DESIDOC Journal of Library & Information Technology, Vol. 44, No. 4, July 2024, pp.222-233, DOI : 10.14429/djlit.44.04.19558


# A Bibliometric Study of Social Media Use Performance: From Likes to Outcomes

Zuraidah Arif[1*], Abd Latif Abdul Rahman[1], Zati Atiqah Mohamad Tanuri[1], Moh. Safii[2], Wan Irham Ishak[3] and Mohd Zool Hilmie Mohamed Sawal[1]

[1]*Information Science Studies, College of Computing, Informatics and Mathematics, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, Malaysia*
[2]*Prodi Ilmu Perpustakaan, Fakultas Sastra, Universitas Negeri Malang*
[3]*Academy of Language Studies, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, Malaysia*
[*]*E-mail: zuraidah_arif@uitm.edu.my*

**ABSTRACT**

This study examines Social Media Usage (SMU) performance patterns, topics, and themes. The study analyses 377 scopus publications using VOSviewer, Harsing's Publish or Perish, and Excel. This study focuses on Social Media (SM) performance from 2011 through 2022. VOSviewer, Microsoft excel worksheet, Scopus database, and Harsing's Publish or Perish software were chosen for their functionality, compatibility with research tasks, and credibility as reliable tools for bibliometric analysis, data visualisation, and citation metrics calculation in academic research. The bibliometric analysis identifies significant research issues, influential authors, notable journals, and contributing institutions in SMU and performance. This study suggested three directions for SMU performance research. First, tracking keyword usage trends can show SM studies' shifting priorities and paradigms. Second, studying international collaboration, clusters, and research productivity and quality can reveal innovation and knowledge diffusion patterns. Thirdly, further research could examine the quality versus quantity of this growth, determining if higher publication rates lead to higher impact research. This study also helps us understand SMU performance research progress over the previous decade and guides future research. It is essential to clarify that this study only uses one database, stressing the necessity for more sources in future studies.

**Keywords:** Social media; Social media use performance; Social media performance; Bibliometric analysis

## 1. INTRODUCTION

The utilisation of Social Media (SM) has also been linked to performance outcomes in these sectors. Nevertheless, the scholarly literature has not thoroughly investigated the correlation between the utilisation of SM and one's performance. Hence, this study aims to conduct a thorough bibliometric analysis of the utilisation and effectiveness of SM to assess the existing state of research in this domain. Using bibliometrics, a well-known quantitative technique, we identified the most prolific authors, journals, and research themes in SM and performance. In addition, network visualisation techniques are used to identify the co-authorship and country-specific networks. To accomplish this, Scopus, one of the most well-known and comprehensive bibliographic databases, is used. One of the benefits of using Scopus is that it assists in generating some ready-to-use reports, such as subject areas, top keywords, the most prolific authors, and the categorisation of document types. The study assesses research development through bibliometric analysis, identifies new trends, and emphasises well-researched and less-researched areas. The objectives focus on filling gaps in the literature, providing a thorough evaluation, and proposing potential avenues for future research.

This study has three following objectives:

(a) To analyse the trends in research on the impact of SM over time.
(b) To explore the research topics and themes that have been most studied regarding the impact of SM.
(c) To identify gaps in the body of literature on Social Media Usage (SMU) and performance as well as suggest directions for further investigations.

The current study made several significant contributions to the existing literature. To begin, the current paper examined publication patterns in this field of study by analysing yearly trends in research output. Second, using bibliometric data, the current study determined the major subject area, core source title, and prolific author in terms of SM performance. Third, the top twenty research papers on SM use performance and the studies with the most total and average citations each year were highlighted.

It is critical to recognise that the limitations of this study are common to similar research endeavors. First, the research data were obtained solely from the Scopus database, which, while comprehensive, may not include all available sources. Future research should include other well-known databases such as Web of Science (WoS), Google Scholar, PubMed, and CiteSeerX. Second, broadening the scope of the

Received : 19 October 2023, Revised : 03 April 2024
Accepted : 14 May 2024, Online published : 08 August 2024

research by including additional keywords related to SM use performance would improve the breadth of future studies. Keyword usage varies across studies, including synonyms, acronyms, and terminology variations. The variability of keywords can make it difficult to capture all relevant publications accurately. Finally, using advanced bibliometric analysis techniques, investigating the evolution of keywords and research topics over time could provide additional insights into the shifting focus areas and interdisciplinary connections in SM studies. Despite these limitations, the current study has added valuable knowledge by presenting current trends in SM performance research and expanding on previous findings in the literature using a bibliometric approach.

## 2. LITERATURE REVIEW

### 2.1 Social Media Use (SMU)

SM includes digital platforms that allow individuals to create, share, and engage in online communication based on Web 2.0 principles. Technology for immediate connectivity and collaboration among users[1-3]. When it comes to SMU, it helps small organisations with digital transformation, focusing on sustainable value perception, especially in remote work setups[4]. Smaller to medium-sised hospitality businesses use SM for customer relations and competitive insights, making decisions based on interactive data[5]. Just like scholars, travel agencies acknowledge its strategic significance, although with different implementation results[6]. In addition, SM is a valuable resource for ICT education and fostering relationships between students and academics[7]. Although it may be limited by time constraints and cultural influences.[8] Even with these limitations, SM helps drive digital transformation in small businesses, improves customer relationships in the hospitality sector, and aids in education for students and scholars.

### 2.2 Social Media Use (SMU) and Performance

Various studies have repeatedly shown the positive effects of SM on various performance elements. A substantial body of research substantiates these claims, explaining the benefits it provides concerning brand and retailer performance, as well as its ability to cultivate a positive relationship between consumers and retailers. The effects of technology utilisation on employee performance are nuanced. Cognitive and social use enhance job performance, while hedonic use hampers routine but enhances social connections.[9] The performance of a firm can be significantly improved through the strategic use of SM, enhancing marketing capabilities, and fostering innovation.[10-11] Notably, social media, particularly WhatsApp, significantly impacts workplace challenges such as information overload and communication overload, albeit without significantly affecting innovative work performance.[12] A work-focused SMU strategy improves employee engagement, task performance, job devotion, and interpersonal facilitation while reducing the negative impact of work interruptions[13]. However, it is necessary to acknowledge that the cognitive utilisation of SM positively influences employees' innovative behavior and job performance[14].

Enterprise SMUs can yield positive and detrimental outcomes on employee work performance[15-16]. The incorporation of social media in the workplace positively impacts the acquisition of knowledge, self-confidence in completing tasks, and the ability to think creatively, ultimately leading to improved work performance for construction managers. However, it is important to acknowledge that an excessive level of confidence in one's ability to complete tasks and a high level of creativity can have a negative effect on overall performance[17]. Additionally, salespeople use SM, empathetic behavior, and sales performance exhibit a positive correlation, highlighting its potential for enhancing sales outcomes[18].

SM improves job performance by increasing information acquisition, task self-efficacy, and creativity.[17] It promotes social capital in sales professionals, allowing for value co-creation and improving cross/upselling effectiveness[19]. The relationship between ethical leadership and SMU changes depending on whether controls are included, with more extensive connections when an activity or result controls are present[18]. The company's success is significantly impacted by SMU and market entry agility.[20] The overindulgence in SM might cause problems with work needs. However, knowledge exchange reduces psychological pressure. Technology-work conflicts and tension hurt workplace performance[16].

Previous research has examined SMU and academic performance. SM, especially YouTube, is user-friendly and beneficial to students, improving academic performance[21]. However, overuse can hinder learning[22]. Facebook's popularity can cause addiction and hurt academic performance[23]. Various models and theories illuminate this complex relationship[24]. Some studies show a negative correlation between SMU and Grade Point Average (GPA), [25] while others offer a positive attitude toward classroom SMU[26].

## 3. METHODOLOGY

Assessing academic works, quantitatively[27] can help with categorisation and research evaluation[28]. It is commonly used for analysing scientific data and rankings[30]. This study used VOSviewer (https://www.vosviewer.com/) version 1.6.19, a well-known software tool developed by Van Eck and Waltman, for conducting the bibliometric analysis. VOSviewer assists in generating and displaying bibliometric networks, enabling the mapping of network connections and overlay visualisations. It can conduct co-occurrence and co-citation analyses, offering a user-friendly interface for generating maps[29]. VOSviewer, a tool for generating and displaying bibliometric maps, simplifies the analysis of extensive maps[31]. VOSviewer software was chosen for visualising geographical distribution and co-authorship because of its strong ability to generate bibliometric maps and network visualisations. VOSviewer enables researchers to efficiently analyse and visualise large datasets, detect patterns, clusters, and trends in bibliographic data, and gain insights into the structure and dynamics of scholarly literature[30-31]. Its user-friendly interface, advanced visualisation

options, and ability to handle complex bibliometric analyses made it an excellent choice for investigating the intricate relationships and patterns in SM research literature.

Meanwhile, Microsoft Excel Worksheet software was used to analyse primary data from Scopus in CSV format due to their widespread availability, familiarity among researchers, and versatile data analysis functionalities. Excel includes tools for data cleaning, manipulation, basic statistic calculation, and tabular data visualisation, making it ideal for preliminary data processing and exploratory data analysis.

Moreover, Harsing's Publish or Perish (https://harsing.com/resources/publish-or perish/windows), version 8, a well-known academic citation analysis program, was also utilised in this research. Harsing's Publish or Perish software calculates citation metrics and frequency measures. It has specialised features for bibliometric analysis, such as citation counts, h-index, g-index, and citation per author metrics. Publish or Perish has an easy-to-use interface, real-time citation data retrieval from sources such as Google Scholar, WOS, and Scopus, and customisable metrics calculations. This makes it an ideal tool for evaluating the scholarly impact and visibility of publications in SM research. Its ability to generate comprehensive citation reports and export data for further analysis supported the study's bibliometric analysis goals.

Scopus was chosen as the main literature retrieval database. Regarding citation analysis, Scopus has 20 percent more coverage than WoS. However, Google Scholar gives mixed results. Meanwhile, PubMed is often used in scientific research[33]. Scopus is useful for bibliometric analysis and literature review because it covers journals, conference proceedings, and citation data. The study accessed relevant and authoritative SM use performance literature thanks to its advanced search, citation tracking, and high-impact journal indexing.

VOSviewer, Microsoft Excel Worksheet, Scopus database, and Harsing's Publish or Perish software were chosen based on their functionality and compatibility with the research tasks. It established a reputation as a reliable tool for bibliometric analysis, data visualisation, and citation metrics calculation in academic research. These tools and databases aided in exploring, analysing, and visualising complex bibliographic data on SM use performance, adding to the study's comprehensiveness and analytical rigor.

### 3.1 Source and Data Collection

Scopus was utilised for the bibliometric analysis due to its ability to offer bibliometric indicators rapidly[34]. This study aims to identify relevant documents following PRISMA guidelines[35]. Refer to Figure 1. Searching for "social media use" returned 5480 documents. After narrowing down the search to "social media use" AND "performance," a total of 377 results were identified. All n=377 results are included for further analysis. Scopus provided all results on March 15, 2023, showing the timeframe for data collection for analysis.

## 4. RESULT AND FINDINGS

### 4.1 Document and Source Type

The analysis yielded a total number of 377 documents. Table 1 presents the distribution of document types in the analysed sample. The distribution of document types in

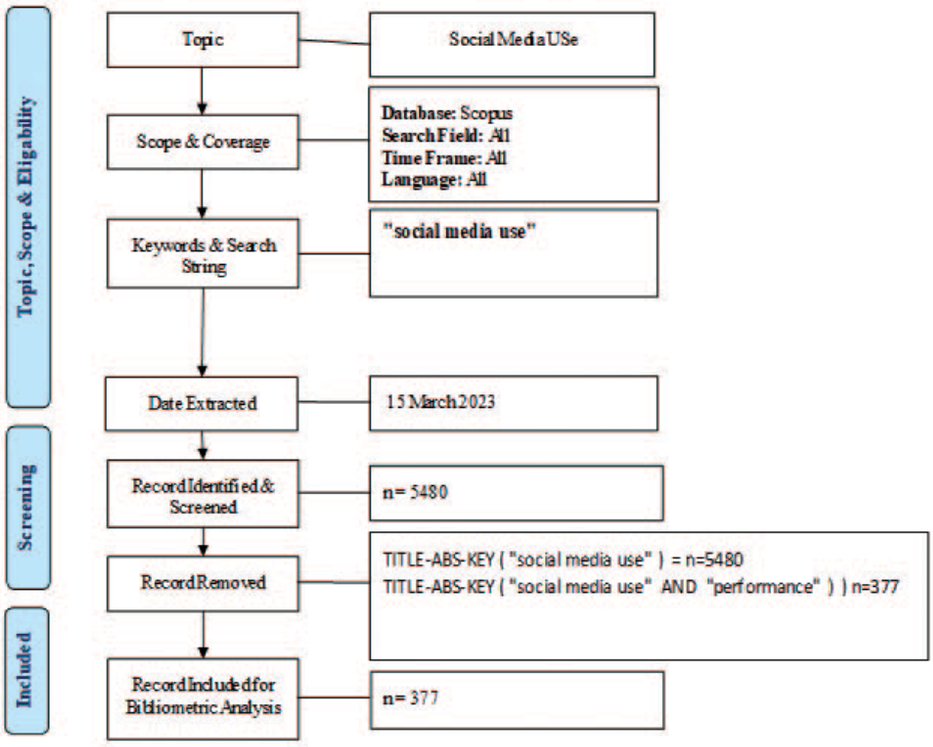


**Figure 1. PRISMA flow diagram.**

Table 1 highlights the predominance of articles in the analysed sample, indicating that this is the most common format for publishing research in the field. This confirms that other research has reported articles as the most frequently used document type in bibliometric analyses[36-37]. The relatively low percentage of conference papers and book chapters suggests that these formats are less commonly used for publishing research in this field. However, it is essential to note that conference papers can be a valuable source of information, particularly for emerging research areas or for presenting preliminary findings[38].

**Table 1. Document and source type**

| Document type | Total publications | Percentage (%) |
|---|---|---|
| Article | 276 | 73.21% |
| Conference paper | 52 | 13.79% |
| Book chapter | 18 | 4.77% |
| Conference | | |
| Review | 16 | 4.24% |
| Review | 11 | 2.92% |
| Editorial | 2 | 0.53% |
| Book | 1 | 0.27% |
| Erratum | 1 | 0.27% |

### 4.2 Publications Growth by Year

The findings presented in Figure 2 highlight the trends in publication output across 2011-2022. The finding shows a positive pattern in the number of publications, demonstrating a consistent increase over time. This indicates significant absolute growth in research on SM platforms and their effects on user behavior and outcomes. Examination of percentage growth rates shows fluctuations over time, with the highest between 2011 and 2012, showing a 300 % increase in publications.

As the field matured, percentage growth rates stabilised, with more moderate increases in recent years. Between 2018 and 2019, 16 publications increased, indicating a major literature growth period. These findings align with previous studies documenting a comparable pattern in scholarly publication productivity across diverse disciplines[39]. Several factors contribute to the observed increase in the numerical value mentioned, including advancement in technology and communication, enhanced collaboration between researchers, and the rising need for research outputs.

### 4.3 Subject Wise Distribution

The analysis revealed that the domains of social sciences and computer science emerged as the predominant subject areas, constituting 36.34 % and 35.01 % of the aggregate publications, correspondingly. The domains of business, management, and accounting exhibited a notable presence in a substantial proportion of 25.20 % of the scholarly publications. The distribution of publications in various subject areas exhibited a relatively diminished

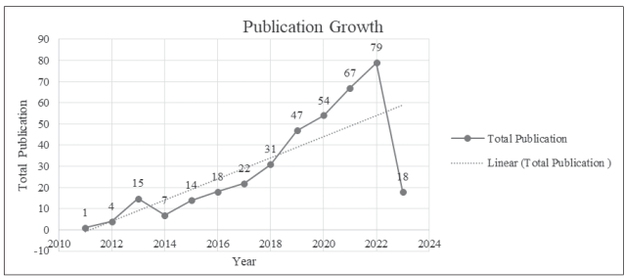


**Figure 2. Publications growth.**

presence, as evidenced by medicine, engineering, and psychology contributing correspondingly to 16.8, 12.20, and 11.41 % of the aggregate publications. Table 2 shows the distribution of publications across different subject areas is shown.

### 4.4 Top Keywords

This study investigates the frequency of keywords related to SMU and performance. The analysis focused on the total number of publications identified by these keywords. The results are presented in Table 3. Recent citations indicate that SM is the most frequently studied subject area in 67.11 % of the publications. The term "social networking" exhibits noteworthy prominence, ranking as the second most prevalent keyword in the analysis dataset, accounting for approximately 25.73 %. The keywords analysis reveals that academic performance holds 14.59 p%, followed by economic and social effects at 10.88 % and students at 10.61 %.

These findings highlight the significance of academic performance as a focal point, indicating its prevalence in scholarly discourse. There is a diverse range of research inquiries have been undertaken about the utilisation of SM platforms and their impact on various domains. This includes, but is not limited to, job performance, mental well-being, and educational outcomes.

### 4.5 Most Prolific Authors and Authors Contribution

Al-Rahmi, W.M. emerges as the most prolific author within the dataset, having authored a total of 11 documents. This contribution accounts for approximately 2.93 % of the overall document. Dhir, A., Al-Rahmi, A.M., Charoensukmongkol, P., Garrido-Moreno, A., Itani, O.S., Yu, L., Agnihotri, R., Ajjan, H., Cao, X., Garcia-Morales, V.J., and Mosconi, E. are also among the notable contributors, having authored between 4-6 documents each, indicating their significant research output in the field. A comprehensive compilation of authors and their corresponding publication counts is presented in Table 4.

In addition, Table 5, showing the authorship count, provides insights into the collaborative aspect of research on SMU and performance. Multi-author publications, especially those with three authors (96) and two authors (90), highlight the importance of interdisciplinary collaboration and diverse expertise in this field. Moreover, publications without specified authors (18) indicate the

**Table 2. Subject area distribution**

| Subject area | TP | % |
|---|---|---|
| Social sciences | 137 | 36.34% |
| Computer science | 132 | 35.01% |
| Business, management and accounting | 95 | 25.20% |
| Medicine | 61 | 16.18% |
| Engineering | 46 | 12.20% |
| Psychology | 43 | 11.41% |
| Arts and humanities | 23 | 6.10% |
| Decision sciences | 22 | 5.84% |
| Economics, econometrics and finance | 21 | 5.57% |
| Environmental science | 21 | 5.57% |
| Energy | 10 | 2.65% |
| Health professions | 10 | 2.65% |
| Neuroscience | 9 | 2.39% |
| Mathematics | 8 | 2.12% |
| Agricultural and biological sciences | 6 | 1.59% |
| Materials science | 6 | 1.59% |
| Biochemistry, Genetics and Molecular Biology | 4 | 1.06% |
| Pharmacology, toxicology and pharmaceutics | 4 | 1.06% |
| Earth and planetary sciences | 3 | 0.80% |
| Physics and astronomy | 3 | 0.80% |
| Chemical engineering | 2 | 0.53% |
| Dentistry | 2 | 0.53% |
| Nursing | 1 | 0.27% |
| Veterinary | 1 | 0.27% |

**Table 3. Top keywords**

| Author keywords | Total publications | Percentage (%) |
|---|---|---|
| Social media | 253 | 67.11% |
| Social networking (online) | 97 | 25.73% |
| Human | 71 | 18.83% |
| Academic performance | 55 | 14.59% |
| Humans | 49 | 13.00% |
| Article | 47 | 12.47% |
| Economic and social effects | 41 | 10.88% |
| Male | 40 | 10.61% |
| Students | 40 | 10.61% |
| Female | 38 | 10.08% |
| Social media use | 35 | 9.28% |
| Adult | 32 | 8.49% |
| Media use | 23 | 6.10% |
| Questionnaire | 23 | 6.10% |
| Major clinical study | 22 | 5.84% |
| Performance | 22 | 5.84% |
| Human experiment | 21 | 5.57% |
| Job performance | 21 | 5.57% |
| Controlled study | 19 | 5.04% |
| Academic achievement | 18 | 4.77% |

incorporation of conference proceedings or reviews where author details are excluded. These results emphasise the significance of examining different types of publications to thoroughly grasp research patterns.

### 4.6 Core Source Title in Social Media Research

The distribution of publications across source titles reveals the state of SM use performance research. The interdisciplinary nature of the topic is shown by the diverse range of source titles in the literature. Table 6 shows top source titles like "*Computers in Human Behavior" and "International Journal of Environmental Research and Public Health*" lead in total publications. This demonstrates that SM research spans psychology, environmental health, education, and marketing. This diversity suggests a rich tapestry of perspectives and methodologies used to study SM use performance, highlighting its complexity and broad implications. Individual source titles make up a small percentage of publications. However, their collective impact shapes our understanding of social media's role in human behavior and societal outcomes. Each source title likely represents an academic community or field of expertise that serves specific research interests and audiences.

### 4.7 Highly Cited Articles

Overall, based on 20 highly cited articles (see Appendix 1). It demonstrates the growing interest in the impact of usage across various domains, with many papers exploring the consequences of excessive SM on job and academic performance, as well as the relationship between SMU and mental health. The articles with the highest citation counts regarding SMU performance were found through document citation analysis. Rapp, *et al.,* referenced by 420 (42.00 citations annually), investigates how SM use among suppliers, retailers, and customers can spread throughout the business supply chain. The authors investigated the effects on different performance metrics and created and validated measures for SM usage at each level[40].

However, Ali-Hassan, *et al.* received 318 citations, or 39.75 citations annually. The study examines the effects of different SM usage categories on work performance

**Table 4. Most prolific authors**

| Author's name | No. of documents | Percentage (%) |
|---|---|---|
| Al-Rahmi, W.M. | 11 | 2.92% |
| Dhir, A. | 6 | 1.59% |
| Al-Rahmi, A.M. | 5 | 1.33% |
| Charoensukmongkol, P. | 5 | 1.33% |
| Garrido-Moreno, A. | 5 | 1.33% |
| Itani, O.S. | 5 | 1.33% |
| Yu, L. | 5 | 1.33% |
| Agnihotri, R. | 4 | 1.06% |
| Ajjan, H. | 4 | 1.06% |
| Cao, X. | 4 | 1.06% |
| García-Morales, V.J. | 4 | 1.06% |
| Mosconi, E. | 4 | 1.06% |
| Shamsuddin, A. | 4 | 1.06% |

**Table 5. Authorship count/ collaboration**

| No | Author | Count |
|---|---|---|
| 1 | 1 | 33 |
| 2 | 2 | 90 |
| 3 | 3 | 96 |
| 4 | 4 | 60 |
| 5 | 5 | 35 |
| 6 | 6 | 19 |
| 7 | 7 | 15 |
| 8 | 8 | 4 |
| 9 | 9 | 2 |
| 10 | 10 | 3 |
| 11 | 11 | 2 |
| 12 | Not available | 18 |
| | **Grand Total** | **377** |

**Table 6. Top 10 core source titles in social media research**

| Source title | TP | % |
|---|---|---|
| Computers in Human Behavior | 9 | 2.39% |
| International Journal of Environmental Research and Public Health | 9 | 2.39% |
| Computers and Education | 8 | 2.12% |
| Industrial Marketing Management | 8 | 2.12% |
| Journal of Medical Internet Research | 7 | 1.86% |
| Sustainability Switserland | 7 | 1.86% |
| 19th Americas Conference on Information Systems Amcis 2013 Hyperconnected World Anything Anywhere Anytime | 5 | 1.33% |
| IEEE Access | 5 | 1.33% |
| Information Technology and People | 5 | 1.33% |
| Journal of Business Research | 5 | 1.33% |

as mediated by three social capital dimensions[9]. In the meantime, 183 (or 91.50 annually) cited Prowse, *et al.,* the online study looks into how the COVID-19 pandemic has impacted undergraduate students' mental health and well-being. It focuses on academics, social isolation, mental health, and coping mechanisms used by students.[32]

### 4.8 Country-based Citation Network Visualisation

The analysis performed with VOSviewer software revealed significant results, providing insights into the relationships and influence of academic publications globally. The network visualisation map in Figure 3 provides a comprehensive representation of the citation patterns observed across various countries. The minimum number of documents of a nation was set at one, indicating that only countries with at least one publication were included in the analysis. The minimum number of citations of an author was established at five, ensuring that only countries with a cumulative citation count of five or more were considered for inclusion in the analysis.

After analysing 29 countries, distinct patterns in citation relationships were revealed through clustering. One cluster stood out as the most prominent, with 11 countries possibly suggesting a group of nations with substantial research impact or cooperation. Clusters 2, 3, and 4 exhibited a decrease in size, indicating different levels of citation connectivity between countries. With 230 citation links identified, it highlights the broad scholarly influence that crosses international borders. Notably, the total link strength, measured at 946.00, highlights the strength and depth of these citation connections, indicating significant citation impacts between countries.

This study provides valuable insights into the worldwide scholarly impact and collaboration, helping to pinpoint important research centers. It promotes interdisciplinary cooperation and enhances research dissemination strategies for maximum global impact and knowledge sharing. Network visualisation (Fig. 3a) displays country citation relationships graphically, identifying clusters and assessing their interconnectedness. Global citation networks can be visualised to reveal research influence and collaboration hubs. Citation counts and impact metrics can be added to network visualisations using overlay visualisation (Figure 3b). Overlays of citation strength and network connections help us identify countries with significant citation impacts and identify patterns of scholarly influence.

### 4.9 Network Visualisation of the Co-authorship

The co-authorship analysis, utilising VOSviewer software, concentrated on country-level analysis with full counting and uncovered numerous significant findings. Including criteria for nations in the analysis required a minimum document count of three, ensuring that only countries with a minimum number of three publications were considered. The threshold for a country's minimum number of citations was established at five, indicating that only countries with a cumulative citation count of five or more were considered

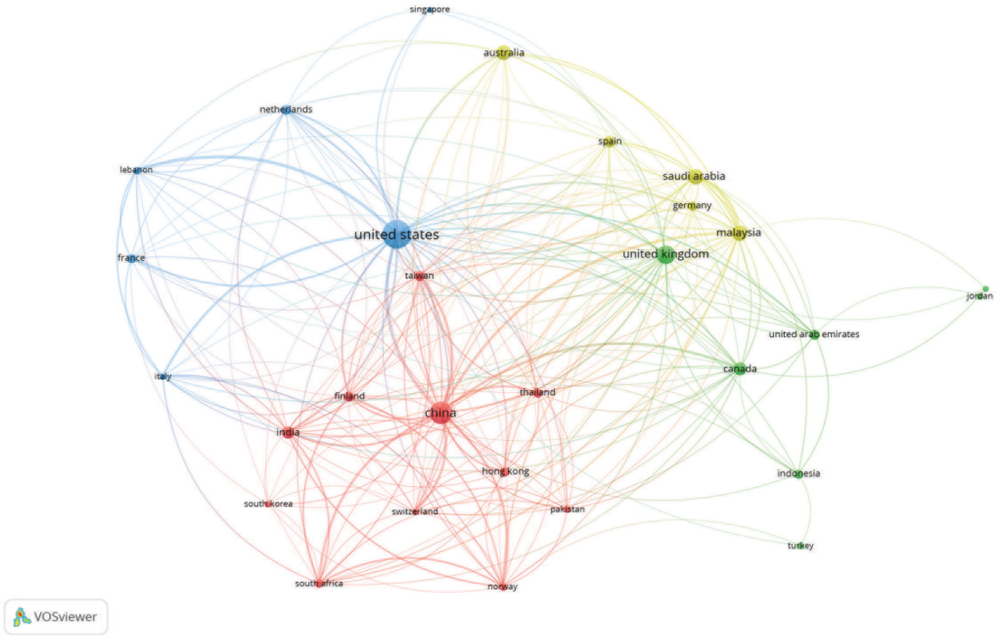


**Figure 3(a). Country-based citation network visualisation.**

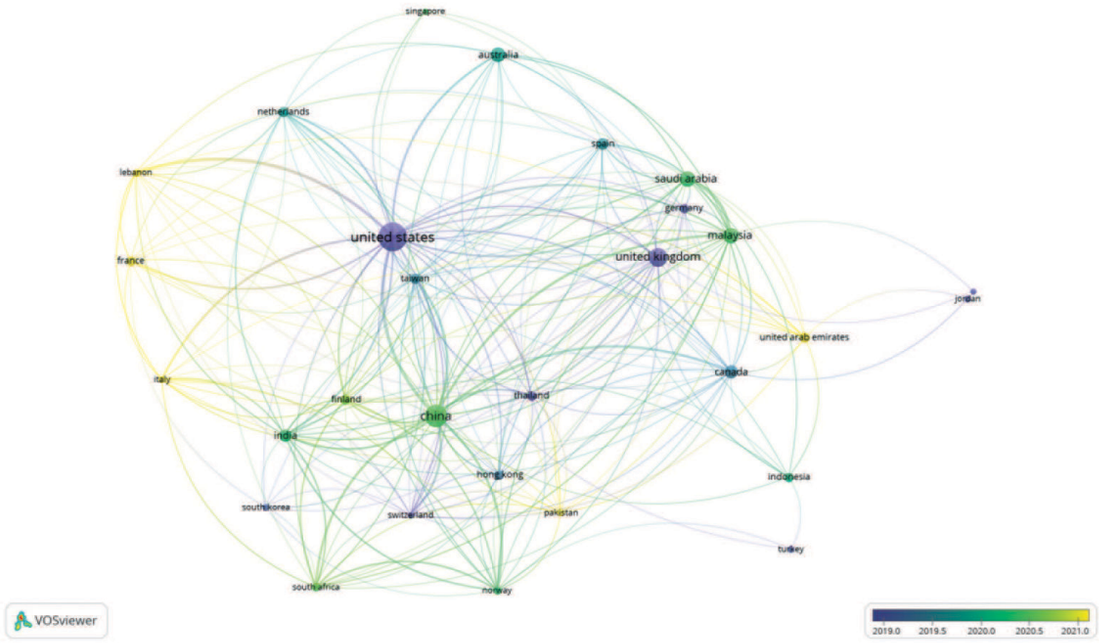


**Figure 3(b). Country-based citation overlay visualisation.**

for inclusion. Figure 4 shows six distinct clusters were identified among 32 items (countries), each containing a different number of items. Clusters 1 to 3 had seven items each, clusters 4 and 5 had four items each, and cluster 6 had three items. One hundred twenty-eight links were identified in the analysis, showing collaborative relationships in scholarly publications among the countries. The total link strength, quantified at 205, highlights the strength and importance of these co-authorship connections. The results provide valuable insights into the collaborative academic research network across countries. The grouping of countries indicates the existence of specific clusters with similar co-authorship patterns, possibly indicating mutual research interests, regional partnerships, or other influences. The numerous links and overall link strength demonstrate the strong and extensive collaborative relationships within the global research community. This underscores the significance of international cooperation in furthering scientific knowledge.

### 4.10 Co-authorship Network Visualisation Map

This study showcases a comprehensive network visualisation map illustrating the co-authorship relationship among authors. The unit of analysis in this visualisation is specifically focused on authors. The employed counting methodology is fractional counting, wherein an author

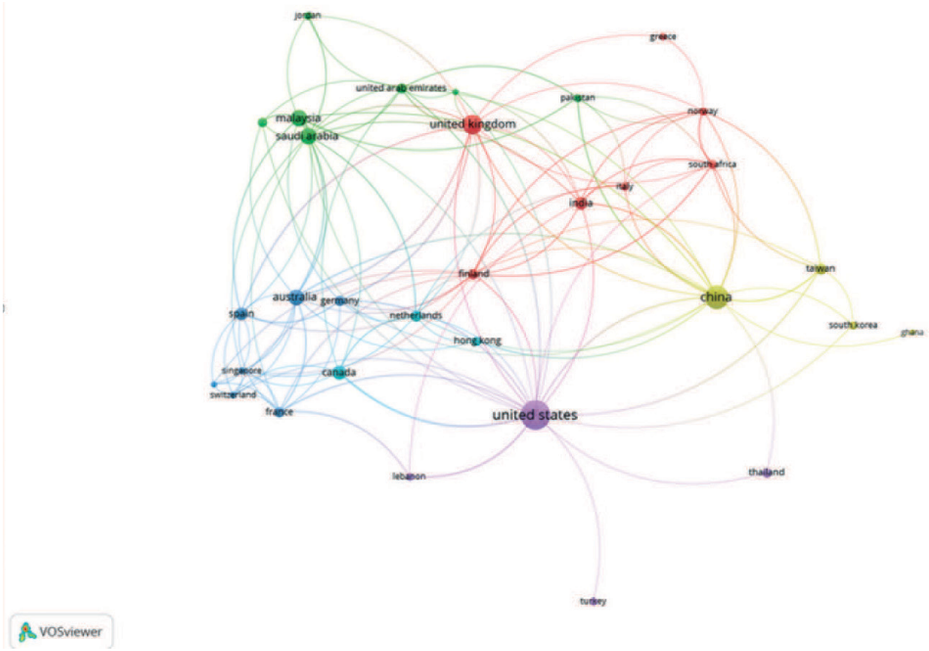


**Figure 4. Network visualisation of the co-authorship.**

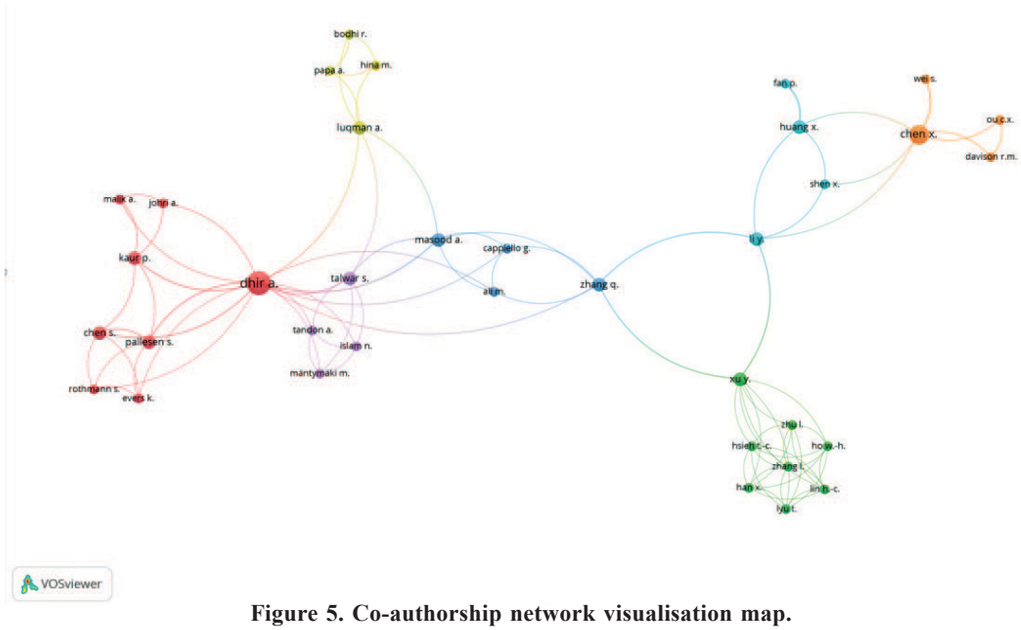


**Figure 5. Co-authorship network visualisation map.**

must have a minimum of one document and five citations to be encompassed. The visualisation map elucidated the interrelationship and cooperative endeavors among authors, predicated on their scholarly outputs and respective origins. The findings from the co-authorship analysis reveal 36 authors categorised into seven clusters, connected by 90 co-authorship links with a total link strength of 26.50, which are closely tied to network visualisation methods. By utilising network visualisation, every author is shown as a node in the graph, with the connections between co-authors displayed as edges. Furthermore, network visualisation (Fig. 5) shows the influential authors, collaborative hubs, and interdisciplinary connections within the network, suggesting valuable insights into the dynamics of scholarly collaboration.

## 5. DISCUSSION CONCLUSIONS

This study examined SMU and performance research trends. The document shows a positive publication trend from 2011 to 2022, particularly in the publication by year section. The steady growth matches scholarly publication productivity across disciplines. Increased research output indicates a continued interest in the dynamic relationship between SMU and performance metrics. New technologies and the growing importance of research outputs contribute to this upward trend. Researchers and stakeholders can use this information to contextualise SM research over time, recognising new trends and areas of focus. The second goal was to explore the research topics and themes that have been studied the most about the impact of SM. The

findings highlight the wide range of SM research, from academic outcomes to economic and social effects. The variety of keywords reflects social media's multifaced role in society. Researchers can use this knowledge to explore specific themes and contribute to field discussions. The third objective was to identify gaps in SMU and performance literature. Document and source type analysis, subject areas, and geographical distribution reveal gaps and exploration opportunities. Social sciences and computer science dominate, while engineering and psychology are less prominent. Country-based citation and co-authorship network visualisations show cooperation gaps between nations and researchers. These gaps allow scholars to study understudied SMUs and their performance. Future research can include interdisciplinary studies, cross-cultural analysis, and investigations into emerging themes to ensure a complete understanding of this changing research landscape.

Due to its single database success, it is a study limitation. Due to this, future research of this kind is proposed to cover a more comprehensive range of sources, such as the WoS and Scopus. Instead of analysing the quality of the documents' content, which may be the subject of further study, the objective was to conduct a descriptive quantitative analysis of "SMU performance" in published literature over the past decade. Analysing the text to determine the SMU performance and further the research would be intriguing. Furthermore, the study highlighted three potential directions for future research on the performance of SM use. Firstly, examining the changing patterns in keyword usage over time can offer valuable insights into the shifting priorities and research paradigms within the field of SM studies. Secondly, it is important to investigate knowledge diffusion and innovation patterns by analysing factors that drive international collaboration, the formation of collaborative clusters, and the impact of collaboration on research productivity and quality. Lastly, for a more comprehensive analysis, it would be valuable to explore the relationship between the publication rate and the research's impact. This would help determine whether a higher number of publications indicates more impactful research or if there should be a greater emphasis on improving research methodology and advancing theoretical frameworks.

## 6. CONCLUSIONS

Based on the literature review, it is clear that there is a growing body of research on SMUs and their performance in different organisational areas. Examining bibliometric data is valuable for pinpointing key research themes, authors, journals, and institutions involved in SMU and performance. The research examined in this analysis has shown the advantages of using SM on various performance results, such as marketing, financial, customer, and employee outcomes. However, many research gaps still need to be addressed, such as the influence of SMU on environmental and social performance and the factors affecting individual performance. This analysis emphasises the importance of ongoing research and exploration into the impact of SMU.

Only one database was used for analysis, which may limit the study. It is suggested that future research in this area should encompass a broader array of sources, including Scopus and WoS. As evidenced by the increasing quantity of papers added to the Scopus database, there has been a worldwide rise in research interest over the last decade. Instead of delving into the content quality of the documents, which could be a topic for future research, the focus was on performing a quantitative analysis of the concept of "social media use performance" in literature published in the last decade. Exploring the content to analyse SMU performance could enhance the research.

## REFERENCES


1. Högberg, K. Organisational social media: A literature review and research agenda. *In* Proceedings of the Annual Hawaii International Conference on System Sciences, January 2018, Hawaii. pp.1864-1873. http://hdl.handle.net/10125/50122.
2. Kaplan, A.M. & Haenlein, M. Users of the world, unite! The challenges and opportunities of social media. *Business Horizons,* 2010, **53**(1), 59-68. doi: 10.1016/j.bushor.2009.09.003.
3. Boyd, D.M. & Ellison, N.B. Social network sites: Definition, history, and scholarship. *J. Comput-Mediated Commun.,* 2008, **13**(1), 210-230. doi: 10.1111/j.1083-6101.2007.00393.x.
4. Feitosa Jorge, L.; Mosconi, E. & Santa-Eulalia, L.A. Enterprise social media platforms for coping with an accelerated digital transformation. *J. Syst. Inf. Technol.,* 2022, **24**(3), 221-245. doi: 10.1108/JSIT-08-2021-0154.
5. Siti-Nabiha, A.K.; Nordin, N. & Poh, B.K. Social media usage in business decision-making: The case of Malaysian small hospitality organisations. *Asia-Pacific J. Bus. Adm.,* 2021, **13**(2), 272-289. doi: 10.1108/APJBA-08-2020-0276.
6. Splendiani, S.; Dini, M.; Rivetti, F. & Pencarelli, T. Exploring usage, expected benefits and perceived usefulness of social media in travel agencies: An empirical investigation in Italy. *TQM J.,* 2023, **35**(9), 83-106. doi: 10.1108/TQM-10-2022-0312.
7. Lata, N. & Sonkar, S.K. Use of Information Communication Technology (ICT) in library and information science education and research. *DESIDOC J. Lib. Inf. Technol.*, 2023, **42**(6), 397-403. doi: 10.14429/djlit.42.6.18371.
8. Ali, R. e-Tutor: Understanding the use of Facebook for informal learning through the lens of uses and gratifications theory. *Interactive Technol. Smart Educ.,* 2023, **20**(3), 385-402. doi: 10.1108/ITSE-12-2022-0180.
9. Ali-Hassan, H.; Nevo, D. & Wade, M. Linking dimensions of social media use to job performance: The role of social capital. *J. Strategic Inf. Syst.,* 2015, **24** (2), 65-89. doi: 10.1016/j.jsis.2015.03.001.
10. Tajvidi, R. & Karami, A. The effect of social media on firm performance. *Comput. Human Behavior,* 2021, 115. doi: 10.1016/j.chb.2017.09.026.

11. Chen, X.; Ou, C.X. & Davison, R.M. Internal or external social media? The effects of work-related and social-related use of social media on improving employee performance". *Internet Res.,* 2022, **32**(3), 680-707. doi: 10.1108/INTR-03-2020-0159.
12. Kasim, N.M.; Fauzi, M.A.; Yusuf, M.F. & Wider, W. The effect of whatsapp usage on employee innovative performance at the workplace: Perspective from the Stressor–Strain–Outcome Model. *Behavioral Sci.,* 2022, **12(**11). doi: 10.3390/bs12110456.
13. Zhao J.; Guo T.; Shang S. & Wang M. Work along both lines: The positive impact of work-based social media use on job performance. *Int. J. Environ. Res. Public Health,* 2021, **18**(21). doi: 10.3390/ijerph182111578.
14. Turulja L.; Delalic E. & Bajgoric N. Social media at the workplace: An empirical analysis of the effects on employee innovative behavior and job performance. *Int. J. E-Serv. Mobile Appl.,* 2022, **14**(1) doi: 10.4018/IJESMA.300266.
15. Shang, Y.; Pan, Y. & Richards, M. Facilitating or inhibiting? The role of enterprise social media use in job performance". *Inf. Technol. People,* 2023, **36**(6), 2338-2360. doi: 10.1108/ITP-04-2021-0268.
16. Cao, X. & Yu, L. Exploring the influence of excessive social media use at work: A three-dimension usage perspective. *Int. J. Inf. Manage.,* 2019, **46**, 83-92. doi: 10.1016/j.ijinfomgt.2018.11.019.
17. Jia, J.; Ma, G.; Jiang, S.; Wu, M. & Wu, Z. Influence of social media use at work on construction managers' work performance: The knowledge seeker's perspective. *Eng. Constr. Archit. Manage.,* 2021, **28**(10), 216 – 3235. doi: 10.1108/ECAM-09-2020-0705.
18. Kalra, A.; Briggs, E.; Schrock, W. Exploring the synergistic role of ethical leadership and sales control systems on salesperson social media use and sales performance. *J. Bus. Res.*, 2023, 154. doi: 10.1016/j.jbusres.2022.113344.
19. Itani, O.S.; Badrinarayanan, V. & Rangarajan, D. The impact of business-to-business salespeople's social media use on value co-creation and cross/up-selling: the role of social capital. *European J. Marketing,* 2023, **57**(3), 683 – 717. doi: 10.1108/EJM-11-2021-0916.
20. Muna, N.; Yasa, N.N.K.; Ekawati, N.W.; Wibawa, I.M.A.; Ayu Sriathi, A.A. & Adi, I.N.R. Market entry agility in the process of enhancing firm performance: A dynamic capability perspective. *International J. Data Network Sci.,* 2022, **6**(1), 99–106. doi: 10.5267/J.IJDNS.2021.9.018.
21. Sobaih, A.E.E.; Palla, I.A. & Baquee, A. Social media use in e-learning amid COVID-19 pandemic: Indian students' perspective. *Int. J. Environmental Res. Public Health,* 2022, **19**(9). doi: 10.3390/ijerph19095380.
22. Nand, S. & Shaikh Ali, S.H. Impact of excessive use of social media on students learning performance: Gratifications theory perspective. *In* IVIT 2022-Proceedings of 1st International Visualisation, Informatics and Technology Conference, pp. 35–42. doi: 10.1109/IVIT55443.2022.10033346.
23. Wan Pa, W.A.M.; Mahmud, M.S. & Zainal, M.S. Implications of social media addiction on academic performance among Generation Z student-athletes during COVID-19 Lockdown. *Int. J. Learn., Teach. Educ. Res.,* 2021, **20**(8).194 – 209. doi: 10.26803/IJLTER.20.8.12.
24. Al-Rahmi, A.M.; Shamsuddin, A.; Wahab, E.; Al-Rahmi, W.M.; Alismaiel, O.A. & Crawford, J. Social media usage and acceptance in higher education: A structural equation model. *Frontiers Educ.,* 2022, *7*. doi: 10.3389/feduc.2022.964456.
25. Nurudeen, M.; Abdul-Samad, S.; Owusu-Oware, E.; Koi-Akrofi, G.Y. & Tanye, H.A. Measuring the effect of social media on student academic performance using a social media influence factor model. *Educ. Inf. Technol.,* 2023, **28**(1), 1165–1188. doi: 10.1007/s10639-022-11196-0.
26. Alshwiah, A. & Alaulamie, L. Social media usage and its association with students' performance and attitude in Saudi Arabia. *J. Appl. Res. Higher Educ.,* 2023, **15**(2), 355 – 368. doi: 10.1108/JARHE-11-2021-0417.
27. Valérie, D. & Pierre, A.G. Bibliometric indicators: Quality measurements of scientific publication. *Radiology,* 2010, **255**(2), 342-351. doi: 10.1148/radiol.09090626.
28. Merigó, J.M., Gil-Lafuente, A.M. & Yager, R.R. An overview of fuzzy research with bibliometric indicators. *Appl. Soft Comput. J.,* 2015, **27**, 420-433. doi: 10.1016/j.asoc.2014.10.035.
29. Lam, W.H.; Lam, W.S.; Jaaman, S.H. & Lee, P.F. Bibliometric analysis of information theoretic studies. *Entropy*, 2022, **24**(10), 1359. doi: 10.3390/e24101359.
30. van Eck, N.J. & Waltman, L. VOSviewer Manual—version 1.6.8. 2018. http://www.vosviewer.com/ documentation/ Manual_VOSviewer_1.5.4.pdf
31. van Eck, N.J. & Waltman, L. Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics,* 2010, **84**(2), 523-538. doi: 10.1007/s11192-009-0146-3.
32. Prowse, R.; Sherratt, F.; Abizaid, A.; Gabrys, R.L.; Hellemans, K.G.C.; Patterson, Z.R. & McQuaid R.J. Coping With the COVID-19 Pandemic: Examining gender differences in stress and mental health among university students. frontiers in psychiatry, 2021, 12. doi: 10.3389/fpsyt.2021.650759.
33. Falagas, M.E.; Pitsouni, E.I.; Malietzis, G.A. & Pappas, G. Comparison of PubMed, Scopus, Web of Science, and Google Scholar: Strengths and weaknesses. *FASEB J.*, 2008, **22**(2), 338–42. doi: 10.1096/fj.07-9492LSF.
34. Sweileh, W.M.; Wickramage, K.; Pottie, K., *et al.* Bibliometric analysis of global migration health research in peer-reviewed literature (2000–2016). *BMC Public Health,* 2018, **18**, 777. doi: 10.1186/s12889-018-5689-x.
35. Moher, D.; Liberati, A.; Tetzlaff, J, Altman, D.G. & The PRISMA Group. Preferred reporting

items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Med,* 2009, **6**(7). doi: 10.1371/journal.pmed1000097.
36. Gorraiz, J.; Gumpenberger, C. & Schlögl, C. Usage versus citation behaviors in four subject areas. *Scientometrics,* 2014, **101**, 1077–1095. doi: 10.1007/s11192-014-1271-1.
37. Martín-Martín, A.; Orduna-Malea, E.; Thelwall, M. & López-Cózar, E.D. Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *J. Informetrics,* 2018, **12**(4), 1160-1177. doi: 10.1016/j.joi.2018.09.002.
38. Costas, R. & Yegros-Yegros, A. Possibilities of funding acknowledgment analysis for the bibliometric study of research funding organisations: Case study of the Austrian Science Fund (FWF). *In* Proceedings of ISSI 2013-14th International Society of Scientometrics and Informetrics Conference, 15-20 July 2013, Vienna, Austria. 2013. **2**, pp. 1401-1408. https://www.issi-society.org/proceedings/issi_2013/ISSI_Proceedings_Volume_I.pdf.
39. Ezzouine, L.; Amine, A. & Oubrich, M. State of the art and trends of the research on social media use in organisation: bibliometric analysis from 2007-2017. *In* 2018 IEEE International Conference on Technology Management, Operations and Decisions, ICTMOD 2018, pp. 119-124. doi: 10.1109/ITMC.2018.8691176.
40. Rapp, A.' Beitelspacher, L.S.' Grewal, D. & Hughes, D.E. Understanding social media effects across seller, retailer, and consumer interactions. *J. Academy Marketing Sci.*, 2013, **41**(5), 547-566. doi: 10.1007/s11747-013-0326-9.

## CONTRIBUTORS

**Ms Zuraidah Arif** holds the position of Senior Lecturer in the field of Information Science Studies at the College of Computing, Informatics, and Mathematics, located at Universiti Teknologi MARA Cawangan Kedah, specifically on the Sungai Petani campus in Malaysia. Her areas of interest are: Encompass Library and information management, Bibliometric studies, and Information behavior.
For the present work, she undertook the task of composing an abstract for this study, as well as making substantial contributions to the introduction of the concept, data analysis, and copyediting.

**Dr Abd Latif Abdul Rahman** is an Associate Professor Ts at Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, Malaysia, in the Information Science Studies, College of Computing, Informatics, and Mathematics. His research area are: Big data behavior, Information systems, Knowledge organisation systems, Information-seeking behavior, and Bibliometrics.
He conceived the idea for this bibliometric study and contributed to the literature review, discussion, and conclusion sections.

**Ms Zati Atiqah Mohamad Tanuri** is a Senior Lecturer at the College of Computing, Informatics, and Mathematics, Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, Malaysia. Her research focuses on Information needs, Library automation, and Bibliometrics.
She worked on the methodology section, reviewed this article, and assisted in data analysis and computational analysis.

**Mr Moh Safii** is a lecturer at the Prodi Ilmu Perpustakaan, Fakultas Sastra, Universitas Negeri Malang. His areas of expertise includes: Information needs, Library automation, Scientometrics, and Bibliometrics.
He wrote methodology and reviewed.

**Dr Wan Irham Wan Ishak** is a Senior Lecturer at the Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, Malaysia's Academy of Language Studies. His areas of research interest are: Sociolinguistics, Pragmatics, and Discourse analysis.
He reviewed this article, wrote a portion, and handled copyediting.

**Dr Mohd Zool Hilmie Mohamed Sawal** is a Senior Lecturer at Universiti Teknologi MARA Cawangan Kedah, Kampus Sungai Petani, Malaysia's College of Computing, Informatics, and Mathematics' Information Science Studies. He has worked in the LIS field for fifteen years. His areas of research interest are: Bibliometrics and Information management
His input has shaped the research, analysis, writing, and publication process of the current study.

**Appendix 1: Highly cited articles**

| S. No. | Authors | Title | Year | Source | Cites | Cites per year |
|---|---|---|---|---|---|---|
| 1 | A. Rapp, L.S. Beitelspacher, D. Grewal, D.E. Hughes | Understanding social media effects across seller, retailer, and consumer interactions | 2013 | Journal of the Academy of Marketing Science | 420 | 42 |
| 2 | H. Ali-Hassan, D. Nevo, M. Wade | Linking dimensions of social media use to job performance: The role of social capital | 2015 | Journal of Strategic Information Systems | 318 | 39.75 |
| 3 | R. Prowse, F. Sherratt, A. Abizaid, R.L. Gabrys, K.G.C. Hellemans, Z.R. Patterson, R.J. McQuaid | Coping With the COVID-19 Pandemic: Examining Gender Differences in Stress and Mental Health Among University Students | 2021 | Frontiers in Psychiatry | 183 | 91.5 |
| 4 | L. Yu, X. Cao, Z. Liu, J. Wang | Excessive social media use at work: Exploring the effects of social media overload on job performance | 2018 | Information Technology and People | 173 | 34.6 |
| 5 | S.Z. Ahmad, A.R. Abu Bakar, N. Ahmad | Social media adoption and its impact on firm performance: the case of the UAE | 2019 | International Journal of Entrepreneurial Behaviour and Research | 163 | 40.75 |
| 6 | R. Tajvidi, A. Karami | The effect of social media on firm performance | 2021 | Computers in Human Behavior | 153 | 76.5 |
| 7 | O.S. Itani, R. Agnihotri, R. Dingus | Social media use in B2b sales and its impact on competitive intelligence collection and adaptive selling: Examining the role of learning orientation as an enabler | 2017 | Industrial Marketing Management | 152 | 25.33 |
| 8 | E. Alwagait, B. Shahzad, S. Alim | Impact of social media usage on students academic performance in Saudi Arabia | 2015 | Computers in Human Behavior | 145 | 18.13 |
| 9 | W.M. Al-Rahmi, N. Alias, M.S. Othman, V.I. Marin, G. Tur | A model of factors affecting learning performance through the use of social media in Malaysian higher education | 2018 | Computers and Education | 142 | 28.4 |
| 10 | A. Dhir, P. Kaur, S. Chen, S. Pallesen | Antecedents and consequences of social media fatigue | 2019 | International Journal of Information Management | 137 | 34.25 |
| 11 | X. Cao, L. Yu | Exploring the influence of excessive social media use at work: A three-dimension usage perspective | 2019 | International Journal of Information Management | 136 | 34 |
| 12 | P. Charoensukmongkol | Effects of support and job demands on social media use and work outcomes | 2014 | Computers in Human Behavior | 126 | 14 |
| 13 | X. Cao, A. Ali | Enhancing team creative performance through social media and transactive memory system | 2018 | International Journal of Information Management | 116 | 23.2 |
| 14 | S. Du, G. Yalcinkaya, L. Bstieler | Sustainability, Social Media Driven Open Innovation, and New Product Development Performance* | 2016 | Journal of Product Innovation Management | 116 | 16.57 |
| 15 | D. Schlagwein, M. Hu | How and why organisations use social media: Five use types and their relation to absorptive capacity | 2017 | Journal of Information Technology | 112 | 18.67 |
| 16 | H. Zhang, S. Gupta, W. Sun, Y. Zou | How social-media-enabled co-creation between customers and the firm drives business value? The perspective of organizational learning and social Capital | 2020 | Information and Management | 105 | 35 |
| 17 | E. Whelan, A.K.M.N. Islam, S. Brooks | Applying the SOBC paradigm to explain how social media overload affects academic performance | 2020 | Computers and Education | 97 | 32.33 |
| 18 | G. Zachos, E.-A. Paraskevopoulou-Kollia, I. Anagnostopoulos | Social media use in higher education: A review | 2018 | Education Sciences | 95 | 19 |
| 19 | P. Charoensukmongkol, P. Sasatanun | Social media use for CRM and business performance satisfaction: The moderating roles of social skills and social media sales intensity | 2017 | Asia Pacific Management Review | 94 | 15.67 |
| 20 | A. Luqman, S. Talwar, A. Masood, A. Dhir | Does enterprise social media use promote employee creativity and well-being? | 2021 | Journal of Business Research | 92 | 46 |