MEDIASI Jurnal Kajian dan Terapan Media, Bahasa, Komunikasi
Vol. 7 (3), 2026, 192–204

Social Media and Artificial Intelligence Research Trends in Bibliometric Analysis in Five Countries 2020-2025

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DOI: https://doi.org/10.46961/mediasi.v7i3.1994

Article Info

Received: 12/02/2026
Revised: 26/05/2026
Accepted: 31/05/2026
Published: 30/09/2026

e-ISSN: 2721-0995
p-ISSN: 2721-9046

Keywords

Trend;
Social Media;
Artificial Intelligence;
Bibliometric Analysis;
Countries.

ABSTRACT

Technological developments. Recently, the use of social media and advances in artificial intelligence (AI) have driven an increase in academic research. While a large number of bibliometric studies have addressed social media and AI separately, few have addressed how these two disciplines are comparatively integrated across countries. The purpose of this analysis is to examine publication trends, thematic structures, and collaboration patterns in AI and social media research across five countries: the United States, China, the United Kingdom, South Korea, and Indonesia from 2020 to 2025. The method used is a bibliometric analysis of 237 journal articles indexed by Scopus and analyzed using VOSviewer and Biblioshiny-R. The results show a significant increase in the number of publications, from 12 articles in 2020 to 98 articles in 2025. The United States and China are the main contributors and hubs of global research collaboration. The most dominant themes include machine learning, sentiment analysis, social media, generative AI, ChatGPT, and AI ethics. The results show that the research focus has shifted from technical issues to issues such as digital governance, ethics, mental health, and social issues. This study offers an in-depth overview of developments in AI and social media analytics. It identifies remaining research opportunities, particularly related to AI ethics, digital platform governance, and increasing the involvement of developing countries in international research collaborations.

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INTRODUCTION

The development of Artificial Intelligence (AI) and social media has become one of the most significant transformations in the global digital ecosystem. With the integration of AI into social media platforms, automated content management, sentiment analysis, information moderation, misinformation detection, and personalized user experiences have become possible (Tuncay, 2025). With the emergence of generative AI such as Large Language Models (LLMs) and AI-based chatbots, the convergence between AI and social media is accelerating. Ultimately, the two will evolve as an interconnected digital ecosystem rather than separate fields. This convergence has impacted the creation, distribution, and consumption of information in society. It has raised new challenges for algorithm governance, data privacy, system transparency, and information quality in the digital world (Camilleri, 2024; Pavlíček, 2025).

AI and social media are among the fastest-growing research areas in the social sciences, communication, and digital technology studies. Recent studies have shown that artificial intelligence can help analyze social media data and provide recommendations on information and digital communication patterns (Mellouli et al., 2024). Conversely, various AI models, such as predictive systems, natural language processing, and sentiment analysis, are being developed and applied through social media. This interconnectedness has spurred the emergence of new research agendas, including ethics, mental health, digital security, public participation, and data-driven technology governance (Niankara & Gnegne, 2025).

The number of scholarly studies on artificial intelligence and social media has increased along with growing academic interest in the subject (Randisa et al., 2025; Zejjari & Benhayoun, 2024). However, most current bibliometric research focuses on artificial intelligence or social media separately, and on specific application areas such as marketing, education, healthcare, and government. Only a few studies examine the development of AI and social media integration from an international perspective. Consequently, our understanding of the knowledge structure, research themes, and international collaboration strategies in fields that combine these two technologies remains limited (De Paulo & Brambilla, 2025).

Challenges faced in the development of social media include privacy and security, particularly related to data breaches, identity theft, and cyberbullying (Bikku et al., 2024). Users' personal information is often used for commercial purposes without consent, leading to ethical and legal issues (Bala & Rani, 2025; Robinson & Taki, 2025). Excessive social media use can have adverse effects on mental health, such as increased anxiety and depression, and a decrease in the quality of real-world social interactions (Meshi & Ellithorpe, 2021). Challenges in the use of artificial intelligence relate to algorithmic bias, data privacy and security, and its impact on job structures (Akpabio et al., 2024). Therefore, the development of AI needs to be accompanied by an ethical framework and responsible governance so that its benefits can be optimized sustainably (Camilleri, 2024). The development of AI and social media has not occurred evenly across the world, and these differences are significant. Countries with different research capacities exhibit different levels of publication productivity, research focus, and international collaboration networks (Alderete, 2026).

This research focuses on five countries: the United States, China, the United Kingdom, South Korea, and Indonesia. Each country's position in the global knowledge production landscape and the development of its digital ecosystem determine its choices. The United States and China are the two countries that have contributed most to the advancement of AI and international scientific publications (Elharbaoui & Ntebutse, 2025). South Korea is one of the East Asian countries with the highest levels of digital transformation and technology investment, and the United Kingdom is known for its high research productivity and significant contributions to discussions on AI governance and regulation (Kim, 2025). Meanwhile, Indonesia is an example of a developing country due to its rapid growth in the digital economy and use of social media. Furthermore, in recent years, this country has focused on the development of artificial intelligence. These five countries represent global centers of knowledge production in the fields of artificial intelligence and social media (Zhu & Wang, 2025).

Based on the above description, this study aims to analyze the development of artificial intelligence and social media research from 2020 to 2025 using a bibliometric approach. Specifically, this study identifies trends in authors, articles, publications, and thematic structures based on key keywords, as well as patterns of international collaboration in five countries: the United States, China, the United Kingdom, South Korea, and Indonesia. This study combines AI and social media within a single analytical framework, differing from previous bibliometric studies that typically focus on one or the other. This research is expected to provide a better understanding of current research pathways, emerging themes, and future research opportunities using

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Scopus data and visualization using VOSviewer and Biblioshiny-R. This research is expected to help academics, policymakers, and practitioners in creating research agendas and strategies.

LITERATURE REVIEW

Social media

Social media is a digital platform that enables people to communicate, exchange, and produce information in online communities. People's communication patterns have changed from one-way to more interactive and participative due to the rise of platforms like Facebook, Instagram, Twitter, TikTok, and YouTube (Lohrke, 2025). Real-time interactions, user-generated content, and the quick and extensive distribution of information over international digital networks are the main benefits that social media can offer (Selvakumar et al., 2025). Social media currently serves as a platform for cooperation, community development, and knowledge exchange in digital media, in addition to being a communication tool.

Social media is becoming an essential part of many digital activities, including public education and engagement, digital marketing, and interpersonal contact. Through these platforms, people, organisations, and government agencies can more successfully influence public opinion, reach larger audiences, and foster involvement (Maharani et al., 2025). Social media has many advantages, but it also has many drawbacks. These include the regular dissemination of false information, safeguarding user privacy, preserving data security, and using algorithms to decide whether content is visible. This issue is made much more pertinent by the growing incorporation of artificial intelligence technologies into social media sites. This is because algorithms are essential for controlling information flow and changing user experiences in the digital world. As a result, social media is regarded as both a communication tool and a sophisticated digital ecosystem that changes as technology advances (Mseer & Samhan, 2025).

Artificial Intelligence

Artificial Intelligence (AI) refers to the development and application of computer systems capable of performing tasks typically requiring human intelligence, such as learning, reasoning, pattern recognition, decision-making, and problem-solving (Arawi et al., 2024; Darda & Pendse, 2025). Various technologies, such as machine learning, deep learning, computer vision, and natural language processing (NLP), enable systems to process large amounts of data quickly and accurately. In recent years, AI has evolved into a key technology supporting the operation of various social media platforms, leveraging user data to create more interactive and personalized digital experiences (Tyagi et al., 2024).

One of the most prominent applications of AI in social media is the use of machine learning-based recommendation algorithms. Platforms like TikTok, Instagram, and YouTube can provide relevant recommendations based on search history, interactions, preferences, and content consumption duration (Shafik, 2025). Furthermore, advances in generative AI have brought about significant changes in digital content production by enabling the automated production of text, images, audio, and video. While this technology enables new digital creativity, marketing, and communication, it also presents problems such as the spread of misinformation, data manipulation, and deepfake content, which makes it increasingly difficult to distinguish from authentic content (Giridhar et al., 2025; Pokharel et al., 2025).

Research on social media and artificial intelligence has grown rapidly, but most studies still concentrate on specific technological elements such as recommendation algorithms, sentiment analysis, or discrete content moderation. Few studies comprehensively discuss the evolution of artificial intelligence research in the social media context, including dominant themes, patterns of scientific collaboration, and research development directions. Consequently, this study uses a bibliometric approach to provide a comprehensive overview of the evolution and trends of artificial intelligence research in the social media ecosystem.

METHOD

This study analyzes the progress of research on social media and artificial intelligence (AI). The purpose of this study is to evaluate the quality of publications and provide an overview of research progress. The research data sources are 237 journal articles indexed by the Scopus database, one of the leading indexers of scientific publications (Baas et al., 2020). In the initial search process, a structured and specific syntax was used to combine keywords such as (TITLE-ABS-KEY (social media) AND TITLE-ABS-KEY (artificial intelligence)) AND (LIMIT-TO (AFFILCOUNTRY, "United States") OR LIMIT-TO (AFFILCOUNTRY, "China") OR LIMIT-TO (AFFILCOUNTRY, "United Kingdom") OR LIMIT-TO (AFFILCOUNTRY,"Indonesia") OR LIMIT-

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TO (AFFILCOUNTRY, "South Korea")) AND PUBYEAR > 2019 AND PUBYEAR < 2024 These keywords were copied directly from Scopus. These keywords were chosen because they indicate an increase in social-humanities research examining how social media and artificial intelligence are combined. Literature selection and analysis were frequently performed due to the rapid development of research in the field of social media and artificial intelligence (Verma et al., 2025). The literature screening flow used the PRISMA flowchart model, an international standard that ensures completeness and transparency in reporting systematic reviews. A total of 12,420 initial search results were gradually filtered, and relevant features were selected for this study, resulting in a final set of 237 relevant journal articles that met all inclusion criteria. Figure 1 shows the flowchart.

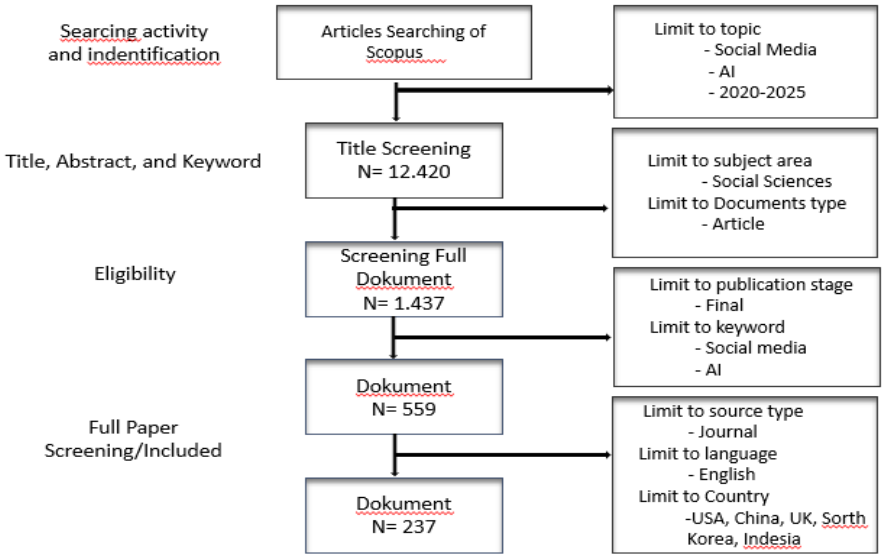


Figure 1. PRISMA flowchart for Identifying, Screening, and Including Articles in a Bibliometric Review

The PRISMA model in Figure 1 represents a systematic process for selecting relevant research articles on social media and artificial intelligence from 2020 to 2025. This process began with the Scopus database, resulting in an initial selection of 12,420 publications. An initial identification and screening phase reduced this number by limiting the topic (social media and AI) and the year of publication. Subsequently, during the full document screening phase, the selection criteria were tightened: the articles had to be scholarly articles in the social sciences, and the publication had to be final, resulting in 1,437 articles. Further screening reduced the number to 559 articles. The Eligibility and Inclusion phase was the most stringent, limiting articles to those published in reputable journals and originating from five specific countries: the United States, China, the United Kingdom, South Korea, and Indonesia. After this elimination process was completed, a final total of 237 relevant articles meeting all inclusion criteria were ready to be used as the basis for analysis in this systematic review.

RESULTS AND DISCUSSION

Trends in Social Media and Artificial Intelligence Research Publications (2020–2025)

The results of this study indicate a significant surge in publication interest in the topic of interactions between social media and artificial intelligence over the past five years. This data aligns with findings from bibliometric studies that show a sharp increase in research on AI in the social and humanities fields since 2020 (Sanjaya, 2025). These data indicate that the number of relevant publications increased sharply from 12 articles in 2020 to 98 articles published in 2025, reflecting the urgency and relevance of this subject among social science and technology researchers. As seen in Figure 2.

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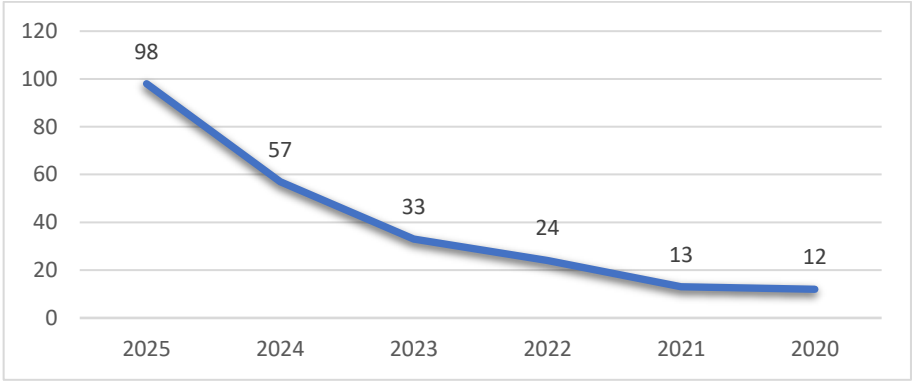


Figure 2. Growth Trends in Social Media and Artificial Intelligence Research Article Publications 2020-2025

Figure 2 illustrates a notable trend in media and AI publications over the past six years, from 2020 to 2025. The growth trend in research publications on social media and artificial intelligence exhibits a sharp upward trend, with a significant acceleration over the last two years, illustrating a surge in academic interest that is directly proportional to the development of generative technology and the increasing urgency of digital social issues. The data shows that publications stagnated in 2020–2021 (12–13 articles), then began to increase in 2022 (24 articles) as the adoption of AI for social data analysis and misinformation detection became more widespread. A larger increase was seen in 2023 (33 articles), reflecting the academic response to the emergence of large language models and the integration of AI into digital platforms. A drastic surge occurred in 2024 (57 articles). It peaked in 2025 (98 articles), indicating that research in this field is entering an expansion phase, driven by three main factors: first, the rapid growth of Generative AI technology, which has sparked discussions about ethics, privacy, and the risks of information manipulation; second, increasing government and industry attention to the regulation of the digital ecosystem; and third, the growing need for new methodologies to process increasingly complex social media data. These findings focus on the five countries with the most research on media and AI, as shown in Figure 3 below.

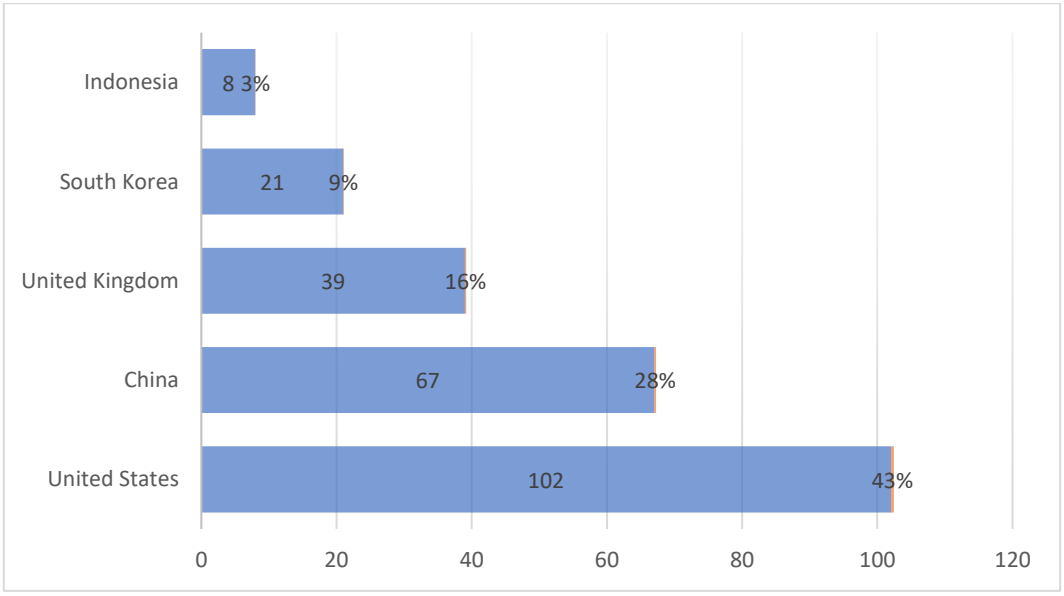


Figure 3. Distribution of the Number of Publications of Research Articles on Social Media and Artificial Intelligence by Five Countries, 2025. Source: Scopus data processed using VOSViewer by the Author

Figure 3 shows an apparent disparity in research output, with the United States leading with a total of (102) publications, followed by China (67), the United Kingdom (39), and South Korea (21), highlighting the dominance of certain developed countries in this discourse, while countries such as Indonesia (8) are still at an early stage of contribution. This distribution highlights the existing gap in research representation on the international stage, where the majority of AI and social media research narratives are disproportionately

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concentrated in specific geographic regions. The fact that these articles were published in Q1 journals confirms that the most influential trend in this field lies in the integration of AI into social behavior, ethics, and information systems. The ten most cited social media and artificial intelligence research articles are listed in Table 1.

Table 1. Ten Most Cited Social Media and Artificial Intelligence Research Articles in Scopus 2020-2025

No	Document Title	Authors/Year	Source	Cited by	Journal Rank
1	Measuring user competence in using artificial intelligence: validity and reliability of artificial intelligence literacy scale	(B. Wang et al., 2023)	Behaviour and Information Technology	358	Q1
2	Business Innovation based on artificial intelligence and Blockchain technology	(Z. Wang et al., 2022)	Information Processing and Management	167	Q1
3	Artificial Intelligence Crime: An Interdisciplinary Analysis of Foreseeable Threats and Solutions	(King et al., 2020)	Science and Engineering Ethics	167	Q1
4	How do different types and landscape attributes of urban parks affect visitors' positive emotions?	(Kong et al., 2022)	Landscape and Urban Planning	164	Q1
5	Fake News, Investor Attention, and Market Reaction	(Clarke et al., 2021)	Informasi Systems Research	131	Q1
6	Leveraging multimodal social media data for rapid disaster damage assessment	(Hao & Wang, 2020)	International Journal of Disaster Risk Reduction	93	Q1
7	AI in teacher education: Unlocking new dimensions in teaching support, inclusive learning, and digital literacy	(Zhang & Zhang, 2024)	Journal of Computer Assisted Learning	79	Q1
8	Technology, Megatrends and Work: Thoughts on the Future of Business Ethics	(D'Cruz et al., 2022)	Journal of Business Ethics	76	Q1
9	Public attitudes and sentiments toward ChatGPT in China: A text mining analysis based on social media	(Lian et al., 2024)	Technology in Society	73	Q1
10	The Adoption and Implementation of Artificial Intelligence Chatbots in Public Organizations: Evidence from U.S. State Governments	(Chen et al., 2024)	The American Review of Public Administration	72	Q1

Source: Scopus data processed by the author

The findings in Table 1 show the top ten articles published in Q1 journals, confirming that the most influential and highly cited research in this domain originates from the highest-ranked journals. The high citation trend is divided into several critical domains. Issues regarding user competence and AI literacy are most prominent, as reflected in the most cited article, namely the study by (B. Wang et al., 2023) on the validity and reliability of the AI literacy scale (358 citations). The theme of innovation and business implications also received significant attention, represented by a study on AI-based business innovation and its impact on information systems (Clarke et al., 2021). Furthermore, ethical issues and social threats are a significant focus, as evidenced by high citations to the analysis of AI crime (King et al., 2020) and business ethics amidst technological megatrends (D'Cruz et al., 2022). The direct link to social media is evident in articles on the use of multimodal social media data for disaster damage assessment (Hao & Wang, 2020), and public sentiment analysis of generative AI technologies, such as ChatGPT, in China (Lian et al., 2024). The concentration of citations on these topics indicates that the research community is prioritizing studies that focus not only on the

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development of AI technologies themselves, but also on their consequences, adoption, and impact on behavior, ethics, and social information systems (Smith-Mutegi et al., 2025).

Networks, Development Trends, and Research Density

A co-keyword network analysis derived from the Scopus literature provides a comprehensive visual representation of the main thematic structures and interrelationships between social media and artificial intelligence in the research landscape, highlighting the most dense and fragmented research domains (Fitriani, 2021). The visual map shows that research is highly concentrated around the AI and social media cluster, with the primary thematic focus including clusters related to sentiment analysis and deep learning in China, as well as a more humanistic cluster centered on human and controlled studies, clearly mapping the most actively explored areas in the social context, consisting of the first three visualization options: Network Visualization, Overlay Visualization, and Density Visualization. In this regard, the Occurrence Keyword was limited to a minimum of 5, resulting in 94 keywords out of 2,333, as seen in Figure 4.

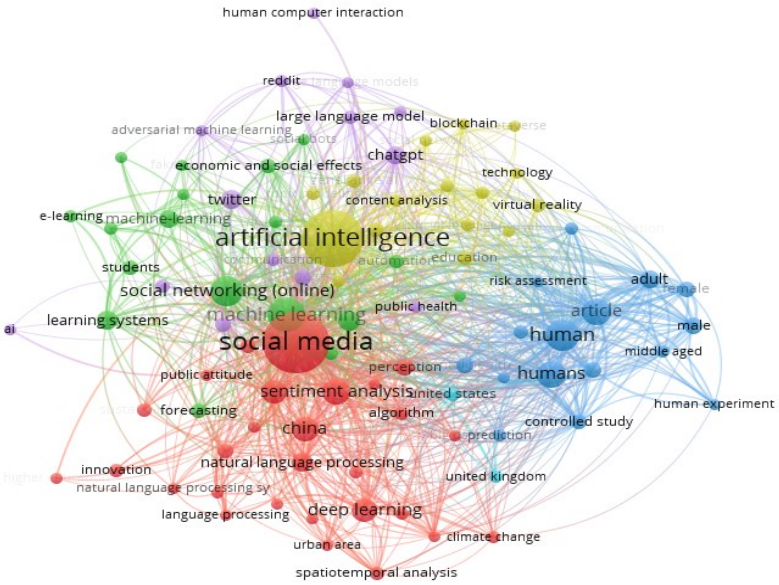


Figure 4. Co-Word Network Map of Social Media and Artificial Intelligence Research

Figure 4 shows a co-keyword network map (VOSviewer) demonstrating the complex research structure surrounding Artificial Intelligence and social media. This structure comprises several key, interconnected clusters. Important clusters include Deep Learning (focusing on natural language processing and innovation in China), the Humanistic cluster (emphasizing behavior, controlled studies, and demographics), and the Generative AI cluster (highlighting emerging technologies such as ChatGPT and large language models). This fragmentation suggests that research is not only focusing on core AI technologies but also critically examining the applications, social impacts, ethics, and challenges arising from the convergence of AI and social platforms across multiple dimensions.

Thematic clustering analysis of Scopus co-keyword data categorizes this research into six main thematic groups. The largest cluster (Cluster 1) focuses on Deep Learning and Geography, emphasizing analytical techniques such as deep learning and sentiment analysis with a spatial focus on China. Other clusters explicitly highlight emerging technologies such as Generative AI (ChatGPT, large language models) and ethical issues and humanistic impacts (Cluster 3). This mapping reveals a broad research landscape, spanning from technical aspects to social and ethical consequences, allowing for a more structured analysis of thematic keyword clusters, as seen in Table 2.

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Table 2. Thematic Cluster Structure of Keywords for Social Media and Artificial Intelligence Research

Cluster	Number of Keywords	Keywords
1	22 Items	Algorithms, big data, China, higher education, innovation, language processing, learning algorithms, natural language processing, natural language, perception, public attitudes, public opinion, public perception, semantics, sentiment analysis, social media, social media analysis, spatio-temporal analysis, sustainability, urban areas, urban planning.
2	18 Items	Automation, behavioral research, decision making, e-learning, economic and social effects, engineering education, fake news, forecasting, learning systems, machine learning, machine-learning, online system, risk management, social aspects, social bots, social media platforms, social networking (online), students.
3	16 Items	Adult, article, controlled study, female, human, human experiment, humans, interpersonal communication, male, mental health, middle aged, prediction, procedures, psychology, quantitative analysis, risk assessment.
4	16 Items	Artificial intelligence, artificial intelligence (ai), blockchain, comparative study, content analysis, education, ethics, generative ai, metaverse, qualitative analysis, social network, technology, text mining, thematic analysis, topic modeling, virtual reality.
5	14 Items	adversarial machine learn, ai, chatgpt, communication, data mining, generative artificial intellige, human computer interact, language model, large language model, large language models, public health, reddit, sustainable development, twitter.
6	2 Items	United Kingdom, united states.

Source: Rstudio Biblioshiny processed by the author

Table 2 shows a thematic clustering analysis of keywords from the Scopus literature, revealing six main clusters that map the research landscape of Artificial Intelligence and social media, encompassing technical aspects, social applications, and humanistic/ethical impacts. The largest cluster, Cluster 1, focuses on Deep Learning, Sentiment Analysis, and the Global Crisis in China, incorporating techniques such as deep learning and natural language processing (NLP) to analyze public opinion on significant issues such asclimate change, COVID-19, And disaster management, with a geographic focus on China, emphasizes the role of AI as a crisis analytics tool. Cluster 2 focuses on applications, economic impacts, and systemic risks, analyzing the implementation of AI and machine learning on online systems and their impact on applied issues such as learning, forecasting, social bots, and the economic/social effects of fake news.

Next, Cluster 3 is the humanistic cluster and quantitative methods, centered on demographic aspects and rigorous research methodology (controlled study), explicitly analyzes the impact of AI on mental health and psychological behavior. Cluster 4 groups generative technologies, ethics, and qualitative methods, including cutting-edge technologies such as generative AI and the metaverse, as well as ethical issues and blockchain. Cluster 5 focuses on platforms and large language models (LLMs), with a particular emphasis on ChatGPT and its implications for public health. Finally, Cluster 6 serves as a geographic grouping that demonstrates the regional contributions of the United Kingdom and the United States. Overall, these clustering findings confirm that AI and social media studies have expanded beyond a technical focus to encompass social implications, ethics, health, and human research methodologies.

Five Countries Collaborate on Productivity and Focus

A network analysis of collaborations across countries in the Scopus literature reveals significant patterns of international collaboration in social media and artificial intelligence research, which influence the dissemination of knowledge. The network map visualizes the United States as the most dominant and centralized collaboration node, highlighting its role as a central hub for research. Other countries, such as China, the United Kingdom, and South Korea, form a cluster closely connected to the US. In contrast, countries like Indonesia remain in a more isolated cluster, indicating that global research collaboration in this domain tends to be highly concentrated among a few key players, as seen in Figure 5.

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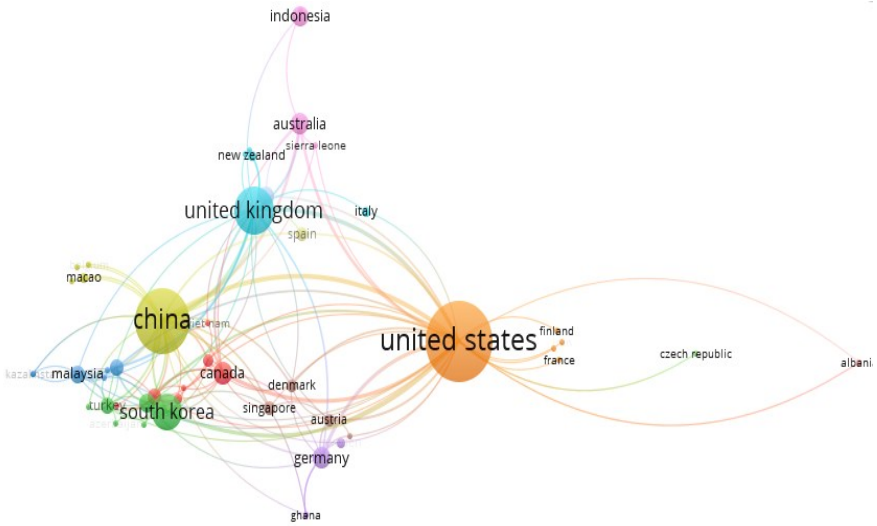


Figure 5. Strategic Map of Social Media and Artificial Intelligence Research Themes Based on Centrality and Density

The findings in the visualization of Figure 5 show that the United States serves as the most central collaboration node. While countries like China and the United Kingdom are closely connected, countries like Indonesia remain relatively isolated, indicating that research centers in developed countries play a significant role in driving global knowledge flows. Research focuses are diverse and extend beyond purely technological ones. Key clusters include: Deep Learning and Sentiment Analysis (related to the Chinese context and large-scale social issues); the Humanistic cluster (focusing on behavior, psychology, and controlled studies); and the Generative AI cluster (highlighting ChatGPT and large language models alongside ethical issues). This fragmentation confirms that research has evolved from a technical focus to a critical exploration of the social, ethical, and application-specific impacts of the convergence of AI and social platforms. The international collaboration patterns of the five countries are shown in Table 3.

Table 3. International Collaboration Patterns of Five Countries in Social Media and Artificial Intelligence Research

Negara Utama	Kolaborasi Negara	Keterangan Analisis
United States	United Kingdom, China, France, Czech Republic, Finland, Albania, Australia, Germany	To be the leading center of global collaboration with the broadest network and highest influence in AI and Media research.
China	United States, South Korea, Malaysia, United Kingdom, Singapore	Asia's regional collaboration hub with strong connections to Western countries excels in digital technology and media research.
United Kingdom	United States, China, Australia, New Zealand, Spain, Italy	A key link between the Americas, Asia, and Europe; plays a vital role in cross-regional research networks.
South Korea	China, Malaysia, United States	Active in East Asian collaborations and establishing research relationships with global centers such as the US and China.
Indonesia	Australia, United States	Collaboration remains limited but growing, demonstrating increased participation in global research related to AI and media.

Source: Scopus data processed by the author

Table 3 shows that the United States is the primary hub with the most extensive collaborative network, strongly connected to the United Kingdom, China, France, Germany, and Australia. The United Kingdom serves as a key link between the Americas, Asia, and Europe, particularly through its collaborations with the United States, China, and other European countries. Within Asia, China stands out as a regional collaboration hub, remaining closely connected to the West while also building research relationships with South Korea and Malaysia. South Korea is also actively strengthening its East Asian network through collaborations with China and Malaysia. In contrast, some countries have more limited networks; Indonesia, for example, is still in its

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developing stage with key partners such as Australia and the United States. These findings highlight a gap in collaborative capabilities, with knowledge flowing more heavily from the key hubs of the United States, China, and the United Kingdom to other countries, thus impacting regional representation in AI research and media.

Thematic Focus Analysis

A keyword frequency analysis of the Scopus literature visualized using a treemap reveals the primary focus of research in the fields of social media and artificial intelligence (AI). The map indicates that social media (145 items) and artificial intelligence (125 items) are the central themes, followed by keywords such as "human," "humans," and "psychology," as well as techniques including machine learning and sentiment analysis. These findings suggest that the most effective research integrates AI technology with human behavior and analysis methods, as illustrated in Figure 6.

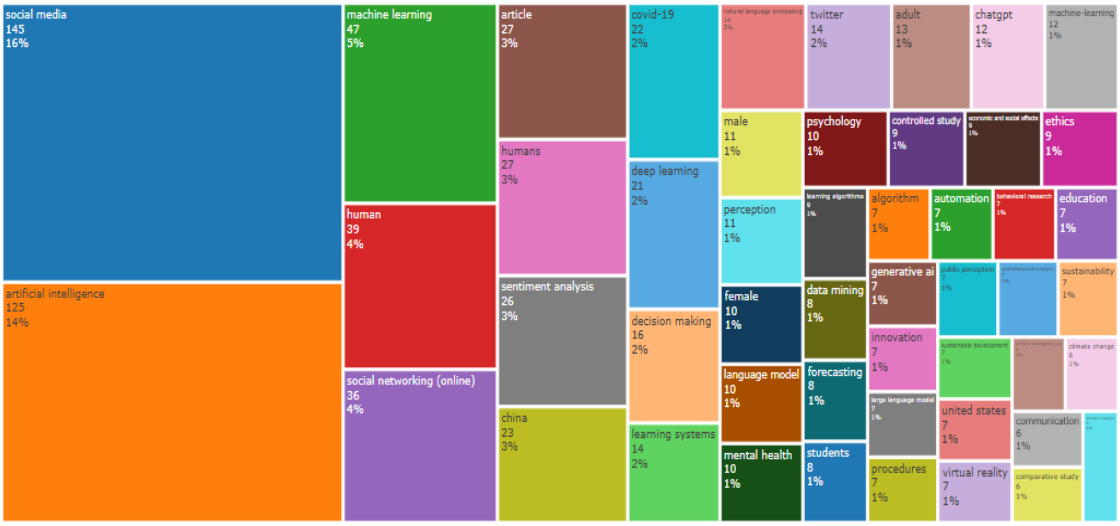


Figure 6. Frequency and Proportion Map of Social Media and Artificial Intelligence Research Keywords, 2025

The treemap in Figure 6 shows topic trends in 237 articles on social media and AI (2020–2025), where block size reflects keyword frequency. The results confirm the dominance of two main topics: social media (145/16%) and artificial intelligence (125/14%). Subsequent themes include machine learning (47.5%), human focus (39.4%), and social networking behavior (36.4%), indicating that the analysis remains user-centric. The treemap also reveals a shift toward newer AI technologies such as ChatGPT (12), large language models (9), and generative AI (8), as well as increasing attention to socio-ethical aspects through keywords such as sentiment analysis (26), ethics (9), and algorithm (7).

Cluster analysis supports these results by showing a fragmentation of themes from deep learning and socio-spatial issues in China to ethics and generative technologies such as ChatGPT and LLMs. Thematic maps show that research on the convergence of social media and AI is evolving rapidly, moving from basic technologies to more specific applications and increasingly complex socio-ethical issues. The thematic map is shown in Figure 7.

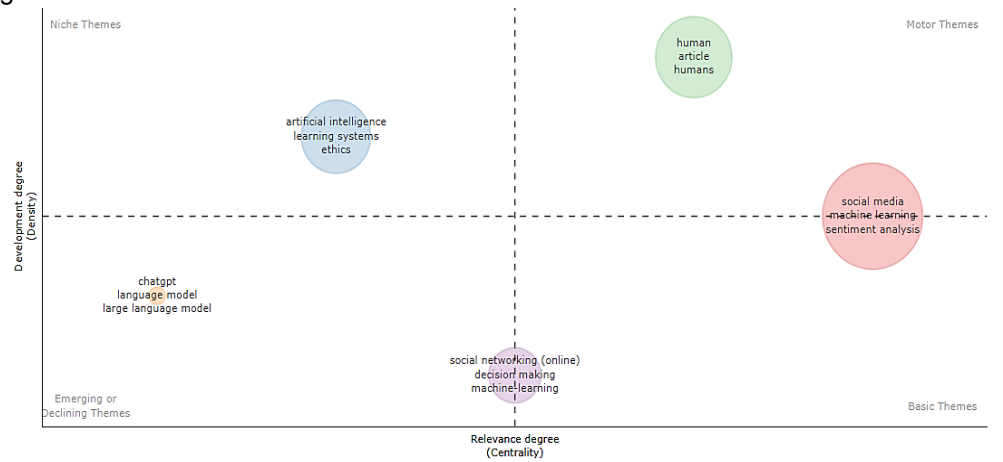


Figure 7. Thematic Map of Social Media and Artificial Intelligence (AI) Research Based on Theme Centrality and Density

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As seen in Figure 7, the strategic map analysis illustrates the centrality and density of themes, indicating that social media, machine learning, and sentiment analysis are located in the basic themes quadrant, indicating high significance but a mature level of development. Conversely, humans, articles, and humans are classified as motor themes, reflecting high centrality and rapid development. Meanwhile, new technologies such as chatbots and large language models are classified as emerging themes with the potential to become major themes in the future, indicating that research is in the early stages of adoption or represents a new frontier in this field. These thematic findings confirm that research has progressed from basic AI applications to critical explorations of the social impacts, ethics, and specific applications of the convergence of AI and social platforms.This study found that since 2020, the integration of social media and artificial intelligence has become a significant focus of global research. The growing number of publications indicates that these two technologies are now understood as interconnected socio-technical ecosystems that shape user behavior, digital communication, and data-driven decision-making. This aligns with a systemic approach in digital technology studies that emphasizes the relationship between technological innovation, social context, and policy and cultural dynamics across countries, with the primary goal of producing effective and efficient digital communication.

Theoretically, the findings of this bibliometric analysis contribute to the mapping of knowledge related to social media and artificial intelligence by identifying dominant themes, key authors, and patterns of cross-national collaboration. Furthermore, these findings present opportunities for further research, particularly in the areas of social influence of AI, governance, and ethical approaches in social media. These approaches remain comparatively understudied in this research. The findings of this study can serve as a reference for academics, policymakers, and industry practitioners in determining research objectives and strategies for developing more inclusive, contextual, and sustainable digital technologies. This is particularly true in developing countries, where social media usage has increased rapidly, but AI is still very new.

CONCLUSION

Using a bibliometric analysis of 237 articles indexed by Scopus, this study describes the development of social media and artificial intelligence (AI) studies during the period 2020–2025. The results indicate that research on AI and social media has become an increasingly dynamic and multidisciplinary field. Although new topics such as generative AI, ChatGPT, and large language models (LLMs) have emerged as avenues for research advancement, dominant topics such as text mining, sentiment analysis, and machine learning continue to be the focus of research. Theoretically, this study helps provide a comprehensive overview of how the knowledge structure, research themes, and patterns of scholarly collaboration in social media and AI studies are changing. The results indicate that the research focus is no longer limited to social media data analysis but also encompasses broader issues such as the ethics of artificial intelligence, digital platform governance, and human-machine interaction.

In terms of collaboration, this study found a significant gap: developed countries dominate scientific production, while Indonesia and other developing countries still play a relatively minor role. These findings underscore the need for greater cross-border collaboration to broaden perspectives and improve research quality. Thus, this study broadens our understanding from a practical perspective; its findings can help scientists, industry, and policymakers understand current research trends and plan the development of more environmentally friendly artificial intelligence technologies. Furthermore, these findings suggest that data privacy, algorithm transparency, and the reduction of disinformation when AI is used on social media platforms must be addressed. However, this study focused only on English-language social science articles and used data from Scopus. Therefore, to gain a deeper understanding, research should integrate other baseline data, such as Web of Science and Dimensions, and combine bibliometric analysis with systematic literature reviews. Furthermore, emerging themes such as generative AI, digital platform governance, ethical algorithms, and LLM should be the focus of future research.

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