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Team Effectiveness Trends through the Seven Decades Onset: Bibliometric Analysis

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Abstract

This bibliometric analysis study investigates the global research trends in team effectiveness by analysing publications that are indexed in the Scopus database. The study employs VOSviewer software to visualise co-authorship and co-occurrence networks, hence offering a visual representation of thematic connections and collaboration patterns. The analysis indicates a consistent increase in research output, particularly after 1993, with the highest number of publications recorded in 2023. The United States is the most dominant country in the discipline, contributing nearly 39.6% of the total number of publications and playing a critical role in international research collaborations. The most productive journal is Small Group Research followed by the Journal of Applied Psychology and the Journal of Organisational Behaviour. Based on the findings, the leading institute is University of Connecticut. Universiteit Twente and the University of Western Australia are the next most productive academic institutions. The high levels of single-country publications in countries such as Malaysia, Israel, South Africa, India, and France suggest a strong level of intra-country collaboration. Germany lacks publications that are specific to a single country, which implies that the country prioritises international collaboration. The results indicate that team efficacy research is becoming more interdisciplinary and globally interconnected. To gain more understanding of the field, future research should extend bibliometric analyses to include multiple databases and investigate emerging areas such as virtual teams, emotional intelligence, and conflict resolution. As a conclusion, this study offers a thorough examination of the research landscape on team effectiveness, emphasising the primary trends, influential journals, leading countries and institutions, and collaboration patterns in this field.

Keyword: Team Effectiveness, Bibliometric Analysis, Scopus, Research Trends, VOSviewer

Introduction

Team effectiveness has emerged as a vital field in organizational research due to its potential to enhance productivity, creativity, and collaboration in diverse settings, such as workplaces, educational institutions, and communities. As globalization and rapid technological innovation reshape how organizations operate, teams have become the foundation for tackling complex, multidisciplinary tasks. This shift demands a deeper

understanding of factors influencing team performance, including virtual team dynamics, conflict resolution, and emotional intelligence, especially as organizations adopt hybrid work models and diverse team structures (Breuer et al., 2016; Reiter-Palmon et al., 2021).

While the existence of workplace teams is not a new phenomenon, their importance has grown significantly in recent decades. Organizations increasingly view effective teamwork as a strategic solution for improving productivity and adapting to the pressures of efficiency and innovation (Mobolade & Akinade, 2021). In academic settings, research teams exemplify the intricate and varied nature of modern collaboration, necessitating cooperation to achieve shared objectives (Ramdeo et al., 2022). Team effectiveness, as defined by Guzzo and Dickson (1996), represents the collective capacity of individuals working interdependently to achieve organizational and social goals. This definition, rooted in frameworks from Alderfer (1977) and Hackman (1983), emphasizes both group performance and individual satisfaction.

Theories of team effectiveness, such as the input-process-output (IPO) model, highlight the interplay of resources, team processes, and outcomes. These frameworks categorize effectiveness into dimensions such as team performance, commitment, and satisfaction (Mathieu et al., 2008). Effective teams are characterized by maximizing resources to achieve goals, fostering shared purpose, and maintaining adaptability to evolving work processes (Alfah & Pangestu, 2022). Furthermore, the sustainability of team performance, including vitality and resilience, has emerged as a crucial focus in the literature (Tannenbaum et al., 2021).

The significance of team effectiveness extends beyond academia. High-functioning teams underpin success in industries like healthcare, education, and technology development. For instance, emotional intelligence and leadership styles have been shown to enhance team trust, cohesion, and performance (Irving & Longbotham, 2007; D'Silva & Ahrari, 2016). Teams that align individual strengths with collective goals can achieve outcomes far beyond what members could accomplish alone (Ehigie et al., 2023).

This bibliometric analysis identifies trends, thematic patterns, and influential contributors in the field of team effectiveness by examining 359 articles from the Scopus database. Bibliometric methods offer valuable insights into the field's growth and evolution, enabling researchers, managers, and policymakers to recognize high-impact studies and collaborative networks. This study emphasizes the interdisciplinary nature of team effectiveness and its increasing relevance in organizational behavior, human resource development, and leadership training. The results aim to inform both academic literature and practical applications, contributing to improved organizational outcomes and individual well-being.

Methods

Bibliometric analysis study is a mechanistic approach to understand the global research trends in a specific area based on the outputs of the academic literature database. This kind of approach distinguish a bibliometric analysis paper from a review paper which primarily intended to discuss the latest progress, challenges and future directions of a certain topic.

The bibliometric methodology encapsulates the application of quantitative techniques (i.e., bibliometric analysis—e.g., citation analysis) on bibliometric data (e.g., units of publication and citation)

Data Source and Search Strategy

Data mining was conducted on 26th December 2023 using Scopus database. The central theme in this study was research articles containing "team effectiveness" in the title. "Team effectiveness"

Table 1
Summary of Data Collection

Note	Number of Documents	Query Search String
Title only	372	TITLE ("team effectiveness") AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (SRCTYPE , "j"))
title and review paper	44	TITLE ("team effectiveness") AND (TITLE ("recent" OR progress OR review OR critical OR revisit OR advance* OR highlight OR perspective OR prospect OR trends OR bibliometric OR scientometric OR insights OR overview OR "state of the art" OR challenges OR updates) OR ABS (progress OR review OR bibliometric OR scientometric)) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (DOCTYPE , "ar"))
remove the review paper- 13 review paper	359	TITLE ("team effectiveness") AND NOT EID (2-s2.0-85148631252 OR 2-s2.0-85078490261 OR 2-s2.0-85053353370 OR 2-s2.0-85016001042 OR 2-s2.0-84969930834 OR 2-s2.0-84938318782 OR 2-s2.0-84929672497 OR 2-s2.0-84888383435 OR 2-s2.0-84865467460 OR 2-s2.0-84877277816 OR 2-s2.0-85081620076 OR 2-s2.0-54149102254 OR 2-s2.0-0036252755) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (DOCTYPE , "ar"))

Bibliometric Maps

A total of 359 articles, including citations, bibliographical information, and author keywords, were exported to VOSviewer (version 1.6.20) for analysis in this study. The software application VOSviewer was used to examine the retrieved information and build visual representations of bibliometric networks (Van Eck & Waltman, 2011). The software allows the creation of elaborate maps using network data by using advanced VOS mapping and clustering methods. This allows researchers to detect and analyse patterns, clusters, and relationships within the dataset. VOSviewer provides flexible visualisation choices, enabling maps to be seen from many viewpoints, each emphasising certain facets of the network. In addition, VOSviewer has the capability to create and display networks that may include journals, researchers, or individual publications. These networks are constructed based on relationships such as citation, bibliographic coupling, co-citation, or co-authorship. In addition, the program has text mining capabilities to create and display co-occurrence

networks of important phrases retrieved from a collection of scientific literature (Van Eck & Waltman, 2011).

These 359 articles with the information extracted from database contained the keywords, countries, number of citation and others which is in VOSviewer known as item are link together. Khudzari et al. (2018) stated that any pair of items can have a link, or a connection, between them. Each link has a strength that is expressed as a positive number. The stronger the relationship, the higher this value. There are two types of links used in this study which are co-authorship and co-occurrence.

For co-authorship, Van Eck and Waltman (2022) explain that it is the links between researchers. It includes the authors, organizations and countries. It visualizes and analyse the total link strength which shows the overall strength of a given country's co-authorship relationships with other nations, while the link strength between countries shows the number of publications that two associated countries have co-authored. It also shows the number of publications two researchers have co-authored. in the case of co-authorship links between researchers, the Links attribute indicates the number of co-authorship links of a given researcher with other researchers. The Total link strength attribute indicates the total strength of the co-authorship links of a given researcher with other researchers. In co-occurrence analysis, it involves keywords. The number of publications in which two keywords occur together is shown by the link strength between author keywords.

Analysis of Co-authorship

The participation in collaborative research is indicated by authorship and sub-authorship, as explained by Glänzel and Schubert (2004). Sub-authors are individuals who are expressed gratitude by the authors of a publication for their substantial contributions. A hierarchical structure can be used to describe the relationship between contributors, co-authors, and co-writers, with co-authors being a subset of contributors (Kumar, 2015). Additionally, a subset of contributors who are acknowledged as co-authors and sub-authors are the scientists who are actively involved in the publication process. Consequently, Henriksen (2016) also endorsed the notion that co-authorship is the definition of research collaboration in this article. As a result, it is assumed that the co-authors are in fact in collaboration, as evidenced by their co-authorship.

For this article, the study of co-authorship is centred on countries where the author and co-author worked together. We covered all the 72 countries with 359 authors. The associated countries/territories were divided into five continents: Africa, America, Asia, Europe, and Oceania/Australia. The strength of a co-authorship relationship between two authors is defined not only by the number of documents co-authored by the authors, but also by the total number of authors of each of the coauthored articles.

Analysis of Co-occurrence

Co-occurrence analysis is about using a visualisation tool (vosviewer) used in bibliometric analysis to illustrate the commonly used and strongly correlated keywords or phrases discovered in publications relevant to a given subject of study. Keywords may be derived from a publication's title and abstract, or from the author's keyword list. Furthermore, keywords are often limited to individual words, particularly in earlier writing, although they

may also comprise phrases made up of numerous words (Klarin, 2024). The number of co-occurrences of two keywords is the number of publications where both terms exist in the title, abstract, or keyword list (Van Eck & Waltman, 2022).

The frequency and intensity of the relationship between specific keywords were investigated based on the collected articles from the SCOPUS database. In this collected database, the co-occurrence analysis of author keywords comprised 827 keywords from 359 articles. In VOSviewer, the minimum number of occurrences of a term to be analysed was set to 1 or 5. The overlay visualisation style displays the average publication year of the papers, the number of occurrences, and the link strength of the keywords. The colour of a term represents the average publication year of the texts where it occurs (Khudzari et al., 2018).

Result and Discussion

Publication Output and Growth of Research Interest

According to Krishnan et al. (2020), the number of publications is a crucial metric that indicates the patterns of scientific research advancement. The search keyword "team effectiveness" yielded 359 research articles on team effectiveness, spanning from 1954 to 2023. As the publication is still in progress, the year 2024 is not being examined. Consequently, this paper solely concentrates on examining the data that is currently accessible till 2023 to offer a thorough summary of previous study patterns, refraining from making assumptions based on insufficient data for 2024.

Figure 1 shows the publication trend of research articles on team effectiveness from 1954 to 2023, indicating a steady and continuous growth in academic output over time. The first publication occurred in 1954, with a gap before another piece was published in 1975. The graph illustrates irregular publication activity until the late 1980s, at which point more regular research contributions started to appear starting in year 1993. An observable increase took place from the early 2000s forward, characterised by a consistent growth in the number of publications each year. Starting in 2001, the annual number of published articles typically surpassed five, indicating a steady increase in academic interest. According to the graph, there was a significant increase in the field in 2016, with 24 articles published that year, the largest number up to that moment. During the 2010s, there was a consistent increase in research activity, concluding in 2023 with the highest number of annual publications, with 28 papers. The red line in the diagram depicts the cumulative number of publications with a steep rising trajectory, particularly starting in 2010, which indicates the rapid expansion of research in this field. The chart illustrates a noticeable pattern of escalating focus on team effectiveness, which may be influenced by the rising significance of collaboration in intricate, interdisciplinary settings across many industries. As the number of academics investigating this area grows, the consistent rise in published works suggests that the study of effectiveness in teams is becoming an important area of attention in organisational and behavioural research.

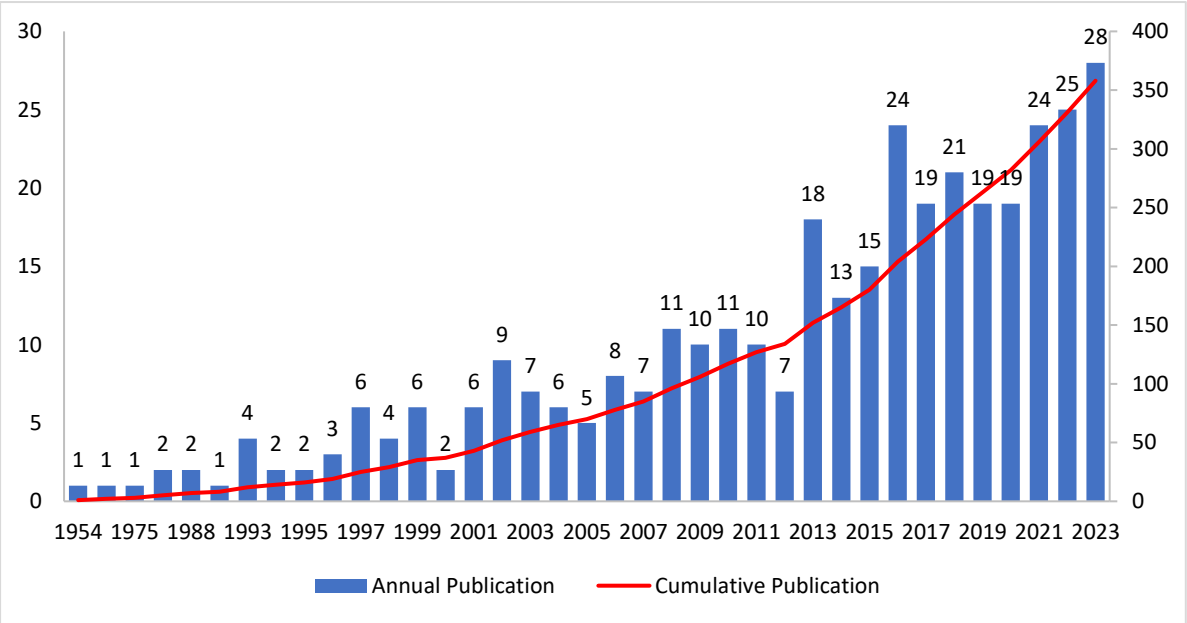

Figure 1 The Annual and Cumulative Numbers of Research Articles on Team Effectiveness Indexed in Scopus from 1954 Until 2023

Preferred Journals

The results from Table 2 indicate that the top 10 most productive journals are owned by the journals listed as follow. Starting with the Small Group Research journal, followed by the Journal of Applied Psychology, the Journal of Organisational Behaviour, Frontiers in Psychology, and so on.

Small Group Research is the most productive journal, accounting for 3.06% of the total publications, with 11 articles. Journal of Applied Psychology follows closely with 10 articles (2.79%), while Journal of Organisational Behaviour has 9 articles (2.51%), and Frontiers in Psychology has 8 articles (2.23%). The Journal of Applied Psychology, a magazine of the American Psychological Association (APA), obtained the highest number of citations, which is 3680. Additionally, one of their papers from 1998 holds the record for the most citations, with 1070.

SCOPUS defines CiteScore as a reliable and uncomplicated method for assessing the influence of cited research in peer-reviewed publications, including journals, book series, and conference proceedings. CiteScore quantifies the mean number of citations that each document published in the serial receives. CiteScore 2022 calculates the number of citations obtained for articles, reviews, conference papers, book chapters, and data papers produced between 2019 and 2022. It then divides this number by the total number of publications published over the same period. The CiteScore 2022 study reveals that the Academic of Management Journal achieved the highest CiteScore of 15.7. On average, each document published in the journal has received more than 15 citations over the course of 4 years. Team Performance Management had the lowest CiteScore, with a score of 3.4. Although Team Performance Management has the lowest average citation per year, Frontiers in Psychology has the lowest total citations, specifically 67 citations. Despite being rated 4th in terms of the number of articles in Scopus, this publication has much lower times cited and CiteScore compared to other journals.

Table 2
The Top 10 Most Productive Journals on Team Effectiveness Research with Their Most Cited Article.

Rank	Journal	TP (%)	TC	CiteScore 2022	The most cited article (reference)	Times cited	Publisher
1	Small Group Research	11 (3.06)	259	5.4	Examining team planning through an episodic lens: Effects of deliberate, contingency, and reactive planning on team effectiveness	52	SAGE
2	Journal of Applied Psychology	10 (2.79)	3680	14.0	Relating member ability and personality to work-team processes and team effectiveness	1070	American Psychological Association (APA) Publishing
3	Journal of Organizational Behavior	9 (2.51)	624	12.4	Team conflict management and team effectiveness: The effects of task interdependence and team identification	176	Wiley-Blackwell
4	Frontiers in Psychology	8 (2.23)	67	4.5	Computer security incident response team effectiveness: A needs assessment	22	Frontiers Media S.A.
5	Journal of Interprofessional Care	8 (2.23)	152	4.5	Team effectiveness in academic primary health care teams	71	Taylor and Francis
6	Team Performance Management	8 (2.23)	190	3.4	Cross-functional team effectiveness: An examination of internal team environment, shared	65	Emerald Publishing

					leadership, and cohesion influences		
7	Group And Organization Management	5 (1.39)	565	7.0	A longitudinal study of team conflict, conflict management, cohesion, and team effectiveness	321	SAGE
8	Journal Of Occupational and Organizational Psychology	5 (1.39)	214	8.5	Confidence at the group level of analysis: A longitudinal investigation of the relationship between potency and team effectiveness	63	The British Psychological Society
9	Academy Of Management Journal	4 (1.11)	375	15.7	The double-edged swords of autonomy and external knowledge: Analyzing team effectiveness in a multinational organization	142	Academy of Management
10	Journal Of Educational Administration	4 (1.11)	76	3.6	Team heterogeneity and its relationship with team support and team effectiveness	66	Emerald

TP: total publication, TC: total citation

Leading Countries, Top Institutions and International Collaborations

The top 16 most productive nations that contribute to the expansion of team effectiveness research globally are displayed in Table 3. The United States contributed to almost 39.6% of the worldwide publications, demonstrating their prominence in the advancement of team effectiveness research. Out of 158 journals, the United States had the most publications with 142 articles listed in the Scopus database.

In addition to the Table 3, a listed of productive institutions based on the number of team effectiveness articles, also includes information from the top 16 institutions.

Among the 16 countries listed in the top list, Malaysia (100.0%), Israel (91.7%), South Africa (90.0%), India (82.4%) and France (80.0%) had more than 80% single-country publications (SCP). This suggest that these countries have a strong intra-country

collaboration. On the other hand, Germany had 0.0% SCP where there are zero (0) article related to their own country. This means that most articles produced in Germany are affliated with other country rather than own country. Interestingly, Malaysia has 100.0% SCP which can be concluded that the research articles only involve research to Malaysia only.

Table 3
Top 16 Most Productive Countries and Academic Institutions in Team Effectiveness Publication

Rank	Country	TPc	SCP	The Most Productive Academic Institution	TPi
1	United States	142	73.9%	University of Connecticut	9
2	Netherlands	27	70.4%	Universiteit Twente	5
3	Australia	26	42.3%	The University of Western Australia	5
4	Canada	26	57.7%	University of Calgary	6
5	United Kingdom	23	52.2%	Loughborough University	2
6	China	23	43.5%	Lingnan University, Hong Kong	4
7	India	17	82.4%	Manipal Academy of Higher Education	3
8	Israel	12	91.7%	University of Haifa	9
9	Portugal	12	66.7%	Universidade de Coimbra	8
10	South Africa	10	90.0%	University of KwaZulu-Natal	3
11	South Korea	10	60.0%	Changwon National University	2
12	Germany	9	0.0%	Freie Universität Berlin	2
13	Malaysia	9	100.0%	Universiti Utara Malaysia	4
14	Belgium	8	25.0%	KU Leuven	3
15	Hong Kong	8	25.0%	Lingnan University, Hong Kong	4
16	Spain	8	75.0%	Universitat de Barcelona	2

TPc=Total publication by country; Tpi=Total publication by institute; SCP = Single Country Publication

Three institutions also appear in the top 100 QS World University Rankings 2024: KU Leuven (ranked 61), The University of Western Australia (ranked 72), and Freie Universität Berlin (ranked 98). These institutions represent the top universities globally. This indicates that the world's premier institutions have engaged with the subject of team effectiveness.

The distribution of countries/territories per region is shown in figure 2. The closer two countries are located to each other in VOSviewer, the stronger their relatedness and the stronger the link between two countries, the thicker the line (Khudzairi et al., 2018). The highest number of countries per region came from Europe (21) followed by Asia (20), America (6), Africa (4) and Oceania (1).

The VOSviewer handbook defines a link as a connection or relationship between two items. Examples of links include bibliographic coupling links among publications, co-authorship links among scholars, and co-occurrence links among terms. A map typically contains a one sort of link. Furthermore, there may be no more than one relationship between any two things. Every link possesses a strength, denoted by a positive numerical number. A greater value indicates a stronger link. The strength of a link may indicate, for instance, the quantity of cited references shared by two publications (in bibliographic coupling), the number of publications co-authored by both scholars (in co-authorship), or the

frequency of co-occurrence of two terms in publications (in co-occurrence links). Occasionally, the connections among items exhibit only one strength. Consequently, VOSviewer is unable to exhibit the strength of a link. Items and links collectively form a network. A network is a collection of interconnected items. To summarize it, a link represents a collaborative relationship between two countries.

In summary, each link signifies a collaborative relationship between two countries. Table 4 presents the results, listing the top 16 countries with the highest levels of collaboration regarding team effectiveness. The United States was the most affiliated country, with 23 links and 50 co-authorships. This indicates that there are 23 authors from the United States who are linked to other countries, and there are 50 collaborations between these scholars. This means that researchers, scholars, or institutions in the United States have formed a research collaboration with 23 other countries. The 50 co-authorships indicate that scholars from the United States have published 50 different research papers and collaborated with scholars from various countries. These 50 co-authorships demonstrate that the collaboration between the United States and other countries (23 links) has yielded significant research outputs in the form of collaborative papers. This result indicates that the United States leads the way in academic collaboration concerning team effectiveness.

The list was followed by Australia (13 links, 23 co-authorship), China (7 links, 17 co-authorships), Germany (9 links, 17 co-authorships), United Kingdom (14 links, 17 co-authorships), Canada (7 links, 16 co-authorships), Netherlands (7 links, 13 co-authorships), Belgium (6 links, 11 co-authorships). Table 4 summarizes these links and co-authorships between the countries. Figure 2 shows the network visualization mapping based on countries with links wheres Figure 3 shows the network visualization mapping includes the countries in which there is no link. In addition, countries like Malaysia, Indonesia, Vietnam, Saudi Arabia, Norway, France, Russian Federation, Finland, Lithuania, Ukraine, Romania, Colombia, Greece, Sweden and South Africa were not affiliated to any other countries for publishing articles on team effectiveness. This indicates that these countries may have no recorded collaborations with other countries. For example, Malaysia may not have links with other countries due to the geographical as a Southeast Asian country and not suitable with other countries environment. It could also indicate that Malaysia may have less interest in doing research about team effectiveness.

Table 4
Top 16 Countries

Rank	label	cluster	Links	Co-authorship
1	United States	America	23	50
2	Australia	Oceania	13	23
3	China	Asia	7	17
4	Germany	Europe	9	17
5	United Kingdom	Europe	14	17
6	Canada	America	7	16
7	Netherlands	Europe	7	13
8	Belgium	Europe	6	11
9	Hong Kong	Asia	5	9
10	Denmark	Europe	4	6
11	Switzerland	Europe	3	5
12	Taiwan	Asia	3	5
13	Portugal	Europe	4	4
14	South Korea	Asia	2	4
15	Spain	Europe	3	4
16	Sri Lanka	Asia	3	4

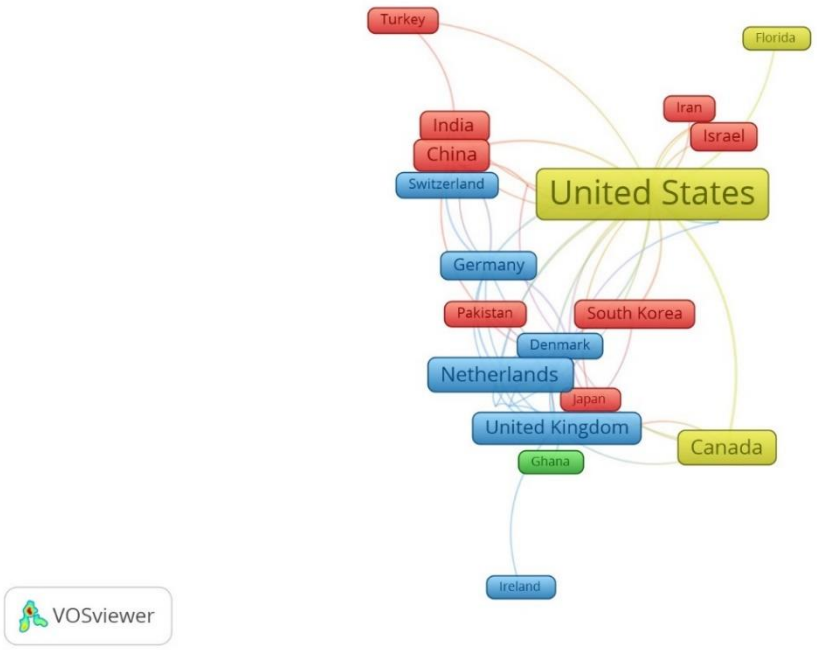

Figure 2 Bibliometric Map Created Based on Country Co-Authorship with Network Visualization Related with Each Other

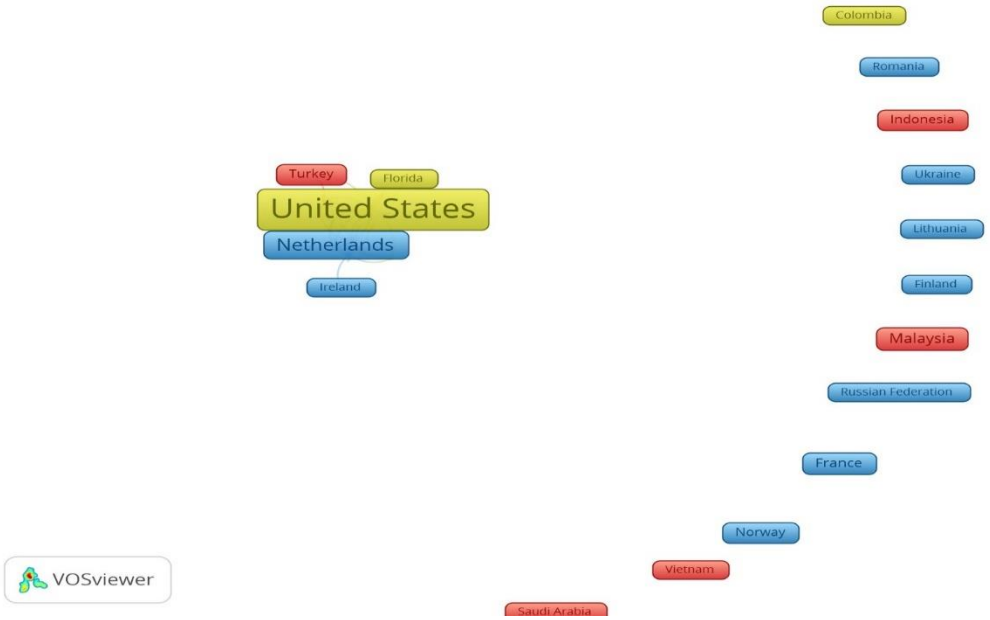

Figure 3 Bibliometric Map Created Based on Country Co-Authorship with Network Visualization Which Includes Country Related with Each Other and Not Related

Leading Authors

Appendix 1 lists the 18 most prolific authors in Team Effectiveness, affiliated to seven countries as follows: United States (6 authors), Portugal (4 authors), Israel (3 authors), Canada (2 authors), and respectively one author for Australia, Netherlands and Hong Kong. The first publications by these authors range between the year 1971 – 2013. Lourenço from Portugal led the list with a record of 7 publications since 2010, 10 h-index and 301 times citation. Apparently, the first, second and third rank author come from the same affiliation which is Centre for Business and Economics Research (CeBER) from Portugal.

In contrast, Mathieu has the highest total citation 22,265 with h-index 66. Five articles are found in the scopus database related to team effectiveness. In complementary, Mathieu is a well-known scholar that produce the theory of team effectiveness and his articles dated back to 1987. This proves that many scholars refer to Mathieu articles related to team effectiveness. Other authors with a high total citation more than 10,000 include Kirkman (11,755) and Gibson (13,788). Kirkman and Mathieu are both from United States wheres Gibson is from Australia.

Overall, based on the analysis of the 18 most prolific authors in the subject of team effectiveness indicates a broad international scene, with major contributions from researchers situated in the United States and Portugal. The domination of Lourenço, who has published substantially since 2010, demonstrates the continuous significance of research conducted by the Centre for Business and Economics Research (CeBER). Furthermore, Mathieu's high citation record and foundational work in team effectiveness theory demonstrate his critical contribution in defining this academic field. His large citation count, along with that of Kirkman and Gibson, demonstrates the significant impact these researchers have had on developing knowledge in team dynamics. Collectively, these findings point to a thriving scholarly environment marked by both historical contributions and present research efforts, highlighting the crucial role of collaboration and effectiveness in organisational

settings (Alexandrino et al., 2024; Mathieu, 1987). Even though the total publication for each author is less than 10 articles but until 2023, this can be concluded that the 'team effectiveness' is highly likely to increase gradually in the research.

Author Keywords

Keywords co-occurrence analysis measures the association strength of terms representative of the publications in the field by analysing the co-occurrence frequency of pairs of keywords. This technique provides a more in-depth understanding of the keywords that may contribute to the development of Team Effectiveness research. Two situation were analysed which is:-

Situation One:

A total of 854 author keywords was recorded. For analysis, a threshold of a minimum number of keyword occurrences equal to 1 was set. After adjustment to same meaning keywords, the analysis resulted in 854 keywords. A minimum of number of keywords occurred was set to one to make sure that author with at least 1 article, will be selected in the data processing. This means that every author who do not have much co-author with other author will be excluded from this analysis. (Refer to Figure 4)

Situation Two:

A total of 854 author keywords was recorded. For analysis, a threshold of a minimum number of keyword occurrences equal to 5 was set. After adjustment to same meaning keywords, the analysis resulted in 23 keywords. A minimum of number of keywords occurred was set to make sure that author with at least 5 articles above will be selected in the data processing and those with less than 5 articles will be omitted. This means that author who do not have much co-author with other author will be excluded from this analysis. (Refer to Figure 5)

Terminology and Concept

To analyze the author keywords based on VOSviewer, it should be look at the size of the nodes (frame) of each keyword and the thickness of the line between two keywords. The higher the frequency of keywords, the bigger the size of the nodes (frame). The lines's thickness is related to the closeness of connections between two keywords. The thicker the line between the two words, the closer the relationship.

Figure 4 shows the related keywords with atleast the occurrence is once linked to the other words. Team Effectiveness has the highest frequency of keywords with 468 link, total link strength 602 and 149 occurrences with average publication year 2015. This indicates that Team Effectiveness is a central theme, demonstrating strong connectivity and relevance within the network of concepts. The high frequency of keywords associated with this topic suggests it plays a crucial role in understanding collaborative dynamics and organizational performance, highlighting its importance for further research and practical applications.

Other keywords such as Team Performance has 96 links and 106 total links strength with 25 occurences and Leadership has 72 links, 82 total links strength, and 17 occurences has been mentioned a lot with team effectiveness. Furthermore, based on this bibliometric map, we can identify certain research area which can be useful for future research such as

education (higher education, nursing education, marketing education), leadership (servant leadership, spiritual leadership, crisis leadership, effective leadership, contigent reward leadership, peer leadership, ethical leadership), conflict (organization conflict, conflict management, task conflict, team conflict) and the list goes on.

After refining the keywords, finding the same meaning keywords, combine almost similar keyword into one, with minimum number of keywords occurences is five. Hence, VOSviewer produce this Figure 5. based on Figure 5, team effectiveness has the highest frequency of keywords with 149 occurences and 22 links to other keywords. The keyword "team effectiveness" with 149 occurrences reflects its use in academic literature, indicating its importance in research on organizational behavior and related fields. The 22 links show its co-occurrence with 22 other distinct keywords, suggesting that team effectiveness is frequently studied in relation to other topics such as leadership and performance. A total link strength of 107 quantifies how often "team effectiveness" co-occurs with these linked keywords, implying strong and consistent thematic associations across various publications, thereby highlighting its multidimensional role in the research landscape (Donthu et al., 2021; Kraus et al., 2022).

Other keywords are centralized around the team effectiveness such as leadership (17 occurences, 11 links), emotional intelligence (7 occurences, 8 links), team process (6 occurences, 9 links), task conflict (6 occurences, 5 links), team conflict (5 occurences, 5 links), performance, and others (Refer Appendix 2). This shows that there are studies have been done related to team effectiveness and these keywords and proves as team effectiveness can be a central theme or be the Dependent Variable. This will be good in determining which variables can be used with the Dependant Variable.

Limitation of Study

Until today, based on the search from SCOPUS, WOS, Google Scholar (major database for social science), this article, bibliometric analysis focusing on Team Effectiveness only. Our result may help the planning, designing and publishing future research on this topic.

Figure 4 Situation One: Bibliometric map created based on author keyword (overlay visualization)

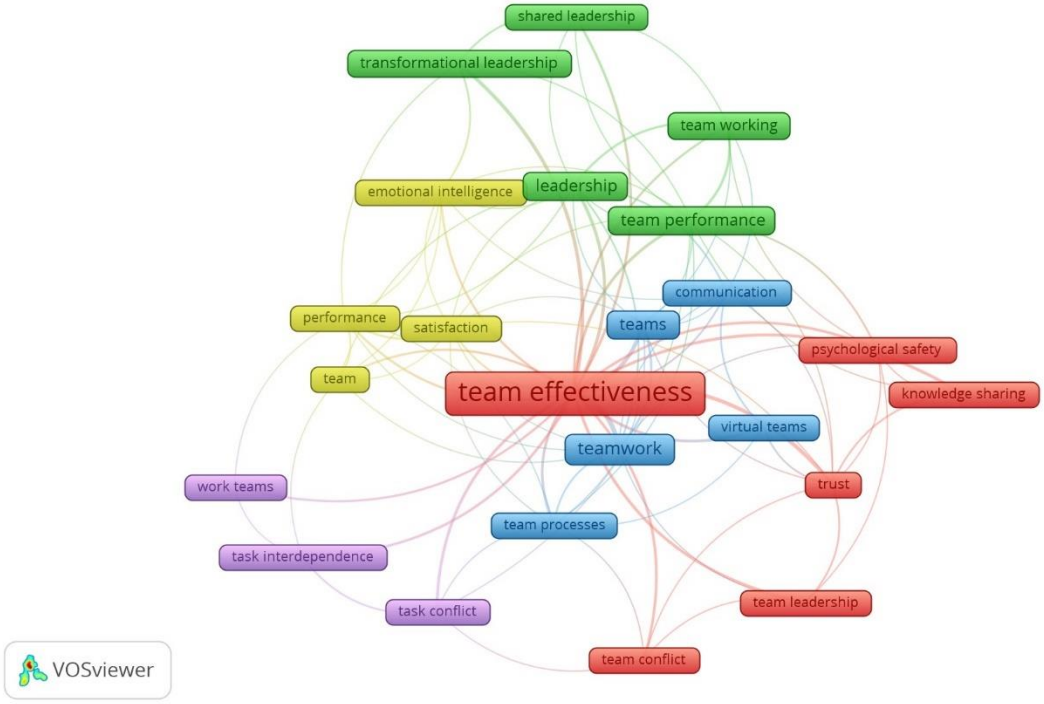

Figure 5 Situation Two: Bibliometric map created based on author keyword

The keyword search is restricted to only “team effectiveness” within titles and the search result may not cover all team effectiveness related studies in the Scopus database. There are some studies that are being published in other source of database which may not be index journal. Furthermore, the search was refined to only journal paper. In addition, there may be

some articles related to team effectiveness not included in this bibliometric analysis due to not using the term “team effectiveness”.

Future studies using Web of Science (WoS) is recommended and to compare the outputs from other database such as between Scopus and Web of Science. Conducting bibliometric analysis using multiple databases will be useful for more detailed analysis.

Conclusion

Using Scopus-indexed publications, this bibliometric analysis provides an overview of team effectiveness research from 1954 to 2023. The findings show a significant increase in academic interest in this field, particularly after 1993, with a noticeable surge in research outputs beginning in the early 2000s. The highest number of publications were found in 2023, highlighting the growing importance of team effectiveness in organisational and behavioural research. The United States emerged as the major contributor which show the importance of team effectiveness. Collaborative research, particularly international collaborations, was more common in countries such as the United States and Germany, whereas Malaysia and Israel had stronger intra-country collaborations.

Furthermore, the bibliometric maps revealed that key themes like leadership, team performance, and conflict management are frequently linked to team effectiveness, indicating potential areas for future research (Klarin, 2024). The University of Connecticut and Universiteit Twente were identified as major contributors to the study, emphasising the importance of academic institutions in shaping the discourse on team effectiveness. The study also reveals a disparity in international collaboration, with several countries having limited cross-border research partnerships, presenting opportunities for future collaborative efforts to close these gaps.

This study emphasises the importance of team effectiveness in organisational settings, especially as the complexity of teamwork grows in modern workplaces. Future research could benefit from incorporating additional databases, such as Web of Science, to provide a more comprehensive understanding of global research trends in team effectiveness. Furthermore, investigating emerging areas such as virtual teams, emotional intelligence, and conflict resolution in team dynamics may provide useful insights into improving team performance and overall organisational success (Donthu et al., 2021).

Overall, this paper provides an overview of team effectiveness research trends based on 359 Scopus-indexed publications. An increasing trend in the number of publications, which is expected to continue has been observed. In this analysis also, it is discovered that the United States has the most publications and strong international collaborations. This could provide an opportunity for non-member countries like Malaysia, Indonesia, Vietnam, Saudi Arabia, Norway, France, the Russian Federation, Finland, Lithuania, Ukraine, Romania, Colombia, Greece, Sweden, and South Africa to publish articles on team effectiveness. Some potential research topics related to team effectiveness, such as group cohesion, team vigour, team efficacy, team conflict, task conflict, and other terms can be use together with team effectiveness for future research.

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