	149
9	K.S.A	47	719	King Abdulaziz University	13	343
10	Spain	47	786	Universidad Complutense de Madrid	8	80
11	Malaysia	40	849	Universiti Teknologi MARA	10	11
12	Netherlands	34	1161	Universiteit van Amsterdam	6	345
13	Greece	28	333	Lonian University	5	113
14	Switzerland	28	500	ETH Zürich	4	70
15	France	26	565	Centre National de la Recherche Scientifique	4	25
16	South Korea	25	540	Sungkyunkwan University	4	133
17	Sweden	23	706	The Ratio Institute	8	349
18	Pakistan	22	381	Quaid-i-Azam University	4	53
19	Indonesia	21	354	Bina Nusantara University	4	10
20	U.A.E	21	677	Zayed University	7	321
21	Finland	20	258	Tampere University	8	85
22	Hong Kong	20	580	The Hong Kong Polytechnic University	5	30

Note: TPs: total publication, TCs: total citations, Tpi: total publication by the institute, Tci: total citations of the institute

Source: own elaboration

Table no. 2 illustrates the most cited articles published by institutes. For example, "Indian Institute of Technology Delhi" published the most cited article, "Measuring social media influencer index- insights from Facebook, Twitter and Instagram," with 262 TCmci. This is followed by an article titled "A Big Data Analytics Method for Tourist Behaviour Analysis," with 251 TCmci, published by Zayed University. Finally, Universiti Teknologi MARA published the least cited paper in the list with three TCmci, a paper titled "Visualization of job availability based on text analytics localization approach."

Table no. 2 – The top most cited paper published by institutions.

The prominent institution	Title of the most cited paper published by an institution	Year	TCmci
Purdue University	"VisOHC: Designing Visual Analytics for Online Health Communities"	2016	29
University of Oxford	"Live Streamers on Twitch.tv as Social Media Influencers: Chances and Challenges for Strategic Communication"	2019	54
Indian Institute of Technology Delhi	"Measuring social media influencer index- insights from Facebook, Twitter and Instagram"	2019	262
The University of Sydney	"Use of social media in urology: Data from the American Urological Association (AUA)"	2014	122
Tsinghua University	"A research framework for pharmacovigilance in health social media: Identification and evaluation of patient adverse drug event reports"	2015	48
University of Toronto	"Data sharing practices of medicines related apps and the mobile ecosystem: Traffic, content, and network analysis"	2019	95
Fraunhofer Institute for Intelligent Analysis and Information Systems	"Supporting Story Synthesis: Bridging the Gap between Visual Analytics and Storytelling"	2020	50
Politecnico di Milano	"Understanding panic buying during COVID-19: A text analytics approach"	2021	43

Note: TCmci: total citations of the most-cited institute paper

King Abdulaziz University	"Artificial intelligence technologies and related urban planning and development concepts: How are they perceived and utilized in Australia?"	2020	81
Universidad Complutense de Madrid	"Daily market news sentiment and stock prices"	2019	35
Universiti Teknologi MARA	"Visualization of job availability based on text analytics localization approach"	2019	3
Universiteit van Amsterdam	"Scraping the social?: Issues in live social research"	2013	172
Lonian University	"Text mining in big data analytics"	2020	107
ETH Zürich	"Crowdbreaks: Tracking health trends using public social media data and crowdsourcing"	2019	33
Centre National de la Recherche Scientifique	"Acquiring, Analyzing and Interpreting Knowledge Data for Sustainable Engineering Education: An Experimental Study Using YouTube"	2022	16
Sungkyunkwan University	"The effects of visual congruence on increasing consumers' brand engagement: An empirical investigation of influencer marketing on Instagram using deep-learning algorithms for automatic image classification"	2020	79
The Ratio Institute	"The sharing economy in social media: Analyzing tensions between market and non-market logics"	2017	113
Quaid-i-Azam University	"Towards Deep Learning Prospects: Insights for Social Media Analytics"	2019	32
Bina Nusantara University	"Personality Prediction Based on Text Analytics Using Bidirectional Encoder Representations from Transformers from English Twitter Dataset"	2021	4
Zayed University	"A Big Data Analytics Method for Tourist Behaviour Analysis"	2017	251
Tampere University	"JeSuisCharlie: Towards a multi-method study of hybrid media events"	2016	42
The Hong Kong Polytechnic University	"Social media mining under the COVID-19 context: Progress, challenges, and opportunities"	2022	16

Source: own elaboration

3.1.2 Contributions of journals

Table no. 3 provides a comprehensive overview of the principal scholarly journals that have made substantial contributions to the realms of "social media marketing," "social media strategy," "social media management," "social media platforms," "social media trends," "social media contest," and "social media analytics" research. Among these journals, "IEEE Access" and "Journal of Medical Internet Research" are the most influential journals in the field, publishing 34 articles each and amassing 920 and 915 TCs, respectively. "Information" journal has published the least articles, with ten articles and 41 TCs.

In addition, the "Journal of Big Data," with 15.1 CS, has published the highest-cited article titled "Uncertainty in big data analytics: survey, opportunities, and challenges," totaling 245 TCmcJ. Followed by "IEEE Access," with 8.9 CS, and the second-highest-cited paper, "CityPulse: Large Scale Data Analytics Framework for Smart Cities," totaling 177 TCmcj. In addition, the "IEEE Transactions on Visualization and Computer Graphics" journal, with 9.4 CS, produced the third-highest-cited article, "Personal visualization and personal visual analytics," which occupied 172 cTCmcj. At the end, "Information" journal published the least cited article, titled "Digital memory in the post-witness era: How holocaust museums use social media as new memory ecologies," with 15 TCmcj.

Table no. 3 – The productive journals with 15 publications at least.

#	Journal	TPs	TCs	CS 23	Title of the most cited document published by a journal	TCmcj
1	IEEE Access	34	920	8.9	"CityPulse: Large Scale Data Analytics Framework for Smart Cities"	177
2	Journal of Medical Internet Research	34	915	13.5	"Conversations and medical news frames on twitter: Infodemiological study on COVID-19 in South Korea"	162
3	Plos One	23	501	5.8	"Spatial and social media data analytics of housing prices in Shenzhen, China"	78
4	Sustainability	21	255	6.2	"Identifying tourist places of interest based on digital imprints: Towards a sustainable smart City"	78
5	Big Data and Society	16	457	10.1	"Known or knowing publics? Social media data mining and the question of public agency"	98
6	International Journal of Environmental Research and Public Health	16	166	6.6	"Covid-19: Detecting government pandemic measures and public concerns from twitter Arabic data using distributed machine learning"	48
7	International Journal of Advanced Computer Science and Applications	15	74	2.1	"Arabic Tweets Sentiment Analysis about Online Learning during COVID-19 in Saudi Arabia"	19
8	JMIR Formative Research	15	45	2.5	"Nursing Perspectives on the Impacts of COVID-19: Social Media Content Analysis"	16
9	Social Network Analysis and Mining	14	243	4.8	"Customer segmentation using online platforms: isolating behavioral and demographic segments for persona creation via aggregated user data"	84
10	IEEE Transactions on Visualization and Computer Graphics	12	376	9.4	"Personal visualization and personal visual analytics"	172
11	Journal of Big Data	12	488	15.1	"Uncertainty in big data analytics: survey, opportunities, and challenges"	245
12	Social Media and Society	10	478	8.1	"Classifying Twitter Topic-Networks Using Social Network Analysis"	160
13	Applied Sciences	10	106	4.7	"Sehaa: A big data analytics tool for healthcare symptoms and diseases detection using twitter, apache spark, and machine learning"	65
14	Electronics	10	60	4.7	"Fake news data exploration and analytics"	28
15	Information	10	41	6.0	"Digital memory in the post-witness era: How holocaust museums use social media as new memory ecologies"	15

Note: CS23; CiteScore in 2023, TCmcj: total citations of the most-cited journal paper
Source: own elaboration

3.1.3 Contributions of authors

Table no. 4 provides an exhaustive examination of the most prolific contributors in the realms of "social media marketing," "social media strategy," "social media management," "social media platforms," "social media trends," "social media contest," and "social media

analytics" research. The criteria for this scrutiny involved identifying highly productive authors producing a minimum of five articles for inclusion.

Yigitcanlar, T., affiliated with the Queensland University of Technology, Australia, emerges as the most prolific author, having authored 11 articles with a total of 429 TCs. On the other end of the productivity spectrum, Sykora, M., associated with Loughborough University, the U.K, stands as the least productive author, contributing five articles and accumulating 76 TCs. Dwivedi, Y.K., from Swansea University, the U.K, is identified as the most impactful author, with a total citation count of 620 TCs.

Furthermore, three selected authors, namely Dwivedi, Y.K., Wang, X., and Sykora, M., are affiliated with distinct the U.K. institutions, collectively producing 18 articles with a cumulative total of 1024 TCs. Two authors affiliated with Australian institutes, Yigitcanlar, T. (Queensland University of Technology), Slabbert, A.D. (Cape Peninsula University of Technology), and Vu, H.Q. (Deakin University), have jointly contributed 16 articles, amassing 738 TCs. Similarly, two authors associated with Swedish institutions, Laurell, C. (Einride, Stockholm), and Sandström, C. (Jönköping International Business School), have collaborated on 15 articles, accumulating 758 TCs.

In summation, authors affiliated with the U.K institutions are identified as the most influential, followed closely by authors affiliated with Swedish institutions.

Table no. 4 – The most productive authors with a minimum of five articles

#	Author's name	SC ID	TPs	TCs	Affiliation	Country
1	Yigitcanlar, T.	6505536041	11	429	Queensland University of Technology	Australia
2	Laurell, C.	56148137600	9	420	Einride, Stockholm	Sweden
3	Dwivedi, Y.K.	35239818900	8	680	Swansea University	U.K.
4	Kankanamge, N.	57207298965	8	365	University of Moratuwa	Sri Lanka
5	Mehmood, R.	25643246000	7	282	HITEC University	Pakistan
6	Bir, C.	57195335359	6	55	Oklahoma State University	U.S.A.
7	Kar, A.K.	55911169300	6	615	Indian Institute of Technology Delhi	India
8	Sandström, C.	35118164800	6	338	Jönköping International Business School	Sweden
9	Vu, H.Q.	36081495000	5	309	Deakin University	Australia
10	Wang, X.	55736800500	5	268	University of Birmingham	U.K.
11	Andrienko, G.	6603717488	5	147	Fraunhofer Institute for Intelligent Analysis and Information Systems	Germany
12	Katib, I.	26534538800	5	182	King Abdulaziz University	K.S.A.
13	Sykora, M.	15061787500	5	76	Loughborough University	U.K.

Note: SC; Scopus

Source: own elaboration

3.1.4 Keywords occurrences network

In bibliometric analysis, keyword occurrences are a crucial quantitative metric, providing insights into the strength of associations between paired keywords (Alsharif *et al.*, 2023c). A higher frequency of occurrence signifies a stronger connection between keywords. This analytical approach facilitates a comprehensive understanding of the article's content (Alsharif *et al.*, 2020a). The strength of linkage between keywords reflects their frequency within the article, while the overall number of links represents the total occurrences of keywords throughout the article.

In this study, an exhaustive examination of co-occurring author keywords was conducted using the widely employed VOSviewer software for bibliometric analysis (Alsharif *et al.*, 2020b; Alsharif *et al.*, 2023a). To construct the keyword co-occurrence network, we applied preprocessing and adjustments to the original keywords when necessary, amalgamating similar terms such as "social media marketing," "social media strategy," "social media management," "social media platforms," "social media trends," "social media contest," and "social media analytics." Following data refinement procedures, we established the threshold for keyword co-occurrence at a minimum of five occurrences and a maximum of 400 lines in VOSviewer, generating a visualization of the co-occurrence network content. As depicted in Figure no. 3, the analysis revealed nine clusters, with 131 nodes appearing in the network. Each node in the visualization represents a keyword, and the size of the node is proportional to the frequency of the keyword in the reviewed literature; larger nodes denote a higher occurrence frequency of keyword co-occurrence. Keywords that commonly co-occur are positioned in close proximity in the network, resulting in the arrangement of all authors' keywords into nine clusters with varying levels of significance. Cluster 1 (34 items), Cluster 2 (25 items), Cluster 3 (20 items), Cluster 4 (12 items), Cluster 5 (12 items), Cluster 6 (10 items), Cluster 7 (8 items), Cluster 8 (5 items), Cluster 9 (5 items).

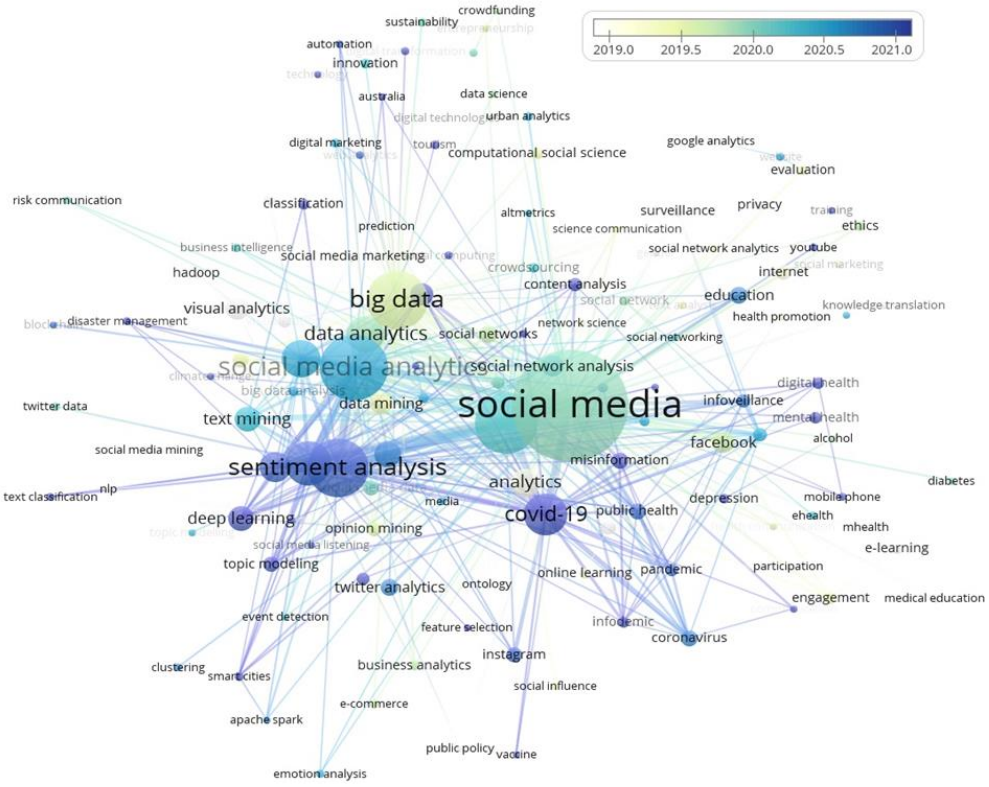

Figure no. 3 – Map of authors' keywords with five occurrences at least
Source: own elaboration

Table no. 5 – The Co-word author analysis with a minimum of three co-words

Word	Co-word analysis	Number of co-words
Social	*Cluster 1:* Social media, social marketing, social network analytics, social networking *Cluster 2:* Computational social science, social media analytics, social media marketing *Cluster 3:* Social media analysis, social media data, social media listening, social media mining *Cluster 4:* Social networks *Cluster 6:* Social computing, social network, social network analysis *Cluster 8:* social influence	16
Analytics	*Cluster 1:* Google analytics, social network analytics *Cluster 2:* Social media analytics, urban analytics, web analytics *Cluster 3:* Big data analytics, predictive analytics *Cluster 5:* Text analytics, visual analytics *Cluster 6:* Learning analytics *Cluster 7:* Business analytics, twitter analytics *Cluster 8:* Analytics *Cluster 9:* Data analytics	14
Media	*Cluster 1:* Social media *Cluster 2:* Social media analytics, social media marketing *Cluster 3:* social media analysis, social media data, social media listening, social media mining *Cluster 9:* Media	8
Analysis	*Cluster 1:* Text analysis *Cluster 3:* Big data analysis, social media analysis *Cluster 5:* Sentiment analysis *Cluster 6:* Network analysis, social network analysis *Cluster 8:* Content analysis, emotion analysis	8
Social Media	*Cluster 1:* Social media *Cluster 2:* Social media analytics, social media marketing *Cluster 3:* social media analysis, social media data, social mediat listening, social media mining	7
Digital	*Cluster 1:* Digital health *Cluster 2:* Digital marketing, digital technologies, digital transformation	4
Platform	*Cluster 1:* YouTube, Facebook, *Cluster 8:* Instagram *Cluster 6:* Twitter	4
Marketing	*Cluster 1:* Social marketing *Cluster 2:* Digital marketing, social media marketing	3

Source: own elaboration

3.1.5 Citations Analysis

The citation analysis plays a crucial role in understanding global academic trends within specific fields (Alsharif *et al.*, 2022c), such as "social media marketing," "social media strategy," "social media management," "social media platforms," "social media trends," "social media contest," and "social media analytics" research, as it offers the most impactful articles in the field. This information is important for future researchers who are seeking to identify influential documents. In this study, we selected and analyzed 1,198 articles in the relevant field. We specifically focused on identifying the most cited articles, with a minimum

of 150 TCs. It can classify Table no. 6 into three clusters, as follows: Cluster (1) three articles with more than 300 citations; Cluster (2) five articles with citations between 200-300; and Cluster (3) fourteen articles with citations between 150-200.

As tabulated in Table no. 6, the article's titled "Social media analytics – Challenges in topic discovery, data collection, and data preparation" is the most cited article, with 463 citations, published in "International Journal of Information Management" and written by Stieglitz *et al.* (2018). on the opposite side of spectrum, "A survey of text mining in social media: Facebook and Twitter perspectives" is the least cited article in the list, with 151 citations, published in "Advances in Science, Technology and Engineering Systems" journal and written by Salloum *et al.* (2017).

Table no. 6 – The top cited document with a minimum of 151 citations

#	Title of paper	TCs	Journal	Reference
	Cluster 1			
1	"Social media analytics – Challenges in topic discovery, data collection, and data preparation"	463	International Journal of Information Management	(Stieglitz *et al.*, 2018)
2	"Virality prediction and community structure in social networks"	414	Scientific Reports	(Weng *et al.*, 2013)
3	"Social media analytics: a survey of techniques, tools and platforms"	379	AI and Society	(Batrinca and Treleaven, 2015)
	Cluster 2			
4	"COVID-19 infodemic: More retweets for science-based information on coronavirus than for false information"	266	International Sociology	(Pulido *et al.*, 2020)
5	"Measuring social media influencer index-insights from facebook, Twitter and Instagram"	262	Journal of retailing and consumer services	(Arora *et al.*, 2019)
6	"Tutorial: Big data analytics: Concepts, technologies, and applications"	255	Communications of the Association for Information Systems	(Watson, 2014)
7	"A Big Data Analytics Method for Tourist Behaviour Analysis"	251	Information and Management	(Miah *et al.*, 2017)
8	"Uncertainty in big data analytics: survey, opportunities, and challenges"	245	Journal of Big Data	(Hariri *et al.*, 2019)
	Cluster 3			
9	"Big data emerging technology: Insights into innovative environment for online learning resources"	184	International Journal of Emerging Technologies in Learning	(Huda *et al.*, 2018)
10	"Constructing a Data-Driven Society: China's Social Credit System as a State Surveillance Infrastructure"	183	Policy and Internet	(Liang *et al.*, 2018)
11	"CityPulse: Large Scale Data Analytics Framework for Smart Cities"	177	IEEE Access	(Puiu *et al.*, 2016)
12	"Social media data analytics to improve supply chain management in food industries"	176	Transportation Research Part E: Logistics and Transportation Review	(Singh *et al.*, 2018)
13	"Personal visualization and personal visual analytics"	172	IEEE Transactions on Visualization and Computer Graphics	(Huang *et al.*, 2014)
14	"Scraping the social?: Issues in live social research"	172	Journal of Cultural Economy	(Marres and Weltevrede, 2013)

#	Title of paper	TCs	Journal	Reference
15	"Conversations and medical news frames on twitter: Infodemiological study on COVID-19 in South Korea"	162	Journal of Medical Internet Research	(Park *et al.*, 2020)
16	"Semi-supervised learning for big social data analysis"	162	Neurocomputing	(Hussain and Cambria, 2018)
17	"Classifying Twitter Topic-Networks Using Social Network Analysis"	160	Social Media and Society	(Himelboim *et al.*, 2017)
18	"Mapping Cilento: Using geotagged social media data to characterize tourist flows in southern Italy"	158	Tourism Management	(Chua *et al.*, 2016)
19	"Effects of user-provided photos on hotel review helpfulness: An analytical approach with deep leaning"	154	International Journal of Hospitality Management	(Ma *et al.*, 2018)
20	"Polarization and acculturation in US Election 2016 outcomes – Can twitter analytics predict changes in voting preferences"	151	Technological Forecasting and Social Change	(Grover *et al.*, 2019)
21	"The Audience-Oriented Editor: Making sense of the audience in the newsroom"	151	Digital Journalism	(Ferrer-Conill and Tandoc, 2018)
22	"A survey of text mining in social media: Facebook and Twitter perspectives"	151	Advances in Science, Technology and Engineering Systems	(Salloum *et al.*, 2017)

Source: own elaboration

3.1.6 Article co-citation network

A co-citation network analysis, which is an integral form of co-citation analysis, is a method rooted in work of Small (1973). Small proposed exploring the network of co-cited references, where the fundamental units are articles and co-citation clusters represent the underlying intellectual structures of a particular field. Following the approach advocated by Chen *et al.* (2010), the examination of article co-citation facilitates the interpretation of the nature of cited articles within a cluster and the connections between clusters. This study aimed to employ article co-citation analysis to uncover the structure of significant contributions in the research domains of "social media marketing," "social media strategy," "social media management," "social media platforms," "social media trends," "social media contest," and "social media analytics."

The results, illustrated in Figure no. 4 derived from VOSviewer, showcase the article co-citation network. Notably, co-cited articles are linked by thick arcs, indicating a robust relationship and suggesting similarities in specific topics within the realm of "social media marketing," "social media strategy," "social media management," "social media platforms," "social media trends," "social media contest," and "social media analytics." Conversely, slender arcs indicate a feeble co-citation association among co-cited articles, implying an absence or weakness of content similarities (Alsharif *et al.*, 2021). For instance, the robust co-citation link represented by a thick arc between Chae (2015) and Dwivedi *et al.* (2015) suggests a strong relationship, indicating shared ideas or related concepts. A parallel pattern is evident between Fan and Gordon (2014) and Xiang *et al.* (2017). In contrast, the frail arc connecting Fan and Gordon (2014) and Stieglitz *et al.* (2014) signifies a weak co-citation strength, highlighting a lack of content similarities (Ahmed, 2021). With a citation threshold set at a minimum of five citations per article, Figure no. 4 displays only 87 nodes, representing the most co-cited articles in the co-citation network. The node radius provides insight into its

total link strength, the sum of link strengths with all other nodes. Furthermore, VOSviewer generated eight clusters in the analysis.

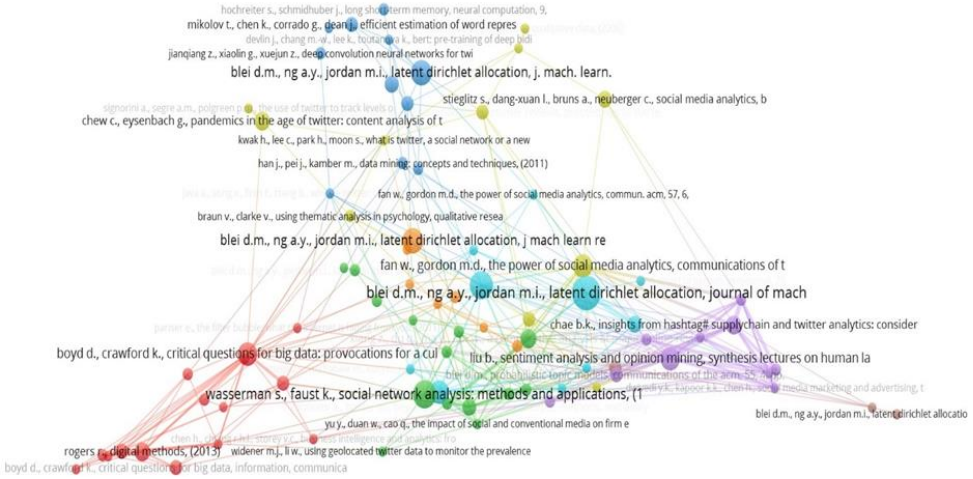

Figure no. 4 – Articles co-citation network with a minimum of five citations for each article
Source: own elaboration

4. CONCLUSION

Social media marketing has revolutionized the advertising landscape, offering unparalleled opportunities and challenges for businesses in the digital age. Platforms like Facebook, Instagram, and Twitter serve as dynamic marketplaces, enabling direct engagement and global connectivity. This fosters authentic relationships, humanizing brands and establishing trust across diverse audiences. The strength of social media marketing lies in its data-driven approach, providing insights into consumer behavior and allowing real-time optimization of campaigns. However, the crowded digital space demands constant creativity and adaptability, with a need for crisis management strategies to address potential negative publicity.

Influencer marketing has risen prominently, with influencers acting as powerful intermediaries between brands and consumers. Leveraging influencers amplifies brand messages and taps into niche markets. As technology evolves, integrating AI and AR into social media platforms, marketers must stay agile, embracing new tools to remain effective. Social media marketing's multifaceted nature necessitates a strategic blend of creativity and data-driven decision-making for sustained success. In this dynamic landscape, ongoing innovation and staying abreast of emerging trends are paramount for brands seeking to navigate and thrive in the ever-evolving social media sphere.

In the ever-evolving fields of “social media marketing,” “social media strategy,” “social media management,” “social media platforms,” “social media trends,” “social media contest,” “social media analytics,” have garnered significant attention in pursuing a deeper understanding of consumer behavior, such as customer attitude, loyalty, preference, and trust toward brands or products field. Motivated by this exciting quest, the present study undertook a remarkable investigation following the PRISMA framework. The aim was to uncover and examine global academic research trends within the relevant field. The researchers

bibliometrically analyzed 1,198 articles from the Scopus database between January 2013 and November 2023. A bibliometric analysis was conducted to gain a profound understanding of the global academic landscape. This analysis unveiled prominent countries, distinguished academic institutions, influential authors, prestigious journals, and captivating citation trends. These findings are significantly fruitful for future studies in the relevant domain, offering valuable time-saving insights for emerging scholars.

The bibliometric analysis conducted in this study unveiled the remarkable scholarly contributions of various countries, institutions, journals, and authors in the relevant domain. The U.S.A emerged as the most productive country, boasting 366 influential articles that garnered 7851 citations. The U.K also showcased their intellectual prowess, contributing 212 articles that received 6553 citations. Within this scholarly landscape, the "University of Toronto" took center stage with its 18 articles, demonstrating its significant research output. Other esteemed institution, such as the "The University of Sydney" has published 16 articles, but "Indian Institute of Technology Delhi" has published ten articles, with the highest number of citations (914). That leads to infer that number of publications does not necessarily reflect the journal's impact. Hong Kong is positioned at the lower end among the most prominent countries (20 articles), and its notable academic institution, the "The Hong Kong Polytechnic University", has contributed five articles to the body of research.

The "IEEE Access" journal is widely respected, having released 34 articles and accumulated 920 citations. "Information" journal ahs published the least number of articles in the list, with ten articles and 41 citations. Particularly noteworthy is the "Journal of Big Data," boasting a significant CS of 15.1, hosting the most frequently cited article titled "Uncertainty in big data analytics: survey, opportunities, and challenges," accruing 245 citations. Following closely, "IEEE Access," with a CS of 8.9, has presented the second-highest cited paper titled "CityPulse: Large Scale Data Analytics Framework for Smart Cities," garnering 177 citations. Furthermore, the "IEEE Transactions on Visualization and Computer Graphics" journal, with a CS of 9.4, has contributed the third-highest cited article, "Personal visualization and personal visual analytics," amassing 172 citations.

The "Social media analytics – Challenges in topic discovery, data collection, and data preparation" is the highest-cited paper with 463 citations, published in the "International Journal of Information Management". The highest second and third-cited papers, namely "Virality prediction and community structure in social networks" and "Social media analytics: a survey of techniques, tools and platforms," were featured in "Scientific Reports" and "AI and Society," with 414 and 379 citations, respectively. For the article co-citation network, the thick arc linking Chae (2015) and Dwivedi *et al.* (2015) suggests that these articles have a strong co-citation relationship and share common ideas and/or related concepts. A similar pattern can be observed between Fan and Gordon (2014) and Xiang *et al.* (2017). In contrast, the thin arc between Fan and Gordon (2014) and Stieglitz *et al.* (2014) reflects a weak co-citation strength. Furthermore, the co-word analysis revealed that "Social" is connected with 16 co-words from 8 clusters; "Analytics" linked with 14 co-words and 9 clusters; "Social Media" is correlated with seven co-words and three clusters. The rest of the words, such as "Digital," "Platform," and "Marketing," are linked with three co-words each, as tabulated in Table no. 5.

The relevant research represents an intriguing and promising avenue for future exploration, particularly during crises and pandemics. It is hoped that there will be an increase in the availability of training courses for scholars to gain the necessary skills and knowledge

to effectively leverage this field. This, in turn, can lead to improved marketing strategies and enhanced advertising campaign effectiveness.

5. LIMITATIONS AND FUTURE DIRECTIONS

The objective of this paper was to minimize methodological constraints in the study; however, despite efforts, some limitations were encountered, prompting recommendations for future research. The study focused exclusively on articles published in English-language journals between 2013 and November 2023, specifically those indexed in the Scopus database. This narrow scope omitted other types of documents, such as conference papers, review papers, books, book chapters, letters, erratum, and editorials, potentially introducing bias into the study. To mitigate this limitation, the authors suggest that scholars from emerging countries contribute their work to ensure a more comprehensive foundation for future investigations.

This paper offers a comprehensive overview of the "(social media marketing OR social media strategy OR social media management OR social media platforms OR social media trends or social media contest OR social media analytics)" research between 2013 and November 2023, based on the analysis of published literature. While the study acknowledges its methodological restrictions, it is a valuable resource for understanding the relevant domain during the specified period.

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