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# DISCREPANCIES IN POPULARITY AND RESEARCH FOCUS IN ONLINE SOCIAL NETWORKS

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## Abstract

*Purpose* – As the usage of online social networks increases, so does the volume of research addressing them. The aim of this research study is to explore the relationship between the popularity of online social networks and their prevalence in scientific literature.

*Design / methodology / approach* – This study conducts a bibliometric analysis, analysing publications related to the fifteen most popular online social networks worldwide, including Douyin, Facebook, Instagram, Kuaishou, Pinterest, QQ, Reddit, Snapchat, Telegram, TikTok, WeChat, Weibo, WhatsApp, X (formerly Twitter), and YouTube. The objective is to identify current trends in online social networks research and assess whether these trends align with user engagement levels.

*Results* – The findings highlight substantial discrepancies with the most notable in case of Twitter, which, despite being only the 12th largest network by monthly active users count, is prominently featured in approximately 40% of publications. In contrast, Facebook, despite its leading user base, is featured in about 30% of studies. The representation of other networks in scholarly discourse shows considerable variation, with some networks scarcely mentioned despite significant public usage.

*Originality / value* – This research offers a comprehensive analysis of how the popularity of various online social networks correlates with their academic research coverage, highlighting discrepancies and exploring underlying factors. Future research should extend beyond selected platforms to understand the unique social, cultural, economic or political impacts of each online social network. Additionally, there is a critical need for ongoing adaptation in research methodologies in response to the rapid evolution of online social networks to ensure that academic inquiries remain pertinent and responsive to real-world changes.

*Keywords:* online social networks; social networks; social media; social media research

# INTRODUCTION

The online social networks (OSNs) have become an integral part of daily life for a significant portion of the global population, with their use escalating annually. As of February 2025, there were approximately 5.24 billion social media users worldwide, which amounted to 94.2 percent of all internet users and 63.9 percent of the world's population (Petrosyan, 2025). With the increasing popularity of OSNs, scholars have also shown a growing interest in them. Beyond personal and work-related usage, scientists are dedicating considerable attention to research topics associated with online social networks and media. OSNs have become the subject of extensive scientific research, with results being published in a wide range of journals and other types of publications across numerous research domains.

Various types of online services are referred to as online social networks, including web-based, mobile and desktop platforms such as Facebook, YouTube, WhatsApp or Instagram. These services enable users to create profiles, connect with other users, communicate with them and share diverse array of information, such as text messages, images and videos (Boyd & Ellison, 2007). The scientific literature employs a variety of terms to describe these phenomena, including “online social networks”, “social networking services”, “social network sites”, “social networking sites”, or simply “social networks”. Despite minor distinctions, these terms largely refer to similar concepts. Another term commonly used is “social media” which can encompass a wider array of services and platforms, including blogs and wikis (Kietzmann et al., 2011), but is often confused with online social networks. For the purposes of this paper, the term “online social networks” is utilized to most accurately encapsulate the discussed services.

This study examines the 15 most popular OSNs worldwide, listed alphabetically as Douyin, Facebook, Instagram, Kuaishou, Pinterest, QQ, Reddit, Snapchat, Telegram, TikTok, WeChat, Weibo, WhatsApp, X (formerly Twitter) and YouTube. The usage of these OSNs is analysed in conjunction with the number of scientific publications focusing on each platform over a five-year period from 2019 to 2023. The objective is to provide an overview of current trend in OSNs research and to ascertain whether these trends reflect the popularity of OSNs. It is hoped that these findings will provide insights for future research in the OSNs domain and encourage scholars to align their research focus with prevailing public trends.

## CURRENT RESEARCH

Online social networks have become a significant subject of scientific inquiry. As of May 2024, approximately 200,000 publications were indexed in the Scopus database and about 140,000 publications were indexed in the Web of Science, published over the last 20 years (2004 to 2023) and focusing on OSNs (Figure 1). The searches to obtain these results utilized commonly used relevant terms, such as "social media", "online social networks", "social network sites", "social networking sites", and "social network services". The term "social networks" was not included, despite its frequent use, to avoid a large number of irrelevant publications that focus on offline social networks in their traditional sense. The final search phrase for both databases (Scopus and Web of Science) was *"social media" OR "online social network*" OR "social network* site*" OR "social network* service*"* and applied within title, abstract and keywords fields (Topic in Web of Science). There are, of course, other terms used to describe OSNs and many publications that focus on a specific OSN without mentioning any of the terms in the title, abstract, or keywords. Including these publications would significantly increase the total number of publications focusing on OSNs, but would not affect the year-on-year increase and the overall trend.

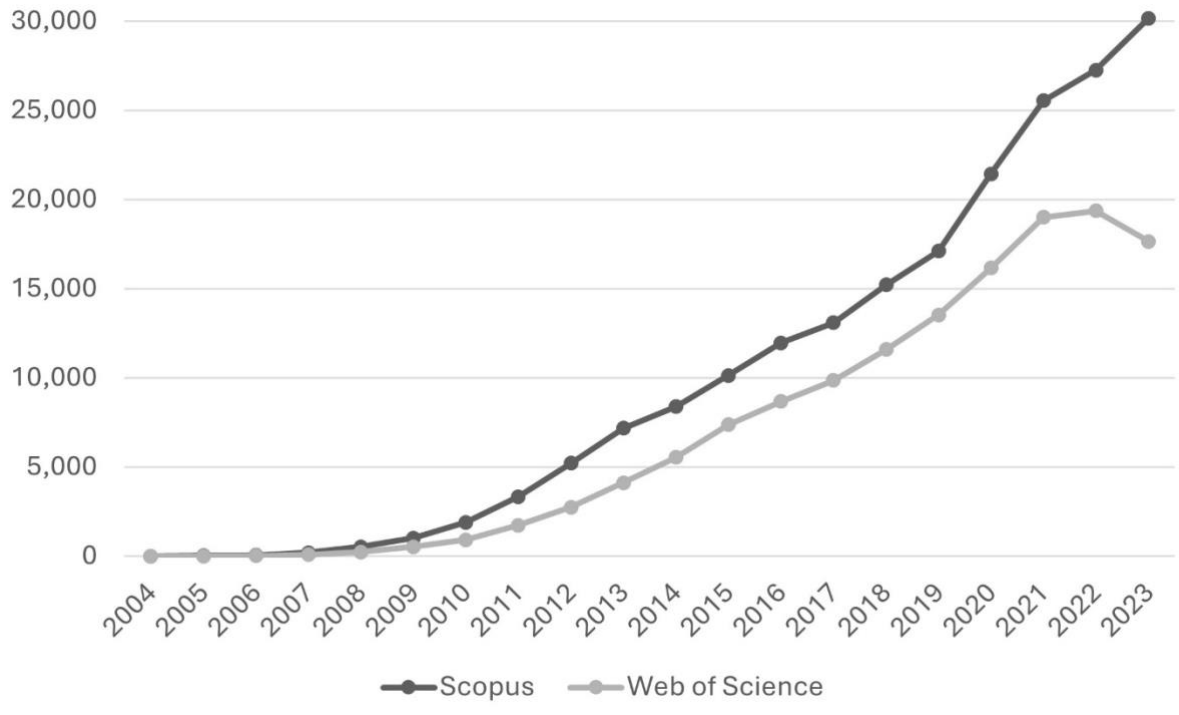


*Figure 1 Number of publications focusing on OSNs indexed in Scopus and Web of Science in the years 2004-2023.*

As illustrated in Figure 1, the number of publications focusing on OSNs has increased dramatically over the past 20 years, from just a few scientific documents published up until 2007 to tens of thousands in recent years. The slight increase observed from 2021 to 2022, followed by a decrease in 2023 within the Web of Science database, may be attributed to the fact that not all publications from this year have yet been indexed, as of May 2024. The ongoing reassessment of journal quality within the Web of Science database and the consequent delisting of titles that fail to meet current standards may also be a contributing factor (Quaderi, 2023; Brainard, 2023). So this trend does not necessarily indicate a diminishing interest in social networks. Rather, as evidenced by the data from Scopus, the number of publications continues to grow annually.

The results of the searches were disseminated through various document types including journal articles, conference papers, books, and others. In the Scopus database, over the past 20 years, a total of 199,801 publications were identified. Of these, more than 56% were articles (112,384), nearly 25% were conference papers (49,728), about 7% were book chapters (13,741), almost 4% were reviews (7,723). and 2% were editorials (4,181). Other types of publications accounted for less than 2%. In the Web of Science database, 139,166 publications focusing on online social networks were identified. Among these, more than 70% were articles (97,887), 20.5% were proceeding papers (28,641), nearly 4% were review articles (5,220), almost 2.5% were editorial materials (3,341), and 2% were early access publications (3,049). Other document types constituted less than 2%. Identified documents span a wide variety of research areas, including computer science, economics, engineering, medicine, psychology, social sciences and many other disciplines.

As the number of publications increases, literature reviews examining OSNs are also emerging, typically focusing on individual OSNs and/or specific fields in which they are researched. To illustrate the breadth of existing reviews, here is a selection of representative studies covering different OSNs and various academic domains. These studies were chosen to reflect both the diversity of scholarly attention and the platform-specific fragmentation typical of this research area.

Kapoor et al. (2018) present a comprehensive review of findings from the articles published in information system journals. Zhang et al. (2015) provide a review of research on social networks in communication journals. Alalwan et al. (2017) systematically examine and review

the current studies on social media and marketing. Wilson et al. (2012) explore Facebook research in the social sciences, while Caers et al. (2013) focus on its implications in the economic and psychological domain. Buettner et al. (2016) and Jungherr (2015) offer a systematic literature review of Twitter research in political issues, Sinnenberg et al. (2017) in health science, and Karami et al. (2020) explore the overall and temporal patterns of major topics in Twitter-related papers. Proferes et al. (2021) summarise how researchers are studying Reddit. Zeng et al. (2021) and Kanthawala et al. (2022) conduct a systematic analysis of research on TikTok during its early years.

To date, no comprehensive review exists that evaluates which OSNs are most frequently studied and whether scholarly interest reflects their popularity.

## MOST POPULAR ONLINE SOCIAL NETWORKS

The present study focuses on the most popular OSNs worldwide based on the number of monthly active users (MAUs) at the end of 2023, with the most current usage data available to us being for Q4 2023. MAUs is defined as the number of unique users who visit specific OSN within a month. A total of 15 OSNs were identified that reported at least or nearly half a billion MAUs, listed alphabetically: Douyin, Facebook, Instagram, Kuaishou, Pinterest, QQ, Reddit, Snapchat, Telegram, TikTok, WeChat, Weibo, WhatsApp, X (formerly Twitter) and YouTube (Hosch, 2009; Bianchi, 2024b).

As Figure 2 shows, the most used OSN in Q4 2023 was Facebook, with 3.065 billion MAUs, followed by YouTube, which recorded 2.504 billion MAUs. Instagram and WhatsApp tied for third place, each with 2 billion MAUs. Other OSNs surpassing 1 billion MAUs included TikTok (1.582 billion MAUs), WeChat (1.343 billion of MAUs) and Reddit (1.22 billion of MAU). These seven leading social networks were followed by Telegram (900 million MAUs), Snapchat (800 million MAUs), Douyin (755 million MAUs), Kuaishou (700 million MAUs), X/Twitter (611 million MAUs), Weibo (598 million MAUs), QQ (554 million MAUs), and Pinterest (498 million MAUs).

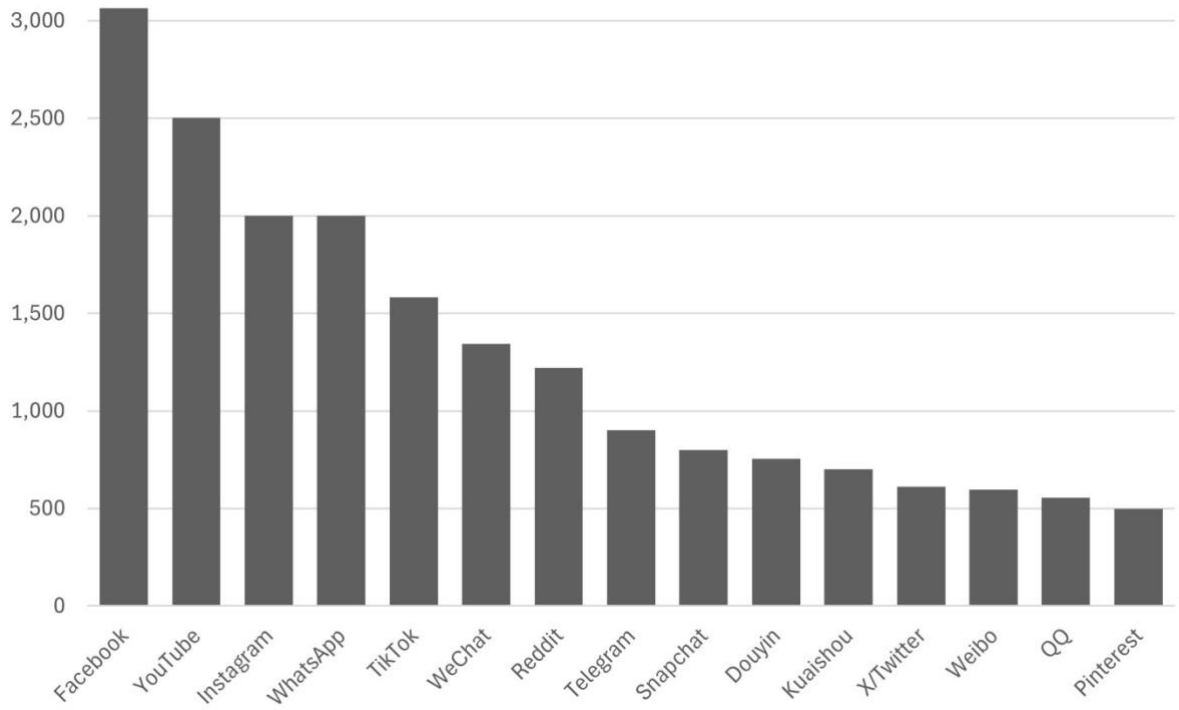


*Figure 2 Most popular online social networks worldwide as of 4th quarter 2023, ranked by the number of monthly active users (in millions) sorted in descending order of usage.*

These data were sourced from the Statista database, which regularly publishes report on the most popular social networks worldwide (Dixon, 2024a). Although not explicitly stated in the current report from April 2024, it can be inferred from previous versions that the data pertains to the fourth quarter of 2023. This inference is supported by other available statistics on the Statista platform, such as the Number of monthly active QQ users from 4th quarter 2019 to 4th quarter 2023 (Thomala, 2024a) and the Number of monthly active Facebook users worldwide as of 4th quarter 2023 (Dixon, 2024c), or official statistics reported by Meta for Facebook in the fourth quarter of 2023 (Meta, 2024a). For the purposes of this study, Facebook Messenger was not distinguished as a separate OSN, although it is treated as such in the mentioned statistics from Statista database. Additionally, Reddit was included among the top 15 OSNs worldwide, although it is absent from the mentioned statistics. According to a separate report for Reddit in the Statista database, it was visited by 1.22 billion users in January 2024, which make Reddit the 7th biggest OSNs worldwide (Bianchi, 2024b).

For a better context, here are brief descriptions of each OSN:

- **Douyin**: Launched by ByteDance in 2016, this Chinese short-video platform served as the original version of TikTok. It is known for its engaging content and powerful

algorithm, primarily catering to a Chinese audience (The Editors of Encyclopædia Britannica, 2023a).

- **Facebook**: Founded in 2004 by Harvard students and now owned by Meta company, Facebook has evolved into the world's largest social network, facilitating comprehensive social interactions including status updates, photo sharing, news dissemination, and business activities (Boyd & Ellison, 2007).
- **Instagram**: Introduced in 2010, Instagram is a photo and video sharing social network known for its visual content and extensive use of hashtags. It has become a platform for both personal use and wide-ranging influencer marketing (Eldridge, 2023a).
- **Kuaishou**: Initially a GIF sharing app launched in 2011, Kuaishou transitioned into a leading China's platform for short videos and live streams and the TikTok's main competitor in China, with around 700 million MAUs at the end of 2023 (Kuaishou, 2023).
- **Pinterest**: Founded in 2010, Pinterest serves as visual inspiration platform, allowing users to discover, save and share images and other multimedia content (Pinterest, 2024).
- **QQ**: As the first product developed by the tech giant Tencent launched in 1999, QQ was a simple instant messenger with an adorable penguin logo that shadowed the Israeli app ICQ. As of 2023, QQ was the second most popular instant messenger in China, following another Tencent app, WeChat (Thomala, 2024b).
- **Reddit**: Launched in 2005, Reddit introduced a community-driven content curation model, establishing itself as a prominent news aggregator and forum (Eldridge, 2023b).
- **Snapchat**: Created in 2011, this mobile multimedia messaging app is particularly popular among younger generations for its temporary nature of posts, innovative visual filters, and stories feature (Dixon, 2024b). Nowadays, Snapchat is among the top 10 OSNs worldwide, with the largest audience in India and United States (Dixon, 2024d).
- **Telegram**: Known as a Russian competitor of WhatsApp, Telegram was launched in 2013 for secure communication without government interference (Matthias, 2023a). It became the third most downloaded messaging app in 2023, following WhatsApp and Snapchat (Ceci, 2024).

- **TikTok**: Launched internationally in 2018 by ByteDance (originally released as Douyin in China in 2016), TikTok is known for its short-form videos, ranging from 15 seconds to three minutes. TikTok enables users to create, edit, and share videos, add incorporates songs, sounds, filters and special effects directly available on the platform (The Editors of Encyclopædia Britannica. 2024c).
- **WeChat**: Originally serving as Chinese equivalent to WhatsApp launched in 2011, WeChat evolved into an all-encompassing platform (so-called one-stop-shop) and quickly spread all over the world (Matthias, 2023b; Thomala, 2024c). Among others, WeChat was probably the first app to introduce voice messaging, way back in 2012 (Birkinshaw, 2019). In 2017, WeChat surpassed 1 billion MAUs (Thomala, 2024d) and by 2023 it reached over 1.3 billion MAUs, securing its position as the second most popular messaging app globally (Dixon, 2024e).
- **Weibo**: As the Chinese equivalent of Twitter launched in 2009, Weibo became the leading microblogging platform in China (Thomala, 2024e), In 2023, it had about the same number of MAU as Twitter worldwide (Dixon, 2024a).
- **WhatsApp**: Originating in 2009 as a status display tool, WhatsApp evolved into a premier messaging platform known for its simplicity and security (The Editors of Encyclopædia Britannica, 2023b). In 2013, the app as one of the first introduced voice messages (WhatsApp, 2013). By 2023, WhatsApp had about 2 billion users making it the most popular messaging app globally (Dixon, 2024e).
- **X (formerly Twitter)**: Launched in 2006 and rebranded as X in 2023 (BBC, 2023), this platform is known for its microblogging service that allows users to post short messages, which are publicly visible by default (The Editors of Encyclopædia Britannica, 2009).
- **YouTube**: Founded in 2005, YouTube is a platform for uploading, sharing, and viewing videos. It has grown to be the largest video-sharing website in the world, hosting a vast range of content from individuals and corporate entities (Hosch, 2009). Today, YouTube ranks as the second most popular websites worldwide after Google, with 113 billion of monthly visits between September and November 2023 (Bianchi, 2024a), and the second most popular social network after Facebook, with nearly 2.5 billion of MAUs (Dixon, 2024a).

## LITERATURE SEARCH AND PROCEDURES

Two major multidisciplinary citation databases of scientific literature, Scopus and Web of Science, were used to determine the number of relevant scientific publications published in the last five years (2019-2023). The searches were conducted in May 2024 using the names of each identified OSN to search through titles, abstracts and document keywords. An additional search was conducted in both databases to determine the total number of publications that contained references to at least one of earlier identified OSNs. For this, the names of every OSNs were entered into the search box and separated by the logical operator "OR".

Given the renaming of Twitter to "X" in July 2023 (BBC, 2023), the keyword "Twitter" exclusively was used to search for publications about it, as it wasn't anticipate finding publications focused on the "X" platform published during the year 2023 that did not also reference its former name. Since the term "QQ" can have multiple meanings and may lead to a significant number of irrelevant results, the search for QQ was limited to exclusively retrieve results pertaining to OSNs (details below).

### Scopus Search

The "Article title, Abstract, Keywords" search option was selected for scanning the Scopus database, using the name of each selected OSNs as a search term. The results were then limited to documents published within the years 2019 to 2023. This sorting was facilitated by the "Year" filter available on Scopus's search tool, where individual years 2019, 2020, 2021, 2022, and 2023 were selected. Table 1 summarizes the distribution of OSNs documents found in the Scopus database.

To search for QQ-relevant publications, the additional field "Article title, Abstract, Keywords" was used with the logical operator "AND" and the phrase *"social media" OR "online social network*" OR "social network* site*" OR "social network* service*"* to limit the results only to those relevant to OSNs. The search phrase for all publications relevant to every 15 OSNs was: *Douyin OR Facebook OR Instagram OR Kuaishou OR Pinterest OR (QQ AND ("social media" OR "online social network*" OR "social network* site*" OR "social network* service*")) OR Reddit OR Snapchat OR Telegram OR TikTok OR Twitter OR WeChat OR Weibo OR WhatsApp OR YouTube*. The results of this search can be found in Table 1 under the row labelled "All".

| Social network | Number of publications | | | | | |
|---|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| All* | 10,736 | 12,692 | 14,702 | 15,613 | 16,670 | 70,413 |
| Douyin | 7 | 10 | 31 | 57 | 82 | 187 |
| Facebook | 3,838 | 4,030 | 4,460 | 4,277 | 4,157 | 20,762 |
| Instagram | 991 | 1,421 | 1,860 | 2,078 | 2,418 | 8,768 |
| Kuaishou | 5 | 10 | 12 | 16 | 27 | 70 |
| Pinterest | 80 | 74 | 64 | 58 | 54 | 330 |
| QQ | 7 | 13 | 12 | 14 | 14 | 60 |
| Reddit | 282 | 368 | 458 | 665 | 739 | 2,512 |
| Snapchat | 117 | 130 | 157 | 134 | 141 | 679 |
| Telegram | 158 | 239 | 318 | 383 | 504 | 1,602 |
| TikTok | 13 | 67 | 273 | 569 | 981 | 1,903 |
| Twitter | 4,761 | 5,388 | 5,931 | 6,139 | 6,421 | 28,640 |
| WeChat | 465 | 631 | 805 | 845 | 741 | 3,487 |
| Weibo | 370 | 464 | 532 | 601 | 582 | 2,549 |
| WhatsApp | 593 | 942 | 1,293 | 1,330 | 1,348 | 5,506 |
| YouTube | 1,539 | 1,800 | 2,165 | 2,386 | 2,700 | 10,590 |

*Table 1 Number of OSNs papers indexed by Scopus published from 2019 to 2023.*

* The total number of publications containing at least one of searched OSN.

When sorting these results by the number of publications from highest to lowest (Figure 3), it is evident that the majority of publications indexed by Scopus focused on Twitter, accounting for more than 40% of all identified publications, followed by Facebook, which appeared in almost 30% of all publications concerning the 15 largest OSNs. Twitter and Facebook were followed by YouTube, which was featured in 15% of the publications, Instagram in 12.5%, and WhatsApp in 7.8%. Other OSNs appeared in less than 5% of the publications, with Snapchat,

Pinterest, Douyin, Kuaishou, and QQ each featuring in less than 1% of the identified documents about OSNs from 2019 to 2023. The distribution was slightly different in 2023 compared to the entire five-year period, due to TikTok (launched in 2018) gaining scientific attention. Nearly 1,000 documents focusing on TikTok were found in the Scopus database for 2023 alone, comprising almost 6% of all publications on the 15 largest OSNs, placing TikTok in an unofficial sixth position in the ranking of social network popularity in scientific research, after Twitter, Facebook, YouTube, Instagram, and WhatsApp.

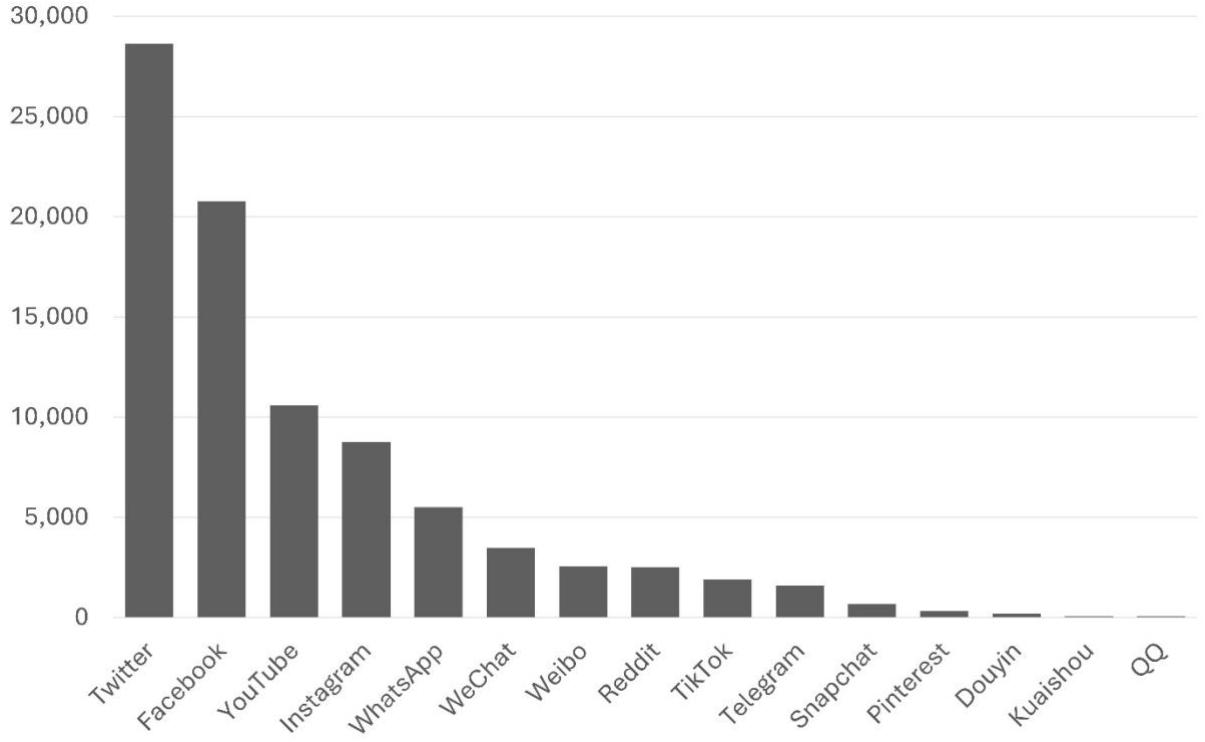


*Figure 3 Number of individual OSN publications indexed in the Scopus database in 2019-2023 sorted from the highest to the lowest.*

## Web of Science Search

For the Web of Science search, the default "All Fields" search method was switched to "Topic" by selecting it from the drop-down menu. A "Topic" search queries the title, abstract, and author keyword fields of Web of Science records. The name of each OSN was used as a search term as described above. Results from the Web of Science Core Collection were then limited to those from the years 2019-2023 by using the "Publication Years" filter available on Web of Science's search tool. Individual years 2019, 2020, 2021, 2022, and 2023 were selected to refine the results. Table 2 summarizes the distribution of OSNs documents found in the Web of Science database.

To search for QQ-relevant publications, the additional field "Topic" was used with the logical operator "AND" and the phrase "social media" OR "online social network*" OR "social network* site*" OR "social network* service*" to limit the results to those relevant to OSNs. The search phrase for all documents relevant to every 15 OSNs was: *Douyin OR Facebook OR Instagram OR Kuaishou OR Pinterest OR QQ AND "social media" OR QQ AND "online social network*" OR QQ AND "social network* site*" OR QQ AND "social network* service*" OR Reddit OR Snapchat OR Telegram OR TikTok OR Twitter OR WeChat OR Weibo OR WhatsApp OR YouTube*. The results of this search can be found in Table 2 under the row labelled "All".

| Social network | Number of publications | | | | | |
|---|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2023 | Total |
| All* | 9,421 | 10,799 | 12,360 | 12,125 | 10,838 | 55,543 |
| Douyin | 4 | 12 | 23 | 43 | 60 | 142 |
| Facebook | 3,846 | 4,108 | 4,470 | 3,889 | 3,264 | 19,577 |
| Instagram | 837 | 1,208 | 1,623 | 1,621 | 1,560 | 6,849 |
| Kuaishou | 4 | 6 | 3 | 13 | 20 | 46 |
| Pinterest | 63 | 61 | 47 | 41 | 29 | 241 |
| QQ | 4 | 11 | 9 | 9 | 6 | 39 |
| Reddit | 206 | 259 | 394 | 466 | 468 | 1,793 |
| Snapchat | 111 | 102 | 138 | 101 | 92 | 544 |
| Telegram | 92 | 149 | 219 | 208 | 225 | 893 |
| TikTok | 10 | 57 | 234 | 478 | 712 | 1,491 |
| Twitter | 4,028 | 4,405 | 4,828 | 4,629 | 3,934 | 21,824 |
| WeChat | 348 | 429 | 521 | 580 | 456 | 2,334 |
| Weibo | 267 | 356 | 376 | 466 | 393 | 1,858 |

| | | | | | | |
|---|---|---|---|---|---|---|
| WhatsApp | 452 | 704 | 964 | 930 | 804 | 3,854 |
| YouTube | 1,257 | 1,437 | 1,778 | 1,846 | 1,700 | 8,018 |

*Table 2 Number of OSNs publications indexed by Web of Science published from 2019 to 2023.*

* The total number of publications containing at least one of searched OSN.

By sorting these results according to the number of publications from highest to lowest (Figure 4), it is evident that the most represented OSNs in the publications indexed in the Web of Science were Twitter and Facebook, found in almost 40% and more than 35% of all identified publications, respectively. There were more publications focused on these two social networks from 2019 to 2023 than on all other networks combined.

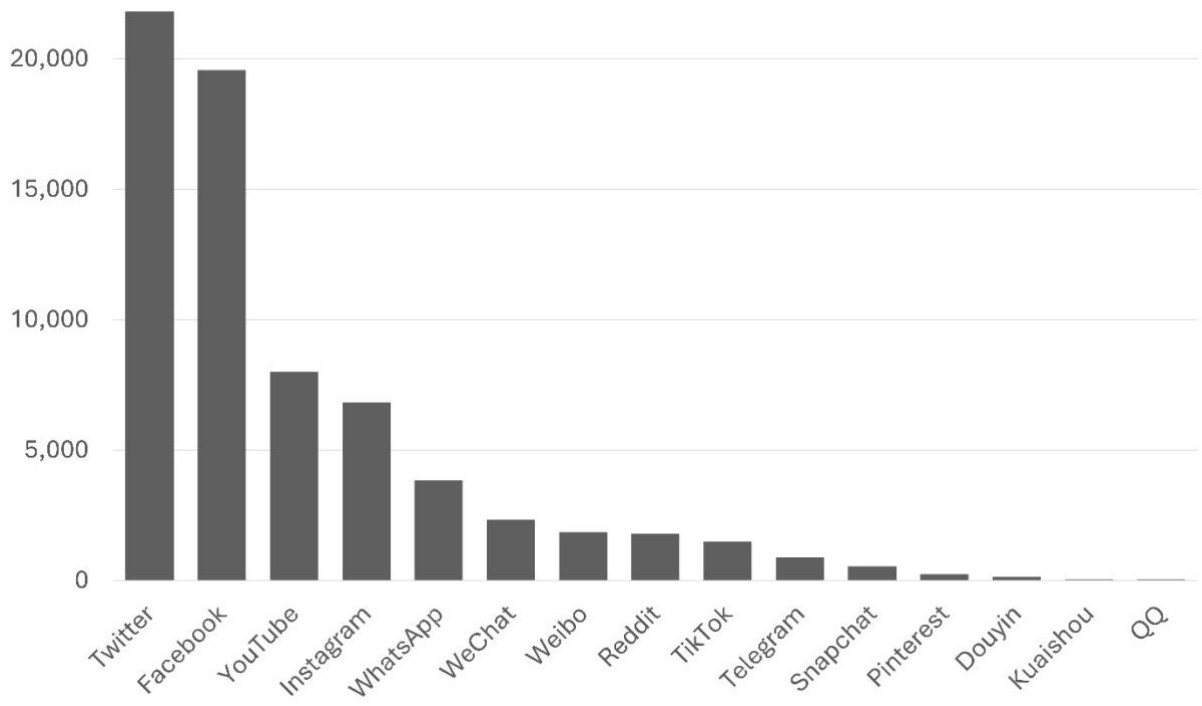


*Figure 4 Number of individual OSN publications indexed in the Web of Science database in 2019-2023.*

## DISCUSSION

In order to better understand the expanding field of OSNs research, this study provides a comprehensive overview of publications from the past five years related to the most popular OSNs. This research has some methodological advantages over previously published literature reviews. Firstly, while earlier studies predominantly focused on individual OSNs, this review provides a broader perspective by including the 15 most popular platforms, thereby offering a more comprehensive view of OSNs research. Secondly, this study is not confined to a single specific field but encompasses a wide spectrum of disciplines. Thirdly, this research focuses on all document types published in all languages. Fourth, by concentrating on publications from the last five years, the study ensures that the results are up-to-date, which is particularly crucial in the rapidly evolving landscape of OSNs, where new platforms can quickly rise to prominence and significance.

This review reveals that the most studied OSNs platforms over the past five years were Twitter, which was represented in approximately 40% of all identified OSNs documents, and Facebook, which appeared in about 30% of the publications. Twitter and Facebook were followed, at a considerable distance, by YouTube, which was featured in about 15% of all identified documents, Instagram in slightly more than 12%, and WhatsApp in approximately 7-8% of all OSNs publications.

Comparing research interest and the popularity of individual OSNs, notable differences between scientific and public agendas become evident (Figure 5). A particularly striking discrepancy is observed with Twitter, which, despite its extensive popularity in scientific research, ranks only 12th in usage among the general public. Another notable difference, though less pronounced, is observed in the case of Weibo. Although it ranks 13th in terms of MAUs, it attracts considerable interest in the scientific literature. Over the past five years, it has become the seventh most researched OSN. Conversely, in the case of TikTok, there is a relatively low number of publications over the last five years, despite its current status as one of the most significant OSNs. This disparity is likely due to the fact that TikTok is a relatively new OSN, launched only in 2018. However, when examining the year-on-year increase in scientific publications, a significant rise is observed, suggesting that scholarly interest in TikTok is expected to continue growing in the future.

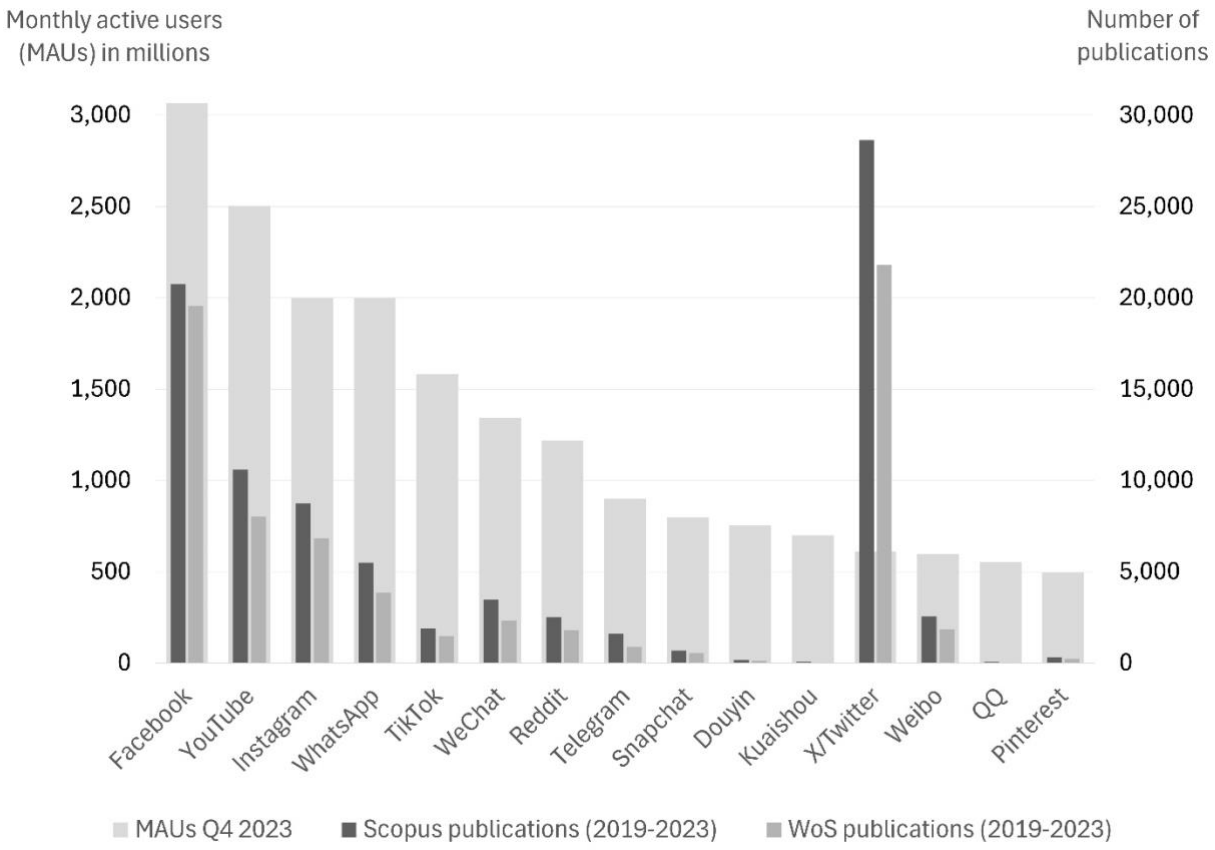


*Figure 5 Comparison of the popularity of individual OSNs with their occurrence in scientific literature indexed by Scopus and Web of Science.*

These differences between the popularity of OSNs among the general public and their importance in scientific research may stem from several factors and warrant further research. The following section provides a brief overview of key factors, including data availability, geographical accessibility, familiarity with specific OSNs, and the emergence of new platforms.

As mentioned, the first potential reason could be data availability. While some social networks implement strict privacy policies or technical barriers that limit the access of user data for research purposes, Twitter has historically been favoured by researchers due to the relatively easy access to its data through an API (Application Programming Interface) that allows researchers to collect real time data. At the same time, Twitter has support research through initiatives such as the Twitter Data Grants, introduced in early 2014 (X Corp., 2014), or the Academic Research product track, launched at the beginning of 2021 (Tornes, 2021), which provided researchers free access to the entire history of public conversation on Twitter. However, this approach changed in 2023, when Twitter under Elon Musk decided to charge for API access (Calma, 2023), thus jeopardized and hindered many ongoing scientific research

projects (Grevy Gotfredsen, 2023). Consequently, it is possible that interest in Twitter (now X) for academic research purposes may decline.

As for Facebook, it has a stricter policy regarding privacy and access to data, but still there are tools and methods to obtain data for scientific purposes. Tools from Meta (formerly Facebook) designed for academics include the Researcher API (Meta, 2024b), which is one of the research products of broader platform Facebook Open Research and Transparency (FORT), and the Data for Good tools that aim to leverage big data and artificial intelligence to improve responses to real-world crises (Meta, n.d.). Other tools included CrowdTangle, which was available until August 2024 (Meta, 2024c). Unlike Twitter, Meta is still trying to come up with new ways to support scientific research, such as the new Meta Content Library and API tools giving access to content across Facebook and Instagram (Clegg, 2023).

YouTube, which has been the subject of much research in the past, also provides a Data API that, with limitations, allows for the collection of data on YouTube channels and videos (Google, n.d.). Currently, YouTube is committed to supporting research through its YouTube Researcher Program, equipping researchers worldwide with data, tools, and support to enhance understanding of the public's interaction with the platform and its impact (YouTube, n.d.).

Among other social networks, for example, TikTok is now also offering its data for research purposes via the Research API (TikTok, 2024). Other OSNs also provide access to their data, typically through APIs. However, this access is often more restricted or less transparent compared to Twitter's earlier practices. Additionally, differences in technical infrastructure, data documentation quality, privacy regulations, and approval procedures can pose barriers to effective data use in academic research.

A further challenge for researchers is the geographical accessibility of OSNs. Several platforms operate within region-specific ecosystems due to governmental regulations, censorship, or platform policies. For instance, Douyin, Weibo, QQ, and Kuaishou are primarily accessible within China and are tailored to meet local regulatory requirements. Researchers located outside China may face challenges in accessing or engaging with Chinese platforms, either due to restrictions on account creation and content visibility or language barriers. Conversely, widely used global platforms such as Facebook, Instagram, Pinterest, X (formerly Twitter), and YouTube are inaccessible within China due to the country's "Great Firewall", unless accessed through VPNs (Thomala, 2025; Statista Research Department, 2025). Research outputs based

on these platforms may thus underrepresent user behaviour in regions like China, limiting the generalizability of findings and complicating comparative or cross-cultural research on OSNs. However, it is noteworthy that a significant number of publications originating from China related to OSNs are indexed in Scopus and Web of Science, including research focusing on blocked platform such as Facebook or Twitter.

Familiarity with specific OSNs represents another factor that may contribute to research bias. Facebook and Twitter have long been popular among scientists (Noorden, 2014). In contrast, platforms primarily used by younger generations, such as Snapchat, may be underrepresented in scholarly research due to lower levels of familiarity among researchers (Dixon, 2024f). This disparity in user experience and platform knowledge can shape topic selection, methodological approaches, and ultimately the visibility of certain OSNs within the academic literature.

Another challenge researchers face when studying OSNs is the emergence and impact of new platforms, as well as their demise. Recent examples include the rapid rise in popularity of the TikTok, the launch of a new type of social network Clubhouse, or, conversely, the discontinuation of Google+, which was one of the most used OSNs among scientists (Noorden, 2014). In the case of TikTok, there has been an increase in the number of publications devoted to its research in the scientific literature. As this study indicates, in 2023, TikTok was the sixth most researched OSN, following Twitter, Facebook, YouTube, Instagram, and WhatsApp. This ranking, apart from the previously discussed Twitter, corresponds to the popularity of OSNs among the general public, where Facebook is followed by YouTube, Instagram, WhatsApp, and TikTok.

The appearance of new online social networks, along with the continuous evolution of existing platforms, presents numerous challenges and opportunities for academic research. OSNs frequently emerge, develop and vanish with extraordinary speed, requiring researchers to keep pace with rapid changes, which can be demanding in terms of real-time data collection and analysis. Additionally, some of these platforms introduce new formats and technologies, necessitating the development of novel methodological approaches and tools for data collection and analysis. As OSNs and their features evolve, so too do the ways in which people communicate, share information, and create online communities. These changes influence not only social dynamics but also may have implications for culture, politics, and economics on a global scale, offering unique opportunities for scientists to explore new social phenomena.

## CONCLUSIONS

As the popularity and use of online social networks increase, so does the scientific interest in them. This study examined the scientific literature pertaining to the fifteen most popular social networks worldwide, including, in alphabetical order, Douyin, Facebook, Instagram, Kuaishou, Pinterest, QQ, Reddit, Snapchat, Telegram, TikTok, WeChat, Weibo, WhatsApp, X (formerly Twitter), and YouTube. The aim was to provide an overview of current trends in OSNs research and to determine if these trends reflect their popularity.

Some significant discrepancies between the popularity of online social networks and the level of scientific interest in them were revealed. The most notable difference was observed in the case of Twitter, which, despite being only the 12th largest OSN by monthly active users, dominated the scientific literature, appearing in approximately 40% of all identified documents related to OSNs. In contrast, Facebook, which ranks first in popularity, was featured in approximately 30% of the publications. Other OSNs were significantly less represented in the scientific literature, with some barely mentioned, despite substantial public interest; all included networks boast more than or nearly half a billion monthly active users. Some potential factors influencing the disparities between the popularity of OSNs among the general public and their significance in scientific research were discussed in the Discussion section, including data availability, geographical accessibility, familiarity with specific OSNs, and the emergence of new platforms.

These findings provide crucial insights into the divergences between scientific and public agendas. To ensure that scholarly research aligns with prevailing public trends, future OSNs research should increasingly focus on platforms with larger audiences. However, it is also vital not to concentrate solely on a few selected OSNs, as this may lead to skewed understandings of user behavior and digital communication trends. Each OSN has its own specific audience and varying degrees of influence on contemporary culture and politics. Limiting research to dominant platforms may reinforce existing academic biases and fail to capture emerging trends, particularly among younger generations. This narrow focus also restricts the generalizability of findings across broader populations and contexts. A more inclusive approach enhances the validity, diversity, and applicability of research outcomes, offering a more comprehensive view of the evolving OSN landscape and its implications for society, culture, politics, and economics.

This research offers a comprehensive overview of where OSNs-related studies have been focused over the past five years and where they might be headed. Nevertheless, it has some limitations. First, data collection was confined to only two databases and relied solely on titles, abstracts, and keywords of publications. Second, the research focused on the 15 most popular social networks, excluding smaller or specialized platforms. Third, this study provides a macroscopic view of the identified documents without delving into specifics, such as the topics addressed, the methodological procedures used, etc.

Future studies focusing on OSNs research might include additional databases, such as Google Scholar, ProQuest, or EBSCOhost, to capture a broader range of publications, thereby providing a more comprehensive view of OSNs research and reducing potential publication bias. A more detailed examination of existing literature could also be beneficial, using big data, machine learning, and artificial intelligence tools to identify evolving research topics, methodological trends, and the nuanced impacts of OSNs on society, culture, politics, and economics. Further research should consider exploring region-specific or community-specific platforms, such as scientific social networks (ResearchGate and Academia.edu) or youth-focused OSNs, to uncover unique patterns that can be overlooked in global platforms, enriching the understanding of diverse digital communities and enhancing the relevance of research across different contexts.

In conclusion, as social networks continue to evolve and new platforms emerge, ongoing research is essential to keep pace with rapid technological advancements and changing user dynamics. This study not only enhances the understanding of current trends in social networks usage and research but also sets the stage for future investigations that could further elucidate the complex relationships between online social networks and societal change. Encouraging scholars to align their research focus with prevailing public trends and technological innovations will enhance the relevance and impact of future studies in the vital field of online social networks research.

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## REFERENCES

Alalwan, A., Rana, N., Dwivedi, Y., & Algharabat, R. (2017). Social media in marketing: A review and analysis of the existing literature. *Telematics and Informatics*, *34*(7), 1177-1190. https://doi.org/10.1016/j.tele.2017.05.008

BBC. (2023). *Elon Musk: Twitter rebrands as X and kills off blue bird logo*. https://www.bbc.com/news/business-66284304

Bianchi, T. (2024a). *Most popular websites worldwide as of November 2023, by total visits*. https://www.statista.com/statistics/1201880/most-visited-websites-worldwide/

Bianchi, T. (2024b). *Users worldwide visiting Reddit.com from April 2022 to January 2024*. https://www.statista.com/statistics/1310710/redditcom-monthly-users/

X Corp. (2014). *Introducing Twitter Data Grants*. https://blog.x.com/engineering/en_us/a/2014/introducing-twitter-data-grants

Boyd, D., & Ellison, N. (2007). Social Network Sites: Definition, History, and Scholarship. *Journal of Computer-Mediated Communication*, *13*(1), 210-230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Brainard, J. (2023). *Fast-growing open-access journals stripped of coveted impact factors*. Scienceinsider. https://doi.org/10.1126/science.adi0098

Buettner, R., & Buettner, K. (2016). A Systematic Literature Review of Twitter Research from a Socio-Political Revolution Perspective. In *2016 49th Hawaii International Conference on System Sciences (HICSS)* (s. 2206-2215). IEEE. https://doi.org/10.1109/HICSS.2016.277

Caers, R., De Feyter, T., De Couck, M., Stough, T., Vigna, C., & Du Bois, C. (2013). Facebook: A literature review. *New Media & Society*, *15*(6), 982-1002. https://doi.org/10.1177/1461444813488061

Calma, J. (2023). Twitter just closed the book on academic research. *The Verge*. https://www.theverge.com/2023/5/31/23739084/twitter-elon-musk-api-policy-chilling-academic-research

Ceci, L. (2024). *Most popular messenger apps worldwide in January 2024, by monthly downloads*. https://www.statista.com/statistics/1263360/most-popular-messenger-apps-worldwide-by-monthly-downloads/

Clegg, N. (2023). *New Tools to Support Independent Research*. https://about.fb.com/news/2023/11/new-tools-to-support-independent-research/

Dixon, S. J. (2024a). *Most popular social networks worldwide as of April 2024, ranked by number of monthly active users*. https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/

Dixon, S. J. (2024b). *Snapchat - Statistics & Facts*. https://www.statista.com/topics/2882/snapchat/

Dixon, S. J. (2024c). *Number of monthly active Facebook users worldwide as of 4th quarter 2023*. https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/

Dixon, S. J. (2024d). *Leading countries based on Snapchat audience size as of January 2024*. https://www.statista.com/statistics/315405/snapchat-user-region-distribution/

Dixon, S. J. (2024e). *Most popular global mobile messenger apps as of January 2024, based on number of monthly active users*. https://www.statista.com/statistics/258749/most-popular-global-mobile-messenger-apps/

Dixon, S. J. (2024f). *Most used social media platforms among internet users in Great Britain (GB) in June 2024, by age group*. https://www.statista.com/statistics/1480562/social-media-platforms-used-by-age-group/

Eldridge, A. (2023a). *Instagram*. https://www.britannica.com/money/Instagram

Eldridge, A. (2023b). *Reddit*. https://www.britannica.com/money/Reddit

Google. (n.d.). *YouTube Data API*. https://developers.google.com/youtube/v3

Grevy Gotfredsen, S. (2023) Q&A: What happened to academic research on Twitter?. In *Columbia Journalism Review*. https://www.cjr.org/tow_center/qa-what-happened-to-academic-research-on-twitter.php

Hosch, W. (2009) *YouTube*. https://www.britannica.com/topic/YouTube

Jungherr, A. (2015). Twitter use in election campaigns: A systematic literature review. *Journal of Information Technology & Politics*, *13*(1), 72-91. https://doi.org/10.1080/19331681.2015.1132401

Kanthawala, S., Cotter, K., Foyle, K., & DeCook, J. (2022). It's the Methodology For Me: A Systematic Review of Early Approaches to Studying TikTok: A Systematic Review of Early Approaches to Studying TikTok.

Kapoor, K., Tamilmani, K., Rana, N., Patil, P., Dwivedi, Y., & Nerur, S. (2018). Advances in Social Media Research: Past, Present and Future. *Information Systems Frontiers*, *20*(3), 531-558. https://doi.org/10.1007/s10796-017-9810-y

Karami, A., Lundy, M., Webb, F., & Dwivedi, Y. (2020). Twitter and Research: A Systematic Literature Review Through Text Mining. *IEEE Access*, *8*, 67698-67717. https://doi.org/10.1109/ACCESS.2020.2983656

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, *54*(3), 241-251. https://doi.org/10.1016/j.bushor.2011.01.005

Kuaishou. (2023). *Kuaishou English Website*. https://www.kuaishou.com/en

Matthias, M. (2023a). *Telegram*. https://www.britannica.com/topic/Telegram-software

Matthias, M. (2023b). *WeChat*. https://www.britannica.com/topic/WeChat

Meta. (n.d.). *Data for Good*. https://dataforgood.facebook.com/

Meta. (2024a). *Meta Reports Fourth Quarter and Full Year 2023 Results; Initiates Quarterly Dividend*. https://investor.fb.com/investor-news/press-release-details/2024/Meta-Reports-Fourth-Quarter-and-Full-Year-2023-Results-Initiates-Quarterly-Dividend/default.aspx

Meta. (2024b). *Researcher API*. https://fort.fb.com/researcher-apis

Meta. (2024c). *CrowdTangle*. https://transparency.meta.com/en-us/researchtools/other-datasets/crowdtangle/

Noorden, R. V. (2014). Online collaboration: Scientists and the social network: Scientists and the social network. *Nature*, *512*(7513). https://doi.org/10.1038/512126a

Petrosyan, A. (2025). *Number of internet and social media users worldwide as of February 2025*. https://www.statista.com/statistics/617136/digital-population-worldwide/

Pinterest. (2024). *Company*. https://newsroom.pinterest.com/company/

Proferes, N., Jones, N., Gilbert, S., Fiesler, C., & Zimmer, M. (2021). Studying Reddit: A Systematic Overview of Disciplines, Approaches, Methods, and Ethics. *Social Media + Society*, *7*(2). https://doi.org/10.1177/20563051211019004

Quaderi, N. (2023). *Supporting integrity of the scholarly record: Our commitment to curation and selectivity in the Web of Science*. Academia & Government Blog & Insights. https://clarivate.com/academia-government/blog/supporting-integrity-of-the-scholarly-record-our-commitment-to-curation-and-selectivity-in-the-web-of-science/

Sinnenberg, L., Buttenheim, A., Padrez, K., Mancheno, C., Ungar, L., & Merchant, R. (2017). Twitter as a Tool for Health Research: A Systematic Review. *American Journal of Public Health*, *107*(1), e1-e8. https://doi.org/10.2105/AJPH.2016.303512

Statista Research Department. (2025). *Number of Facebook users in China from 2017 to 2023*. https://www.statista.com/statistics/558221/number-of-facebook-users-in-china/

The Editors of Encyclopædia Britannica. (2009). *X*. https://www.britannica.com/money/Twitter

The Editors of Encyclopædia Britannica. (2023a). *TikTok*. https://www.britannica.com/topic/TikTok

The Editors of Encyclopædia Britannica. (2023b). *WhatsApp*. https://www.britannica.com/topic/WhatsApp

Birkinshaw, J. (2019). *WeChat: behind the scenes at China's most successful app*. https://www.london.edu/think/we-chat-behind-the-scenes-at-chinas-most-successful-app

Thomala, L. L. (2024a). *Number of monthly active QQ users from 4th quarter 2019 to 4th quarter 2023*. https://www.statista.com/statistics/1318070/china-tencent-number-of-monthly-active-accounts-of-qq/

Thomala, L. L. (2024b). *Number of monthly active smart device users of Tencent QQ from 2014 to 2023*. https://www.statista.com/statistics/227352/number-of-active-tencent-im-user-accounts-in-china/

Thomala, L. L. (2024c). *WeChat - statistics & facts*. https://www.statista.com/topics/9085/wechat/

Thomala, L. L. (2024d). *Number of monthly active WeChat users from 4th quarter 2013 to 4th quarter 2023*. https://www.statista.com/statistics/255778/number-of-active-wechat-messenger-accounts/

Thomala, L. L. (2024e). *Number of monthly active users of Weibo Corporation from 4th quarter of 2015 to 4th quarter of 2023*. https://www.statista.com/statistics/795303/china-mau-of-sina-weibo/

Thomala, L. L. (2025). *Social media in China - statistics & facts*. https://www.statista.com/topics/1170/social-networks-in-china/

TikTok. (2024). *Research API*. https://developers.tiktok.com/products/research-api/

Tornes, A. (2021) Enabling the future of academic research with the Twitter API. *Twitter Developer Platform*. https://developer.twitter.com/en/blog/product-news/2021/enabling-the-future-of-academic-research-with-the-x-api

WhatsApp. (2013). *Introducing Voice Messages*. https://blog.whatsapp.com/introducing-voice-messages

Wilson, R., Gosling, S., & Graham, L. (2012). A Review of Facebook Research in the Social Sciences. *Perspectives on Psychological Science*, *7*(3), 203-220. https://doi.org/10.1177/1745691612442904

YouTube. (n.d.). *YouTube Research*. https://research.youtube/

Zeng, J., Abidin, C., & Schäfer, M. (2021). Research Perspectives on TikTok & Its Legacy Apps. *International Journal of Communication*, *2021*(15), 3161–3172. https://ijoc.org/index.php/ijoc/article/view/14539

Zhang, Y., & Leung, L. (2015). A review of social networking service (SNS) research in communication journals from 2006 to 2011. *New Media & Society*, *17*(7), 1007-1024. https://doi.org/10.1177/1461444813520477

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